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<151> 2007-05-02
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<213> *Klebsiella pneumoniae*

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 <211> 1119
 <212> DNA
 <213> *Klebsiella pneumoniae*

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 <211> 1218
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 <213> *Klebsiella pneumoniae*

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ggcgccgaag cggaattcta tcgccacggc tacgcggcgg tgcacgtgg catccatacc	180

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 <211> 1011
 <212> DNA
 <213> *Klebsiella pneumoniae*

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<210> 42
 <211> 744
 <212> DNA
 <213> *Klebsiella pneumoniae*

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<210> 43
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 <212> DNA
 <213> *Klebsiella pneumoniae*

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<210> 44
 <211> 1140
 <212> DNA
 <213> *Klebsiella pneumoniae*

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 <211> 1362
 <212> DNA
 <213> *Klebsiella pneumoniae*

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tcgacggcgg tggtcggcga ctggcagaaa gtggtcaatg acgcgcggct gaaaaaagt	180
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<210> 46
 <211> 1539
 <212> DNA
 <213> Klebsiella pneumoniae

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<210> 47
 <211> 2469
 <212> DNA
 <213> *Klebsiella pneumoniae*

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 <213> *Klebsiella pneumoniae*

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<210> 60
 <211> 2109
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 <213> *Klebsiella pneumoniae*

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 <212> DNA
 <213> Klebsiella pneumoniae

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<210> 62
 <211> 1440
 <212> DNA
 <213> Klebsiella pneumoniae

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<210> 63
<211> 1143
<212> DNA
<213> Klebsiella pneumoniae

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 <211> 984
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<212> DNA

<213> *Klebsiella pneumoniae*

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<212> DNA

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tattcgccag ctccgggtacc ggccaggtta acgccgtggt cccgttgcca gcgcaggcgt      120
aagggggccc catgccgcat tttatcgccg aatgtaccga caacatccgc gagcaggccg      180
atctgcctgg gctgttcgcc aaagtcaacg aggcgctggc cgccaccggc atctttccga      240
tcggcgggat ccgcagccgc gccactggc tggatacctg gcagatggcc gacggcaggc      300
aggattacgc cttcgtgcat a      321

<210> 102
<211> 342
<212> DNA
<213> Klebsiella pneumoniae

<400> 102
ccagtacctg gaagtggatg gcgtagagct gaagtctgtg aaaggcattt tcgcatgttt      60
cggccatggc aacgtcctgg ggctggggca ggcgctggag caggacagcg gcgatatgcg      120
cgtctatcag gggcgcaacg agcaggggat ggcccacgcg gccaccgggt ttgcccgcga      180
ggccctgcgc cggcagatta tcgcctgcac ctctccatc ggtccgggag cgccaacat      240
gatcaccgcc gccggcaccg ccagcgccaa ccgcatccca ctgctgctgc tgccgggcga      300
tgtcttcgcc acccgccagc cggatccggt gctccagcag at      342

<210> 103
<211> 378
<212> DNA
<213> Klebsiella pneumoniae

<400> 103
aagatgacga gatggagttc ggcgtcggca ttcacggcga gccgggcatc gaccgccgcc      60
gcttcagctc gctggaccaa accgtcgatg agatgttcga taccctgctg gaaaacggcg      120
cttacagccg cacgctgcgc cagtgggata ccgtcaaggg cgcgtaggag gaagtacagc      180
agagcaaaac cgcgctgcaa aacggcgacc gggttatcgc gctggttaat aacctcggcg      240

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ccactccgct ttccgaactg tatggcgtgt ataaccgcct tgcccagcgc tgcgaagcgt	300
ccggcatcat catcgaacgc aacctcatcg gcagctactg tacttcgctg gatatggcgg	360
gcttctccat cactctgc	378

<210> 104
 <211> 558
 <212> DNA
 <213> Klebsiella pneumoniae

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gctgccgacc ttcgtctgcg tgctgtttat cggcgtgata ctcagcaaca gcctggcgct	180
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gctgttcctc gccatggcgc tgatgagcct caagctgtgg gagttggcct cgctggcgct	300
gccgatgatt attatcctgg cgggtgcaggc gctggcgatg gcgctgtatg cgggtttcgt	360
cacctatcgg atgatgggca aaaactacga tgccgcgggtg ctggcagccg ggcattgcgg	420
gtttggcctg ggggcaacgc cgacggcgat cgccaatatg caggcgatta ccgaccgttt	480
cgggccatcg catatggcct tcctggtagt gccgatggtg ggggcgttct ttatcgatat	540
cgtcaacgcg ctggtgat	558

<210> 105
 <211> 75
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 105 cgacaacgcg ctgctggcgc tggcggcggc ggtggagcaa ggctccagcc acccgctggc	60
gcaggctatc gtccg	75

<210> 106
 <211> 363
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 106 ggtttaccga cgttcgcttc aacgttgaat tcacgcttca tacgggtcaac gatgatgtcg	60
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cggaaagacg ggtcttcttt agccagacga cccagagcca gaccttttt ttctgggtca	180
gctttggttt tcggctcaac ggcgatggag attaccggct cagggaattc catacgctcc	240
agaatgatcg gcgcatccgg gtcacacagg gtgtcaccag tggttacgtc tttcagaccg	300
atagcagcag cgatgtcgcc cgcgcgaact tctttgatct cttcacgttt gttagcgtgc	360
atc	363

<210> 107
 <211> 648

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<212> DNA
<213> Klebsiella pneumoniae

<400> 107
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caccattttt gctctgctcc accgccagca ggcccagtg c gagatcgtcg ccgtacagcg      120
gcaaaaaatg cgcgactggc tggcgcgctg cgaatcgctc tccttacagc ccctggcggt      180
gacgcccgcg gtgctggccc tggcctggca accgccggcg tggagcgcg tgcaggtgga      240
cgagcagtgg ctgatccgcc accagccgtg gggcggcgatg gcggcggaac acgtctggct      300
gacggagctg ctgcagagcg aggcggaaga gcacgtcatc gacagctatt cgccgccgcc      360
cgcgggcgccg ggcgtctggc gggagcagcc tgcgcagaca ttgctgacct ttgccgcacg      420
ccatccggca gcgcagaaac tcagtctgct gcagggggag ttcgccgtcc ggcgggcggtc      480
tgcgcaggcg agctggcgct cggcgcggtg tgccgcgctg gctctggcgt tactggcagg      540
ggcaaacagc gtgctggacc atcgcgatct ggcgcgtcag gccgaggcgg cgcaacaggc      600
cagccgggcc ttctatcacc gctggtttcc gacggagaaa aaggtgat      648

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<210> 108
<211> 168
<212> DNA
<213> Klebsiella pneumoniae

<400> 108
aggcgccgcg gccttctgc gtcgccatgc tcaggaagag atgaccata tgcaggggct      60
gttcgactat ataaccgaca ccggcagcct gccgcgggat caacgctatc gcctccccgt      120
ttgccgaata tgcctcactc gacgagctgt tccgccagac ctacgagc      168

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<210> 109
<211> 213
<212> DNA
<213> Klebsiella pneumoniae

<400> 109
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gtggcgggcg gacagtcggg aaaaggccca gcatccgctg tcgttcgtct tccaggaagc      120
caccctgatg ccgtggagca gcgtgcgcaa caacgtcagg ctgccgctgg atctggccgg      180
cgtgccgcgg gcggagggca ataccgggt gaa      213

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<210> 110
<211> 294
<212> DNA
<213> Klebsiella pneumoniae

<400> 110
tctcgtccag acgcggctgc tgggtctgct ggcgattgcg ctgctctgcg gcgcggcggt      60
ggcggtggcc gggccgatcg gctttgtcgg gctgggtgtg ccgcacgtgg tgcgccgtct      120
ggtgacggaa gatatccgcc tggcgctgcc cctggctgcg ccggtgggag cgctggcgct      180
ggtgctggcg gatatcgccg cccggacgct ggtcgcgccg caggagctgg cgaccggggc      240

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gatgaccgcc ctggtgggtg cgccgttggt tatctttatc gccgcgaggt tttt	294
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<210> 111
 <211> 123
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 111 ccttccggtt tcagggtagc tttgttgaag ttgaacagaa cgtcagactt caggggtgaag	60
tgcttggttag ccacttccgg agccggagcc ggagccggag caacaaccgg tgcagcatct	120
tcc	123

<210> 112
 <211> 444
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 112 gctgcgtacc ccgctggcgg tgctgcgcgg cgagctggag gcgattcagg acgggggtccg	60
gcgctttacc cccgagtcga ttccttctct gcaggccgag gtggctaccc tcaccaagct	120
ggtggacgac ctccatcagc tgtcgatgtc cgacgagggg gcgctggcct accagaaaac	180
ctcactggat atcatcacc tgctggaagt ggcggcgggc gcttttcgcg agcgcttcgc	240
cagccggcag ctaagcattc aggtgtcgct cccggagcag gcgatgatct tcggcgaccg	300
cgaccgcctg atgcagctct tcaacaatct gctggagaac agcctgcgct ataccgacag	360
cggcggcagc ctgcacatta ccgcccgcg cagcggtcgc atgctggtga ttgtcttcgc	420
cgacagcgcc cccggcgta gcga	444

<210> 113
 <211> 306
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 113 agcgctgtgg cgtcttgccc tccctatgat tttctccaac atcacgtcc cgctgctggg	60
gctggtggat acggcgggtga tcggccacct ggacagcccg gtatacctcg gcggcgtagc	120
ggtcggggcg acggccacca gttcctctt catgctgtg ctgttcctgc gcatgagcac	180
caccgggctc accgctcagg cctggggcgc caaagatccg cagcgcctgg cgcgggcgct	240
ggtgcagccg ctggcactgg cgctgggcgc cggggtgctg attatcctgc ttcgcctgcc	300
gctaatt	306

<210> 114
 <211> 159
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 114 accgttcttc accaccaaag ccaccggcag cggcagcggc ctggggctgt cgatggtgta	60
tggtttgtg cgccagtctg gcggccgggt ggcgctggag agcgcgccgg ggcaggggac	120
gacggtgcgg ctgcagctgc cgcgagcgtt gaccgaggt	159

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<210> 115
<211> 345
<212> DNA
<213> Klebsiella pneumoniae

<400> 115
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ccaggcgaac caccacccgg cgccggtggt ggcgctggat atcccttccg gcctgaatgc      120
gcagacgggc gcgacgccag gtgcagtggg acaggccgac catacgctga cttttatcgc      180
cctcaagccg gggctgctga ccggcaaggc gcgggatgtc gtcgggcaac tccaccatca      240
tgcgctgggg ctggaacgct ggctcgccgg acaaagcact cctctgacgc ggttttgcgc      300
cgcccacctc gccgactggc tgccgccgag gcggggccacc tccca                      345

<210> 116
<211> 93
<212> DNA
<213> Klebsiella pneumoniae

<400> 116
tgcagggcgc ttcgtggttc agtcagaaca gtcagaaaca acgcaatccg cagctggaag      60
agctggcccc cagctgggag cagcaggtgg tgc                                93

<210> 117
<211> 267
<212> DNA
<213> Klebsiella pneumoniae

<400> 117
gccgtctacc cgtttcgtgc tggagtttat gggggaagtg aaccgcctgc aggggggcat      60
ccgcggtgga cagttccacg tcggcgccca ccgctggccg ttaggctata cccgggcata      120
ccaggggcca gtggacctgt tcctgcgccc gtgggaagtg gacatcagcc ggcggaccag      180
cctggattcg ccgctgccgg tgcaggtcct ggaggccagt ccgaaagggc actacacca      240
attagtcgtc cagcctctgg ggtggta                                267

<210> 118
<211> 210
<212> DNA
<213> Klebsiella pneumoniae

<400> 118
gcgtccggtg acccggtggt cggtgctgcc ggtggcagcg aaggccagcg tggagcaggg      60
gctggaggcg gcgctggaga gcgccctggc gcactggcta tatcacgacg agatctggct      120
gcgcggcaac gcaaaagcca aagcggaat tctgctggcg atagcccgcg tgcgcatgc      180
cctcgtgctg tttggcgga tcgtgccgag                                210

<210> 119
<211> 144
<212> DNA
<213> Klebsiella pneumoniae

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<400> 119
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 atccgttcga taccatggaa tgga 144

<210> 120
 <211> 168
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 120
 actgcaccgg ctctgcagc tggaaaattt acgtcaaaaa cggcctcggt acctgggaaa 60
 cccagcagac cgattatccg cgacccggc cggatctgcc aaatcacgaa ccgcgcggct 120
 gcccgcgagg cgccagctac tcctgggtatc tctacagcgc caaccggc 168

<210> 121
 <211> 321
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 121
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 ggggatcatg ctggcaggaa tggcgctgat gttcggcgtc gtctcctggc tggtgacggt 180
 cgccagcggc tgggtggtga atctgacctc tgcaggccgc ggtctggcgc tggcggtctt 240
 cgccctggtc gggctgagtc tgctttcgca acgctgcgc caacggctga cctcaccctc 300
 ggtagcgttg gggaatcagc t 321

<210> 122
 <211> 141
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 122
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 aggcgatacg gcgctgctgg tcttcattcc gctgccgat ggcgcctcgc tggcggccct 120
 gcggctgctg gcgcagcatt g 141

<210> 123
 <211> 183
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 123
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 gatgcttccc gaactggagg cccggggcgc gattgccagc ggcacgctgg aggtggtgct 120
 tccggagtgg acgccgaagg cgttgagcgt ttacggcatc tatctttccc gcgactacca 180
 acc 183

<210> 124

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<211> 249
<212> DNA
<213> Klebsiella pneumoniae

<400> 124
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ccagcgttta cagcgagatc atgcagccgg aggcagacag ccgcagctac accctcggcg      120
gctttgtcca ggataagatc aacttcgacc ttgatagcca caacttcgcc attattccccg      180
gcgtgcgcgt ggtgcatcaa tcgactaagc cggaaaatct gtccgacctt gccgccaaca      240
gcagcgtagc                                     249

<210> 125
<211> 453
<212> DNA
<213> Klebsiella pneumoniae

<400> 125
tccgctgatt gctctgctgc gcccggtcag cccgctggcc tggctgccga ttggcctgct      60
gctgttccag aaggcggagc cggcttccag ctggaccatt tttatctgct ccatctggcc      120
gatggtgatc aacaccgcgg aggggtgtgcg gcggatcccc caggactatc tcaacgtcgc      180
ccgcgtcctc cagctctcgg agtggacggg gatgcgcaaa atcctctttc cggcggtgct      240
gccggcggtg cttaccggcg tgcgcctctc catcggcatc gcctggctgg tgatcgtggc      300
ggcggaatg ctcaccggcg gactggggat cggcttctgg atctggaacg agtggaacaa      360
cctcaatgtg gaaaacatca tcatcgccat cgtcattatc ggcgtcgtcg gcctgctgct      420
ggagcagggc ctgatgctgc tcgctcgccg ctt                                     453

<210> 126
<211> 267
<212> DNA
<213> Klebsiella pneumoniae

<400> 126
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agcttaaagc cctgcagcag tactggcagc tggcgctggc ccccgggatg cagcgcgcag      120
tcaatcaggc ggaagtggcc caggatgtcg ccgactttgt cgatcgatc gaccagtgg      180
tcaccgcatt cgaccacacc accgagcagc gtatcgaacg ggtggtctgg atctatcgca      240
tcctcgccat tggatatggcg ctgctgc                                     267

<210> 127
<211> 135
<212> DNA
<213> Klebsiella pneumoniae

<400> 127
gtcttttcga tttcctctac ctgttcgcct ggtcgtcgac catggctttc ttcgttatct      60
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cctttatcgc cctgc                                     135

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<210> 128
<211> 114
<212> DNA
<213> Klebsiella pneumoniae

<400> 128
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ctggcaagat gggcttcgcg attgccgccg ccgcagcgca gcggggcgcg aatg          114

<210> 129
<211> 96
<212> DNA
<213> Klebsiella pneumoniae

<400> 129
attgctgtat gcccggcggg aaatgctccc gttggtcagc aaccatcgca ctcgcathtt      60
cgaggcgata atggccgggg agccggagca ggcgcg                                96

<210> 130
<211> 309
<212> DNA
<213> Klebsiella pneumoniae

<400> 130
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ggactgaaa acgatgatcg acaccaacgt caccggctctg gtgacagtca ctcacgccct      180
gctgccgacg ctgatccgcc atggcgccgg ggcgagtatt atcaatatcg gctcgatcgc      240
cgggcagtgg ccctatcccg gcagccatgt gtatggcgcc agcaaggcgt ttgtgaagca      300
gttcagcta                                     309

<210> 131
<211> 153
<212> DNA
<213> Klebsiella pneumoniae

<400> 131
tgtgccctcc cagtcgctgg agcacggcat actcaggttc acgctgcact atggcaaagt      60
gggcgctatc gactatgccg acggctcgga caccaccgc ctgtggaatt ccctgccac      120
ctcttcgggt actatcctgc gcttaagcga cct                                153

<210> 132
<211> 315
<212> DNA
<213> Klebsiella pneumoniae

<400> 132
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gtttatcgac ccggtggcga tggcgcaaat caccgtctg aacatgcccg gcgtcaccgg      120
cgtattgacc ggcatttata tgctggccac cggcgcggtg gccaaactggc tggcgggcgt      180
ggtcgcccag caaaccaccg aatcgcaaat cagcgatacg gcgattgccg cctatcagca      240
tttcttcgcg cagatgggcg aatggactct cggctgcgtg gcggtgatgg tcattatcgc      300

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ctttgccgcg gcctg 315

<210> 133
<211> 246
<212> DNA
<213> Klebsiella pneumoniae

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ttttcatatg gatcgctggc cagagagcgg gaaaaagacc cggccggcga aagagagctg 120
gctggcaggc ctttcggcct ccgggtcgct cagcaccctg agctgggcgg ctacgggcta 180
tggctacgac aaccaggcgg tgggggaaac ccgcctgacg ctaccgctgg gcgagtcgat 240
caacgt 246

<210> 134
<211> 108
<212> DNA
<213> Klebsiella pneumoniae

<400> 134
gccatcacgc tggggaaaaa tggatacgct gggcctgttg ttcagcatcg ggatcttctt 60
tctccagccg gtgcaaaacc ttgcctgggg cgggtgtattc aaggatgat 108

<210> 135
<211> 168
<212> DNA
<213> Klebsiella pneumoniae

<400> 135
ataccctcgc ctggcagggg caggcggggc aacaaagggg ggggctgtcg gacagcctta 60
ttaaatcggc caaagatctg gtgggcggga aagacaagcc ggatcatcgac cagtcggcag 120
ccggcccga ggggcctctg gatgacacgt tcggccact gctccagc 168

<210> 136
<211> 405
<212> DNA
<213> Klebsiella pneumoniae

<400> 136
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ccgccgcgct ggagctggcg gcggaagata accgcaacgg tatcccagacc caggcggcgc 120
tgtgcctcga aaccggcggc gtacgtctgc aagaggccaa cctcgggtctg gccgccatcg 180
ccgatattca tgccgcgatt gtcgacctgc gccgctacac cccgggtggc ggcattatta 240
ccggtaccgt cggctgcttc ggcggtatgt ccatcgccgc ggcgctgtgc agctacctta 300
tcgtcacccg tgaagcccg ctcggcctca atggcccgca gggtatcgag caggaagccg 360
gcattgaaga gtacgactcc cgcaaccgct cgtttatctg gagca 405

<210> 137
<211> 273
<212> DNA

<213> *Klebsiella pneumoniae*

<400> 137

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 caggaggctg cggcctcggc ctggcgattg tccacagtat cgcccaggcg atgggcggcg 180
 aggtgcgctg cgaggccagc cctctcggcg gcgcccgtt ctgctttagc tggccggtct 240
 atcatcagct gcctgatttc acctctgcct gaa 273

<210> 138

<211> 138

<212> DNA

<213> *Klebsiella pneumoniae*

<400> 138

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 catgggcttt ggcccggcgc cggcgggtgcg caagggtgctg gcgcagaccg gcctgacatt 120
 aggccagatg gatgtcat 138

<210> 139

<211> 135

<212> DNA

<213> *Klebsiella pneumoniae*

<400> 139

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 ggcgcaggcc cagcgcgacg gcattctggc gcaggagatt gtgccggtgc agattgtcgg 120
 ccggaaaggg gcggt 135

<210> 140

<211> 192

<212> DNA

<213> *Klebsiella pneumoniae*

<400> 140

aggcattatg tcgccgtggc tcggcgccca gggcatcgct ccgcagtcg acgacggtat 60
 ggtggtcgcc aaaggcacga tcaacggcca gcctgcggtg gtgattgcca tcgaaggcac 120
 cttccagggc ggcagtatgg gcgaagtctc cggcgccaaa atggccgccc cgctggagct 180
 ggcggcggaa ga 192

<210> 141

<211> 267

<212> DNA

<213> *Klebsiella pneumoniae*

<400> 141

gcgcggcgag gcgctggagg ccaccctgcg cctgcgcgag gagctggccg aacagcggcg 60
 cgcgctgctg ctgatgcagg agatggcggc ccgctacggc tgcgatatct ctcacccggc 120
 gcgcactgcc cgggaggcgg tgcaagtggc ctacttcgcc tacctggcgg cggatgaagtc 180
 gcagaacggc ggcgccatgt ctctggggcg cacggccacc ttcctcgaca tctatatcga 240

acgcgatctg cgccggtt tattgaa eolf-seq1.app 267

<210> 142
 <211> 183
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 142
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 tgctcaacgg cgtggccgag ggcatcaacg cggaacgggc gtctctctcg ctcaacggcg 120
 gcgagccggt ggcgctggcg cagcgcggtt acgaaggcgc cctgcaggcg attgccgggg 180
 cat 183

<210> 143
 <211> 288
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 143
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 tccgctgtta atcaccggca ccggttttac cgccagccgc cgggaggcgc tgcgggtgtc 180
 cctgcttgcg gtgccctaca gcgaaacatt gtgctggcgt ccgccgctgc tgccgcgccc 240
 gaaggtgact ggcaccatga cggcgcggtt gaccagcgcg aaagcgaa 288

<210> 144
 <211> 456
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 144
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 cggcgggccc tcccggctgt ttattatgcy tccgggtggc accactctgc tgatgggtggc 180
 tatcctgctg gccgggatca tcggctaccg ctttctgccc gtctccgccc tgccggaggt 240
 cgattaccgc accattcagg tagtcaccct ctatccgggc gccagcccgg acgtggtgac 300
 ctccgccatc accgccccgc tggagcgcca gttcggccag atgtccggcc tcaagcagat 360
 gtcgtcgcaa agctctggcg gcgcctcgtt agtcacgctg cagttccagc tgaccctgcc 420
 gctggacgtc gccgagcagg aagtgcaggc ggccat 456

<210> 145
 <211> 354
 <212> DNA
 <213> Klebsiella pneumoniae

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 gtatggcatg atagcaccgc aagagagtca attcagggtg gtaaattgtga aaccagtaac 120
 gctatacgat gtcgcagagt atgccggtgt ctcttatcag accgtttccc gcgtggtgaa 180

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ccaggccagc cacgtctctg cgaaaacgcg ggaaaagggtg gaagcggcga tggcgagct	240
gaactacatt cccaaccgcg tggcacaaca actggcgggc aaacagtcgt tgctgattgg	300
cgttgctacc tccagtctgg ccctgcacgc gccgtcgcaa attgtcgcg cgat	354

<210> 146
 <211> 201
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 146	
cggactcaga agccttcccg ggtcttatcc ggcagactca cagaaaaatc agggcagcat	60
cggcagacgg cgcttacgac acccggtctt gtcacgatga actgcggcgt aagaaaatca	120
gcgcgcttat cccaccccg aaaggtgcgg gttactggcc cgggtgaatat gcagaccgta	180
accgtgcagt ggctaatacag c	201

<210> 147
 <211> 426
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 147	
agcgttcccc tttccagacc cgatccagcg ccagttgcga gtaggccgcc agcagatcgc	60
tgcggccacg atggtagtat tcgcgcagaa tccgccacag atagtccacg tccgatgccg	120
ccagatttaa tcctttcgcc ccggttggcg gaacgatatg cgccgcatcc cccaccagga	180
acaaccgccc atattgcatc ggctccacga cgaagctacg caggggggca atgctcttct	240
caagtgagt accagtcact aacctggatg ccagctcctc cggcaagcgg cttttcagct	300
cctgccagaa gcgctcgtcc gaccatgctt caaccttatc gctcagcgga acctgcagat	360
aatagcggct gcgggtcagt gagcgttgac tgcacaatac aaacccccgc tgatggtgcg	420
cataaa	426

<210> 148
 <211> 573
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 148	
cccgtggcg agcaccgtct gcaccggttc actctccagc agacgggcga actgggcgcg	60
aacgttggct tccaccaggg cgtccagcgc atggcgagaa cgctccgcgt tggcgctggc	120
gctggtgctg gcgccggggg aggccgaat acaacagtca tcggcgatct gcacaatttc	180
gtgatgcagg gtgtggcgca gctggccgat gcgacgagcc agcgccgagg actcctgcgc	240
cagcggcagg gtgggcagag agagcgccgc ctgtacgccg ccgcagccgt agtggccgca	300
gagcaccacc cgctccacct caaggtagtg gagggcatac tgcaggacgc tcatgacgtt	360
gtcgtcggca gggtcgagca tgttggcgat attgcggtgg acaaagagct cgccgggctg	420
gctgccggtg agcacctcgg cgggcacgcg gctgtcggag cagccgatcc acagcgagt	480
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cgcccagctg cggttgcggg ccagcaaagg ttt 573

<210> 149
<211> 132
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 149
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ccggcgccca ctgcgcgtca aaccgcgtca gctgcagctt ctccgccatc cacccttccg 120
gcaccggctg gg 132

<210> 150
<211> 798
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 150
cgatgtccag ctcaccggcc gtcagccggc tcaccgccca gcccgtgggc aattgctcat 60
ccatgcgtac ccgtcgccac tttccgttcc catcctgcag aaaccccgtc cagccagcat 120
catccccaac cgccccgccca tagcgccatt gcgaaagctg cgccgtgcgg cagggatcct 180
caaccggctg gaaaggggtca cgctcggccg ccagcagcga cagcggtagc cacaggaaga 240
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gcgggtaccg ttgaccagga cagggtcagc tccatctcgc cgccgcttcc ctgcggacgc 420
caggcgataa gcttcgctcc ggagagcgga atggctatgg gcgaaaatga ctgcgtgtcg 480
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gtttgcaacg ccgcatcacg ggttaccgcc gcctgcggag ggcgcagatc gcgccagagc 600
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cgaagggtta tccgcatcag cgcgcgctcc cgtcagggtta aaactgaact gccaacgccc 720
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cgcagcctcc acgctggt 798

<210> 151
<211> 516
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 151
aaatcaaaaa gtttacgccg caagcaactc tttcgcgttc gccaggggtgt tgcgcgtgac 60
ttcgtgccc cccagcagac gggccagctc ctgcaagcga gcaggtttat ccagcggctg 120
catatgggtt tcggtcatct cgccatcggg ctctttgcag acaaagaaat gatggtggcc 180
gcagcatgcg acctgcggca ggtgggtcac gcacatcacc tgcgtggact cgcccagctg 240
gcgcagcagc ttgccgacca cggcggcggg cgggcccgtg atgccgacgt ccacttcgtc 300
gaagatgagc gccgggggtt ccattttacg cgcggtgatc acttgaatcg ccagcgcaat 360

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gcgcgacagt tcgccgccgg aggccacttt ggcgattggc tgcagcggct gaccgggggtt	420
agtggtagcg cggaactcaa tatggtcggc gtcggcgggtg agatggcggtt catcgaacgc	480
gacctcaatc gcgaagaccc cgtgcggcat cgaaag	516

<210> 152
 <211> 330
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 152	
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accgagggaaa taccatgttt tttcgccac gccagcagcg tcttggtggc ggttcccgcc	180
agcgcgccgg tgatgatgtc gatttgctca gccggcgtaa cgcgcaggcc atttttcttc	240
tgcaccggca ggttgagctg cttcatcagc tcatccacca cgcagccgcc gccgtggacg	300
ataatcagcg gacgctgggtg cgcttcacgg	330

<210> 153
 <211> 1401
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 153	
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cggatagacg tccagcatca gcaggcatc cacctgggtc agcacgttgg caaaatcatc	180
atacagatcg cgggtacggg tataacgggtg cggctggaat accatcacca ggtttttatc	240
cggccagccg gcgcgcgctg ctttaatggt ggcgtccact tccgtcgggt ggtgaccgta	300
atcatcgatc agcatcgcgc tgcccggttt gccgttgact tcggccagcg gaaactcgcc	360
aagaaaatca aagcggcgctc cagttccctg gaagctctcc agtgcgcgca gaatagcccg	420
atcgtcaatc ccctcttccg tcgccacggc gacggccgcc gccgcgttca gcgcgttatg	480
gcgtcccggg gcattgagcg tcacctgcag gatcgcttta tcctggcgca ccaggcggaa	540
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accgtaggtg gtgatctgcc ggccaacgcg cggcaacagt tcccggatca ccggatcgtc	660
cacgcacatc accgcgcgtc cgtagaacgg cagggttggtc aggaagttga taaaggtctg	720
cttcagattc tcgaagtcgc catggtagggt atccatgtga tcggcttcga tgtagtgac	780
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gacaaaggtc gggtcagcc cggcctcggc gtaaagtgtg gataccatcg cggtggtggt	960
ggttttgcgg tgggtcccgg caatggcgat cccgtggcga aagcgcataa gttccgccag	1020
catttcggca cgacggatca ccgggatacg cgcctcatgc gcggcaacga tttccgggtt	1080

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atctgccgaa atcgcgctgg aaacgacaac cagcgtggca tcacgcacgt tttccgggcg	1140
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caggtcggag ccgctgatct ggtaaccttc gttagccaac acttcggcaa taccgccc	1260
accggcaccg ccgatgccga caaagtgaat gtgccgaacg cgacgcatct cgggcactat	1320
ggaacgcagt tttgccaaat cttgtgtatt cattctttac gccatcaact tctgtattcg	1380
ggcggtgaaa atcaccgcaa t	1401

<210> 154
 <211> 747
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 154	
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gataccgcgg atcgcttggc gcgtacggtc ccggttctcg atcagggcga agcggacgtg	180
ggtatcacca tagtcgcaa agccaatccc cggcgagacg caaaccttcg cttcattaag	240
cagctttttc gaaactcca gcgacccat ggcgcgtaa ggttccggtta ttttcgcca	300
cacgtacata gacgctttcg gacactccac catccagccg gcctcatgaa gccctttgac	360
cagcacatcg cgacggcgct tatactgttc ggcaatatcg cgacgcact gctgatcgcc	420
ctccagcgca gctatcgccg ccacctgcag cggagtaaaa gtcccgtagt catgatagct	480
tttgatacga gcgagggcat tcaccaaagt cttattacc accataaagc caatgcgcca	540
gccggccatg ttatagcttt tcgacaggg aaagaactcg acggcgacat cccgcgcgcc	600
gggcacctgc atgatggagg gcgctttcca gccgtcatac acgatatcgg cataggccag	660
atcgtggacg accagaatgt catactgctt cgccagagcg acaacctttt caaagaaatc	720
cagttcgacg cactgcgcgg tcggatt	747

<210> 155
 <211> 246
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 155	
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acagcgggcy cagatacggg tcgaccttct ggctcagatc gccgggcagg aagccgagct	120
tttcgcctgc ctcgacggcc ggacgggtca gcagaatacg gcggatctcc tggcgctcca	180
gcgcatcgac cgccgccgcc accgccagat aggttttacc cgtacccgcc ggaccacgc	240
cgaaag	246

<210> 156
 <211> 792
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 156

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gccaccagcg ccacgcaggt gcccagcgcc aacaggaaca gccccacac cagggcggtg	180
gtgaggcgct tggggcctga cggcgcgctg gccacggtag gagccggtgg cggcgcggtg	240
gcatcaggga gagggacaga gacgtcggat ggcgaccgg cggccggcg cgcaggaaacg	300
gcggtcgacg gcgaaggcgt cagcgctcc atcgacggg ctagctctc cccctcttcg	360
gtgcaccaga tcaccggcac cgtgagctta taccctcggt tgggtaccgt cgcgatgtac	420
tcaaggctaa cgtcgtcgcc gtctttgagc gacttgcgca gttcagaaat actctgcgtg	480
acgacgtggc tggtcacaac gttccgggtc cagacgtttt cgataagctc gtcccggcta	540
agcacttccc ccggatggcg ggcaaaaaag accagaagat cgattaaacg cggttcaagg	600
gtaagctggc gccccttctt gctgatttgg ttacagagg gggttaccag ccattcaccg	660
acgcgaacaa caggtttagt catacaagaa agccccagac aaaaaggga aggcgcgatg	720
ataacacatt tgtctacct atttttgcca ggggtcactc cctcaggcat taggccggaa	780
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<210> 157
 <211> 762
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 157	
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gtcttccagc agcgtggcca gctgattgtc aaaaaacagg cggttattca gtccggtttt	120
cgaatcctgc gccgcgtagg agcgaataag cgtatccatc cggctgcgct gatcgctggc	180
gaactgcagc tccgacagca gcatatccag cgcgctactg gtgctggccg gccattcata	240
gaccgacctg cgcacctgcg gcccgcgctc gccgctcagg atacgcgtgg aacgcagctc	300
cagcagctcc tggccggcca gctggcggtg gatccagcgg acggcgaaga aaataatcac	360
caccatgaag ccaatggaga tcgacagcgg ggcagtgatc gacagcgaac ggaaatagtt	420
caccatcggg tcaacgtaga ccagatgcag cgtaatgcca ggatgtttta gcgacggaac	480
cgtgatctca cggaattgct catggctgcc gagcgggcga tagctatcgg gtcgggaatg	540
gctgtagagc ggtttgccgt tgagcatgaa atcgatatgc acgatctcga tcggcgatcat	600
cagctcatcc aactgcggtt caagcttata gaaagagggt gtgatgagcc ggttatccag	660
catggtcgcc accgcctgaa cgcggttttc gacctgttc tcaatgccgt tataaaaact	720
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<210> 158
 <211> 858
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 158	
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ctcttccag gcggtgtaga cgtcgatggc gccgtcgtca taggtcacca cgtcttctgc	120
gcctgcttcc agcgccgctt ccatgatagt gtcttcatcg cctttctcga aggagataac	180
gcctttcttg ctgaacaggt aggagacgga accgtcggtg ccgaggttac ccccggtttt	240
ggtgaaggcg tgacgcactt ccgcaacggt acggttacgg ttgtcggaca gacattccac	300
catcaccgcg gtgccgccag gaccgtagcc ttcataaatg atggtttcca tgttcgctc	360
ttcatcgccg ccgacgccg gcgcgatggc gcggttcagg gtgtcgcgag tcatgttggt	420
agacagcgct ttatcaacgg ccgcacgcag acgcggggtg gaagccggat cgccgccgcc	480
cagacgcgcg gcggtgacca gtcgcgaat gattttcgtt aagattttac cgcgtttggc	540
atcctgtgcc gctttgcggt gtttgggtgtt ggccatttta ctatgacctg ccataaaaaa	600
ctctccaaaa agcgcgccct ttcaggcggc gtttaattaca aattcttcaa tcgcctgccg	660
gttgctccac gacttggtca gcgcagcggc ttccgtcgcg ctgaccagc gataggccag	720
atgttcggtg aaagtaatct cccgctcatg aggcagcgca agacagaacc agaattccgt	780
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cgtgcgctga cagtcgat	858

<210> 159
 <211> 153
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 159	
tcactcgctg ctggcgccgt tcgcgttcgt ccggcggcag ctgctttccg ccgccgagca	60
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gtccgcccga gccgaggatc agcaccgcgt tat	153

<210> 160
 <211> 300
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 160	
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caccatcagc gccttgctct gctccgcac cacctgacca ttctggccaa gccactggcc	120
gtgggcatca aacaccgtca gcccgtcgcg aaagcgcggc gtgacgtcac ggtcgacaaa	180
ctgttgccac tcttcagcgg tgatgtcttt ccccgccggg cggtcagac cgaagtaaag	240
cgtggtttgc accatggact tatccgccgg gcagacgccg ggcttcggcg cgctggtcga	300

<210> 161
 <211> 204
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 161	
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agaaaatacg cgtggatccc cagccgagcg tgcgggcgac aaccgtcagc cgcggatcgc 180
gctggcgcca ggccggggcg aaaa 204

<210> 162
<211> 321
<212> DNA
<213> Klebsiella pneumoniae

<400> 162
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ccaccaccgt ggagccatac tgatcggctt cgggtgtactt ggaatgttcg tgatcgtgac 180
agtacaggca caacatctcc cagttgctgc catcttccgg gttattggag tggtcgtgat 240
cgatgtggtg caccgtcagc tcgcgcatat tggagtagac aaactcccgt gagcagcgtc 300
cgcacacca gggaaaaagc t 321

<210> 163
<211> 216
<212> DNA
<213> Klebsiella pneumoniae

<400> 163
tcaccgtccg ctgggttcacc acagacagat tgtaaaacag cggcaggcgt accagacgct 60
cgctctcctg agtgggtgtag cggctttcac cgcggaattc gccgaactgt tcgcctgccg 120
ggcagctgtg caggggaatg taatggaata ccgagaggat ctccgcctct ttcagccagg 180
cgatcagtct gctgcgatcc tcgatatac gcagct 216

<210> 164
<211> 78
<212> DNA
<213> Klebsiella pneumoniae

<400> 164
agcgatcgag gtcgacaaac gccaggctca ccggctcatg gcggcgctgg gccgtcagca 60
gggcatactc tgccaggg 78

<210> 165
<211> 132
<212> DNA
<213> Klebsiella pneumoniae

<400> 165
cgccacagcc attccaccgg cccctggcgg aagcggcgca gccagagcga tgagacaagg 60
aggttaacgg cccagatggg ggggacaaag gccagcagct gcagacgatc gaagcgcata 120
aacagcccaa ga 132

<210> 166
<211> 315
<212> DNA
<213> Klebsiella pneumoniae

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aagatgggct tcatcccagg gcgcattgcc caacgcgacg gcgatattac gcagccagcg      180
caggtggcca atgcgacgaa tcgccgaccc ttcggtcacc ttcagaaacc acgcttcgct      240
ccaggcgaac agctccacca gcggcggggc atgcagcgct ttgcgtgggc tgaaatcctc      300
ttcatcggtg agctg                                     315
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```
<210> 167
<211> 561
<212> DNA
<213> Klebsiella pneumoniae
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gccaatcccg ataggaatcg aggcgggtcat tgcgctgagg atgatcaagg gaccgaggaa      60
gcggccggag gcgttaccgg ccccatcat cactcggcgc ccgtaggtgg aatcgctctg      120
gttgatggtg aacttacgcg ccagaatgat gatgtagccc accgccaggc cgaggaccag      180
gccggtgacc agcgacgcgg cgaagttcgc caccgggaag acaaagcccg cgccgagcag      240
cagcgccggc acgccaagac cgataccggc ctgtatcgcg ccgccgatat cgaggatccc      300
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gccgtaaacy ccggtatcaa tccccgactt cagcatcgcc acgaaggcca cttcgttaaa      420
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gccacaaaag atcgggaacg accagtcggc ataccaaaaa cttttattct gttccattat      540
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```
<210> 168
<211> 360
<212> DNA
<213> Klebsiella pneumoniae
```

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ggcgacagta cagttcatag cgctggcaaa accattcacg atgttcttca tccatattgc      180
cgacaatggc ctgaagatca actggctggc cctgggcgtg cattctggcg aaactccgcg      240
ccaaaaaatc aaaattcttc attgaataca tatcgttatg gttcatgcgc atactccttc      300
agcggtggtg gttctgatca gtcatatgcc ttttactcac ttcagtattt acgcttacct      360
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<210> 169
<211> 147
<212> DNA
<213> Klebsiella pneumoniae
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```
<400> 169
acactaacgg taacgcgacc agcatcacca gggcggaag ggtcgcgccg gaaaggaatg      60
tttgtttcac aaccggttcc tgaagctgag ggtcctccgg cgccagcgc cgagaaaacg      120
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ggatcaatta ctgcggtac agctgac 147

<210> 170
<211> 231
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 170
tggtgccgcc tttcccggcg ccgtcccggc cttcaaagac aatgcacact ttcagtcctt 60
tgtgtaccac ccagcgctgc agtttcacca gctcaacgtg gagtttgcg agcgctttct 120
cgtacgcttt gttgtcgagc ggcgcgattt ttgccgccgt gtcgaccgga ttaccgcttt 180
tcttgttgcc catcgccatg ctccgtgttg ccgaggtatc cctttgaagt g 231

<210> 171
<211> 339
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 171
aacgatacca gcgacaacag gttaagtgtg ggggtattac ggattaacaa aagtccgttt 60
taccgctgc gaacggcgaa aatagggcg cagcagcgca gcgcccagca gcgaaacag 120
cagctgacgc agggcaagca catccgagac cggcgagaag gcaaaagcct ttatcgccag 180
cagcaggggtg atgagcagcc agataatata gtgtttcggc accaccgagc gccgcttgaa 240
aaaggcgata gtcagccaga gcgtgtaata ccacatggcg agggcaaaca gcagcgaggc 300
gaccacagc gccatatggc ccgcgctcat ggcgcgag 339

<210> 172
<211> 396
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 172
aaacacacgg ccaaagcggg cttcgtagcg ggcattgcc tcccgcaggg cctgcgcgag 60
ccgctcattc tcgctgtcca ccgacgactg ctcttgccg gacagcgccg catgcgcctg 120
gctgccggtc ggcttctcac cgatccgcgg atgggcgctg agcgccgctg tcagctcatc 180
ctctccccag ttagccatcg cctcccggg ggtctgcagc agcgcatggc ggctggcgaa 240
aggtcgcaag ctcaccagcg tctcgcccc ggccgggagc gccacgcagg gggccagcag 300
ccccgccgcc tcatctttac tcaggctgtt aaactgactc agcgcgatca tcctgactcc 360
ttatcgtttt cgtcgccgcc tgctcctgcg gcagaa 396

<210> 173
<211> 231
<212> DNA
<213> *Klebsiella pneumoniae*

<400> 173
tccttgcaaa gctgcgcat attgagcgtg gtttgccggc taatacgagc gcgctgcgct 60
ttttgcgtcg gcggggagac ggtctcgctg cagcccgcga ggagcagcac cagcatgacg 120

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gaaacaacac ctttcaccac gttctcctcc accgccttgt tagcaagttg ttatcctaaa	180
gattcagtat tacaggtatt ttgcgaatat catgaaactg cgacaagtct g	231

<210> 174
 <211> 498
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 174 acgtcaatcc gacgggcttc atcgagcatc gaggcttttg gcgagatccg cgcttccagc	60
tggtcgatca tgcgtttgtt gtccaggcga tctttacgca cgccgtcttc atacaggccg	120
cttttcttgt tgccgccggt gacgccaagg gtggagacca gcgcttcgcc cgggccgttc	180
accacgcaac caatgatcga aacatccatc ggggtgatga tatcttccag acgctgctcc	240
agagcattca ccgtaccgat aacgtcaaac tcctggcgtg aacaggtcgg gcaggcgata	300
aagttaatgc cgcggaacg aatacgcaga gatttgagga tatcgaagcc gaccttgatc	360
tcttccaccg gatccgccgc cagcgagacg gcgagcgtat cgccgatccc ctcggacagc	420
agtagtcca gaccgatcgc cgattttacc gcgccgctgc gcgcgccgcc cgcttcggtg	480
atcccagat gcagcggc	498

<210> 175
 <211> 312
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 175 cccgcgcggg caggctgtgc gccgccacga cgttttccac cagttccacc aggtccaccg	60
cttcgcgagc caccgggccg tcggcctgtt ttcggttata gtccagcagc tgttcaatca	120
gcttttgtag gttacggcta ctgctgtcga ggatctcgac aatctcctgc tgctcagggg	180
tcaggggccc cgcgacccgg tcggccaaca gctcggtagc ttcacgcata ctggccaacg	240
gggttttcag ctcatgcgac agatggcgaa gaaattgatg ccgctgcgac tccagccacg	300
ccaggcgtc gc	312

<210> 176
 <211> 78
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 176 actgctccag gtatgccacc agcgcgtcgc ggtagttagc gcgcgcttcc agcgaaccga	60
tggagttagc ctccaggc	78

<210> 177
 <211> 423
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 177 ctgcgattg atgttaaaca gcaggccggc gaagaaggtag gccaccgccc agcccagcga	60
gccccacatc cgcgccctgc cgaattcaaa ctggctctga cgcgccacc tctcgggtga	120

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agattccagc acgccgatgc cgccgttaaa ggtcaaaccg atatagatcc cgccaaagat	180
gctgcccac aggcgttga ttttcagcag gtggccgaac agcagatacg ccggaccaga	240
gaggatcagc agcgcggtga tataccagag cagatgtttg cgcagcccca gcttgtcctg	300
gataaatcca tagcaaatc gcgcaaacag cgcggaacc gacagtacgg catagataat	360
accggtatcg ccagccttca gccaacctc ctggtgaagc cagatagaga gcaaggagcc	420
gga	423

<210> 178
 <211> 225
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 178	
tgctgtggtg caccagcttc tcgttctgga tgccgacgca acggccgcca tggccctgca	60
gcagcagctc aatcgcatag gcgcccattgc gggaagccag gatgcggtcg taaggaaccg	120
gggaaccgcc gcgctgaatg tggccgagga cgggtggcgcg agtttcacgg ccagtctctt	180
tctcgatata gcttgccagc tcgtcaacgt cgcacatgtg ctcgg	225

<210> 179
 <211> 204
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 179	
gtggcgcgca gaagctgcgc ggttttcagg aagtcggcgc taagcatttc gactttcgcg	60
ccgcggtgctc cgggtagcag agcgaggcag cgcacgctgt gcgggatccc taaccggtcg	120
cgcgcagcgc ctttgtcagg atccagcggc atcgcatccg ccatggtatg gccaataaag	180
cggcagggga cgtaaattt gtca	204

<210> 180
 <211> 144
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 180	
cccaacgcac cgcatgtca ccaggtaaatt tcgcatttac cccagcgtc caggcggcat	60
ctttccgctg cgcccggtt tcgaaatgca ccacctggcc ggtgccatgg acgccggcgt	120
cgggtgcggcc gggccaaaag acgg	144

<210> 181
 <211> 477
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 181	
ccgccagatg gttttcaaag gtggcctgcg gatgctgatc ctgcagggtt cgaccgaatg	60
aagaaccgcg gtgatgagca agcccttcca ggtcgatacc gtccgggcgc gagcaaacca	120
gctgagtttt gccgttgccg gtacagccgc caatcagcac gatcggccgc tgcaccagtt	180

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cgtcggtggc ctggatcgcc gcctggcgta gcgctttata gccgccgacg atcaggggggt	240
aatccacgcc agctttctttc agccactgct ggacgatatg cgagcgcttg ccgccgcggg	300
cgcagcacag gtaaccgtgt gggtaacggg cgcacgcttc cagccacgcc tgagtacggc	360
tggcgcgag gtcaccctgg accagtttat ggccgagcgc cagcgccgct tccggcccct	420
gacgcttgta gcaggtgccg accgcggcgc gttcttcatc attcatcagc ggcaggt	477

<210> 182
 <211> 303
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 182	
tgctcctgcg ggtttttccc ggtcaccgcg gtgatttccg ccgccagcag gcacatgatg	60
atgccgtctt tatcgggtga ccacggcgtg ccgtcgaagc gcaggaagga ggccccggcg	120
ctctcttcgc cgccgaagcc gaagtgcga tcgaacaggc cgtcgacaaa ccacttaaag	180
cccaccggca cttccaccag cttgcggccc agatcgttca ccacgcggtc aatcatcgcg	240
gaggagacca gcgtttttacc caccgccacc tctttgcccc actgcggacg atgctggaac	300
agg	303

<210> 183
 <211> 255
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 183	
cacaccaccg ccagcaggat accggccact ttaccaatcg gggtgctcag gctttcaacg	60
ccgccgccga ctttcgccag cgccaccacc gtcagcaccg gcagaccac cgcagtgatc	120
aggaagccga tcgccgccgt ccagacgtgc tcgccgcct gtaagccaac catcggaggg	180
aaaataatgt tgcttgcgcc aacgaacaac gcgaaggcca taaagcccaa cgctatgatg	240
tcgagagatt ttaac	255

<210> 184
 <211> 501
 <212> DNA
 <213> *Klebsiella pneumoniae*

<400> 184	
tcaggcttcc cagctcgcgc cgacgctttt tattacgcat ctgcatctgg tgcagaccat	60
acagcagcgg ctcccaactg ccgcggccag gcggaggagt catgctccgg tccaccaca	120
gccaccacga caggcgcatt aaattccaga aatgccagat cagcaaaccg gtcactgccg	180
ccagtaaaaa ccacggcaga tgccccacaa acgccccag aatcagggcc ggaatacacg	240
ctaaaaagag ctccagcgcc agccttttcc atgacagccg ttccagcacg ggtcacactc	300
ctgtcaaaat tcagaaacgg gcggagaaac gataccccgt gccgcgaacc gtttgacca	360
tacgatcatg gccacttgtt tccagcgctt tgcgcaggcg gcgaatatgg acgtccaccg	420
tgcggtcttc cacataaacg ttggtcccc agacgtggtt cagcagctgt tcgcggctgt	480

acacccgctc cggatgggtc a eol-f-seq1.app 501

<210> 185
 <211> 315
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 185
 aagcacgaca gtaataacaa aagaaatddd ggcggaacgt ttccctgctt cgagggtttc 60
 gtcaaggtag ccaaagtcca tcatcagatg gcgaataccg acaacgacgt gataggccag 120
 cgcggtgaga atgccccaca tgatgaactt cacaaagaag ctatccatga tggaggccgc 180
 cgtcagaaaa ccttctgggg aggaaaggct ggtgcccagc agccaaagca gaattccgac 240
 cgccacgaag gtgatgacac cggaacgcg atggagaatg gacgctatcg ccgtgattgg 300
 gaaccgtatc gtttg 315

<210> 186
 <211> 486
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 186
 agcgtcgcca tcagccccgg cgtacgctgg ggcgcggtca ggatcgccgc gcaggccacc 60
 ggattgcgct tatgcggcat cgtcgacgag ccgccgcggc cttccgccac cggctcgccg 120
 acctagcca cttcgggtctg catcagcagg gagaaatcgt tagcgaattd cccagcgtg 180
 ccgcagacgc cggcgaacca ggcgccgcc tccagcagcc gatcgcgctg gctgtgccac 240
 ggagtatccg gcagcgacag accgaggatc tgcgccagcg ccaggccaac cgccggccct 300
 ttctctttda gcgcgtccag agtgcccgcg gcgccgccga actgcagcgc cagcagtcgc 360
 ggacgcatct cgcgagccg ctgctgccag cgcaggagcg cgtcgagggg gcccgccagc 420
 ttcaggcaa aggtcaccgg cagcgctgc tgcattcagg tccggcccgg catcacggta 480
 tcgcga 486

<210> 187
 <211> 348
 <212> DNA
 <213> Klebsiella pneumoniae

<400> 187
 cctccgccag cgccggctcc acctccgcca accgcttcgc ttccagcagc tgatacggca 60
 cgccggcgtc ctccagcacc gcgatgtgc ggggtggcatt ttcatactgt ttggcggtac 120
 ggaacagctg cagcgtcccc ccctggcgcc cttcatactg aatgccggtg gtgtcgcgca 180
 gcgccttcag gcagtcgcgg ctgtactccg ccaggcgcac catacggcct ttgttctcca 240
 tatagtggcg ggtgtcgcag ttgcgcagca tctgccacat ccacttcaac tggaacgagg 300
 tgccgtcaag accgatcgcc agcggcgcat ggcgctgaaa catccatt 348

<210> 188
 <211> 129
 <212> PRT

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<213> Klebsiella pneumoniae

<400> 188

Phe Ser Tyr Ile Met Leu Gly Thr Asn Asp Leu Pro Arg Ala Ile Lys
1 5 10 15

Phe Tyr Asp Pro Leu Met Ala Leu Leu Gly His Val Lys Ala Gly Arg
20 25 30

Asn Glu Gln Gly Ala Ser Trp Gly Thr Phe Asn Gly Asn His Thr Cys
35 40 45

Gly Leu Cys Val Gly Val Pro Phe Asp Gln Gln Pro Ala Gly Val Gly
50 55 60

Asn Gly Thr Met Val Ala Leu Asn Ala Arg Ser Val Ala His Ile Ala
65 70 75 80

Glu Leu His Ala Leu Ala Leu Gln Leu Gly Gly Arg Asp Glu Gly Gly
85 90 95

Pro Gly His Arg Pro Gln Tyr Gly Asp Gly Phe His Ser Ala Tyr Val
100 105 110

Arg Asp Pro Asp Gly Asn Lys Leu Ala Phe Val Tyr Tyr Ala Ser Ala
115 120 125

Asp

<210> 189

<211> 331

<212> PRT

<213> Klebsiella pneumoniae

<400> 189

Ala Asp Lys Met Val Ile Ala His Arg Gly Ala Ser Gly Tyr Leu Pro
1 5 10 15

Glu His Thr Leu Pro Ala Lys Ala Met Ala Tyr Ala Gln Gly Ala Asp
20 25 30

Tyr Leu Glu Gln Asp Leu Val Met Thr Lys Asp Asp Arg Leu Val Val
35 40 45

Leu His Asp His Tyr Leu Asp Arg Val Thr Asp Val Ala Gln Arg Phe
50 55 60

Pro Gln Arg Ala Arg Lys Asp Gly Arg Phe Tyr Ala Ile Asp Phe Thr
65 70 75 80

Leu Asp Glu Ile Lys Ser Leu Lys Phe Thr Glu Gly Phe Glu Pro Lys
85 90 95

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Asn Gly Lys Asn Val Gln Thr Tyr Pro Gly Arg Phe Pro Met Gly Lys
100 105 110

Ser Asp Phe Arg Ile His Thr Phe Glu Glu Glu Ile Glu Phe Val Gln
115 120 125

Gly Leu Asn His Ser Thr Gly Lys Asn Ile Gly Ile Tyr Pro Glu Ile
130 135 140

Lys Ala Pro Trp Phe His His Gln Glu Gly Lys Asp Ile Ala Ala Ser
145 150 155 160

Thr Leu Lys Val Leu Lys Glu Tyr Gly Tyr Thr Ser Lys Gln Asp Lys
165 170 175

Val Tyr Leu Gln Cys Phe Asp Ala Asn Glu Leu Lys Arg Ile Lys Asn
180 185 190

Glu Leu Glu Pro Lys Met Gly Met Asp Leu Asn Leu Val Gln Leu Ile
195 200 205

Ala Tyr Thr Asp Trp Asn Glu Thr Gln Gln Lys Gln Ala Asp Gly Lys
210 215 220

Trp Val Asn Tyr Ser Tyr Asp Trp Met Phe Lys Pro Gly Ala Met Ala
225 230 235 240

Gln Ile Ala Gln Tyr Ala Asp Gly Ile Gly Pro Asp Tyr His Met Leu
245 250 255

Val Ala Glu Gly Ser Lys Pro Gly Ala Val Lys Leu Thr Ala Met Val
260 265 270

Lys Glu Ala His Ala Ser His Leu Gln Val His Pro Tyr Thr Val Arg
275 280 285

Ala Asp Gln Leu Pro Glu Tyr Ala Thr Asn Val Asn Gln Leu Tyr Asp
290 295 300

Val Leu Tyr Asn Gln Ala Gly Val Asp Gly Leu Phe Thr Asp Phe Pro
305 310 315 320

Asp Lys Ala Val Gln Phe Leu Asp Ala Lys Arg
325 330

<210> 190
<211> 179
<212> PRT
<213> Klebsiella pneumoniae
<400> 190

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Leu Leu Met Gln Arg Ile Thr Lys Leu Asp Asn Asp Leu Thr Cys Lys
 1 5 10 15
 Gly Met Leu Met Lys Leu Trp Asn Lys Thr Leu Leu Ala Ser Ala Leu
 20 25 30
 Cys Leu Thr Leu Phe Gly Cys Asp Asp Ala Ser Lys Val Asp Asn Lys
 35 40 45
 Leu Asp Lys Ala Lys Asp Asn Ala Glu Gln Met Lys Asp Ala Ala Ala
 50 55 60
 Asp Lys Ala Gln Ala Ile Lys Gln Asp Ala Asp Lys Gln Ile Asp Thr
 65 70 75 80
 Leu Lys Ser Gln Ala Asp Ala Glu Ala Asp Arg Leu Lys Asp Gln Ala
 85 90 95
 Ser Ala Ile Lys Ala Glu Ala Asp Lys Lys Ala Asp Ala Ile Ala Gln
 100 105 110
 Gln Ala Lys Ala Gln Ala Asp Ala Val Lys Gln Asn Ala Lys Gln Glu
 115 120 125
 Ser Asp Arg Ile Val Lys Glu Ala Gly Gln Ile Lys Asp Asn Ala Ile
 130 135 140
 Gly Asp Ala Asn Gln Leu Ser Ala Glu Ala Ala Ser Lys Thr Lys Ala
 145 150 155 160
 Ile Gln Asp Ser Ile Ala Lys Asp Lys Gln Asn Ala Ala Pro Pro Ala
 165 170 175
 Ala Gln Gln

<210> 191
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae
 <400> 191

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
 1 5 10 15
 Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30
 Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
 35 40 45
 Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
 50 55 60

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Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 192
<211> 419
<212> PRT
<213> Klebsiella pneumoniae
<400> 192

Ser Lys Val Arg Ile Ala Ile Ile Gly Asn Gly Met Val Gly His Arg
1 5 10 15

Phe Ile Glu Glu Leu Leu Asp Lys Ala Pro Ala Gly Gln Phe Asp Ile
20 25 30

Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His Leu
35 40 45

Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val Arg
50 55 60

Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu Arg
65 70 75 80

Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala Gly
85 90 95

Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr Pro
100 105 110

Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val Tyr
115 120 125

Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg Ser
130 135 140

Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala Ala
145 150 155 160

Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe Ala
165 170 175

Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln Leu
180 185 190

Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys Asn
195 200 205

Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met His
210 215 220

Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser Thr
225 230 235 240

Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala Val
245 250 255

Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser Asp
260 265 270

Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg Val
275 280 285

Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val Asp
290 295 300

His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser Ala
305 310 315 320

Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala His
325 330 335

Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser Lys
340 345 350

Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu Leu
355 360 365

Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu Gln
370 375 380

Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu Ile
385 390 395 400

Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp Lys

Leu Pro Asp

<210> 193
<211> 434
<212> PRT
<213> Klebsiella pneumoniae
<400> 193

Gly Val Asp Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp
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Val Ser Lys Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr
20 25 30

Val Ala Ala Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly
35 40 45

Cys Ile Pro Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln
50 55 60

Gly Ile Glu Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg
65 70 75 80

Gln Glu Leu Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp
85 90 95

Glu Leu Leu Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys
100 105 110

Pro Thr Val Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu
115 120 125

Lys Pro Gln His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala
130 135 140

Asn Ile Gln Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly
145 150 155 160

Gly Glu Ile Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg
165 170 175

Glu Phe Asn Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu
180 185 190

Phe Gly Ala Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile
195 200 205

Glu Ala Gly Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met
210 215 220

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Ala Lys Thr Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp
225 230 235 240

Ser Val Gly Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg
245 250 255

Thr Pro His Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys
260 265 270

Ala Glu Ala Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly
275 280 285

Trp Asn Leu Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala
290 295 300

Asp Leu Leu Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu
305 310 315 320

Asp Arg Phe Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg
325 330 335

Thr Ala Pro Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg
340 345 350

Ser Val Ile Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu
355 360 365

Glu Leu Ala Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr
370 375 380

Val Asn Asn Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser
385 390 395 400

Asp Gln Arg Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His
405 410 415

Arg Pro Ala Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu
420 425 430

Lys Ala

<210> 194
<211> 518
<212> PRT
<213> klebsiella pneumoniae

<400> 194

Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His Ser Pro Leu Gln Val
1 5 10 15

Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly Arg Pro Val Thr Arg
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20

25

30

Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala Leu Pro Gly Ile Arg
35 40 45

Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr Arg Thr Asp Thr Thr
50 55 60

Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn Ala Ala Phe Asp Ile
65 70 75 80

Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala Ile Ser Gly Leu Gln
85 90 95

Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr Trp Asn Trp Ser Asp
100 105 110

Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys Asp Leu Gln Glu Gly
115 120 125

Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile Gly Lys Val Ser Phe
130 135 140

Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val Lys Gly Pro Asp Asp
145 150 155 160

Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr Ser Trp Gln Asp Asn
165 170 175

Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg Val Thr Met Lys Leu
180 185 190

Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile Arg Leu His Ile Ala
195 200 205

Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val Glu Ser Ser Glu Gly
210 215 220

Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala Glu Gly Met Asp Leu
225 230 235 240

Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His Asp Leu Tyr Leu Ser
245 250 255

Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg Ser Ala Thr Pro Lys
260 265 270

Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly Asp Glu Asn Arg Arg
275 280 285

Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met Arg Pro Asn Gln Pro
290 295 300

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Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu Gly Glu Ala Pro Lys
305 310 315 320

Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser Gly Val Leu Asn Ile
325 330 335

Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala Phe Phe Gly Gln Lys
340 345 350

Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly Gln Val Ile Glu Gly
355 360 365

Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly Asp Gly Asp Glu Leu
370 375 380

Lys Arg Gly Gly Lys Pro Pro Val Asn His Val Thr Ile Val Ala Gln
385 390 395 400

Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly Glu Gly Thr Val Thr
405 410 415

Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg Val Met Ala Gln Ala
420 425 430

Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu Asp Lys Val Val Val Ala
435 440 445

Ala Pro Val Ile Ala Glu Leu Asn Thr Pro Arg Phe Leu Ala Ser Gly
450 455 460

Asp Thr Thr Arg Leu Ala Leu Asp Leu Ser Asn Leu Thr Asp Lys Pro
465 470 475 480

Gln Thr Leu Gln Val His Leu Thr Ala Ser Gly Leu Val Thr Leu Thr
485 490 495

Glu Gly Gln Leu Pro Pro Val Gln Leu Ala Pro Gly Ala Arg Ser Thr
500 505 510

Leu Phe Ile Pro Val Ser
515

<210> 195
<211> 245
<212> PRT
<213> Klebsiella pneumoniae

<400> 195

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 196
<211> 680
<212> PRT
<213> Klebsiella pneumoniae

<400> 196

Val Lys Ser Leu Arg Ala Trp Pro Ser Thr Val Arg Thr Gly Val Lys
1 5 10 15

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Met Ser Ser Arg Lys Glu Leu Ala Asn Ala Ile Arg Ala Leu Ser Met
20 25 30

Asp Ala Val Gln Lys Ala Lys Ser Gly His Pro Gly Ala Pro Met Gly
35 40 45

Met Ala Asp Ile Ala Glu Val Leu Trp Arg Asp Phe Leu Asn His Asn
50 55 60

Pro Asn Asn Pro Ala Trp Ala Asp Arg Asp Arg Phe Val Leu Ser Asn
65 70 75 80

Gly His Gly Ser Met Leu Ile Tyr Ser Leu Leu His Leu Thr Gly Tyr
85 90 95

Asp Leu Pro Ile Glu Glu Leu Lys Asn Phe Arg Gln Leu His Ser Lys
100 105 110

Thr Pro Gly His Pro Glu Val Gly Tyr Thr Ala Gly Val Glu Thr Thr
115 120 125

Thr Gly Pro Leu Gly Gln Gly Ile Ala Asn Ala Val Gly Met Ala Ile
130 135 140

Ala Glu Lys Thr Leu Ala Ala Gln Phe Asn Arg Pro Gly His Asp Ile
145 150 155 160

Val Asp His Tyr Thr Tyr Ala Phe Met Gly Asp Gly Cys Met Met Glu
165 170 175

Gly Ile Ser His Glu Val Cys Ser Leu Ala Gly Thr Leu Lys Leu Gly
180 185 190

Lys Leu Val Ala Phe Tyr Asp Asp Asn Gly Ile Ser Ile Asp Gly His
195 200 205

Val Glu Gly Trp Phe Thr Asp Asp Thr Ala Lys Arg Phe Glu Ala Tyr
210 215 220

Gly Trp His Val Val Arg Gly Val Asp Gly His Asp Ala Asp Ala Ile
225 230 235 240

Lys Arg Ala Val Glu Glu Ala Arg Ala Val Thr Asp Lys Pro Ser Leu
245 250 255

Leu Met Cys Lys Thr Ile Ile Gly Phe Gly Ser Pro Asn Lys Ala Gly
260 265 270

Thr His Asp Ser His Gly Ala Pro Leu Gly Asp Ala Glu Ile Ala Leu
275 280 285

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Thr Arg Glu Ala Leu Gly Trp Lys His Ala Pro Phe Asp Ile Pro Ser
 290 295 300
 Asp Ile Tyr Ala Gln Trp Asp Ala Lys Glu Ala Gly Gln Ala Lys Glu
 305 310 315 320
 Ala Ala Trp Asn Glu Lys Phe Ala Ala Tyr Ala Lys Ala Phe Pro Gln
 325 330 335
 Glu Ala Ala Glu Phe Thr Arg Arg Met Lys Gly Glu Met Pro Ser Asp
 340 345 350
 Phe Asp Ala Lys Ala Asn Glu Phe Ile Ala Lys Leu Gln Ala Asn Pro
 355 360 365
 Ala Lys Ile Ala Ser Arg Lys Ala Ser Gln Asn Ala Ile Glu Ala Phe
 370 375 380
 Gly Pro Leu Leu Pro Glu Phe Leu Gly Gly Ser Ala Asp Leu Ala Pro
 385 390 395 400
 Ser Asn Leu Thr Leu Trp Ser Gly Ser Lys Pro Ile Asn Glu Asp Ala
 405 410 415
 Ala Gly Asn Tyr Ile His Tyr Gly Val Arg Glu Phe Gly Met Thr Ala
 420 425 430
 Ile Ala Asn Gly Ile Ala Leu His Gly Gly Phe Leu Pro Tyr Thr Ser
 435 440 445
 Thr Phe Leu Met Phe Val Glu Tyr Ala Arg Asn Ala Val Arg Met Ala
 450 455 460
 Ala Leu Met Lys Gln Arg Gln Val Met Val Tyr Thr His Asp Ser Ile
 465 470 475 480
 Gly Leu Gly Glu Asp Gly Pro Thr His Gln Pro Val Glu Gln Val Ala
 485 490 495
 Ser Leu Arg Val Thr Pro Asn Met Ser Thr Trp Arg Pro Cys Asp Gln
 500 505 510
 Val Glu Ser Ala Ile Ala Trp Lys Tyr Gly Val Glu Arg Gln Asp Gly
 515 520 525
 Pro Thr Ala Leu Ile Leu Ser Arg Gln Asn Leu Ala Gln Gln Glu Arg
 530 535 540
 Thr Ala Glu Gln Leu Ala Asn Val Ala Arg Gly Gly Tyr Val Leu Lys
 545 550 555 560

Glu Cys Thr Gly Ser Gln Pro Glu Leu Ile Phe Ile Ala Thr Gly Ser
565 570 575

Glu Val Glu Leu Ala Val Ala Ala Trp Asp Lys Leu Thr Ala Glu Gly
580 585 590

Val Lys Ala Arg Val Val Ser Met Pro Ser Thr Asp Ala Phe Asp Lys
595 600 605

Gln Asp Ala Ala Tyr Arg Glu Ser Val Leu Pro Lys Ala Val Thr Ala
610 615 620

Arg Val Ala Val Glu Ala Gly Ile Ala Asp Tyr Trp Phe Lys Tyr Val
625 630 635 640

Gly Leu Asn Gly Ala Ile Val Gly Met Thr Thr Phe Gly Glu Ser Ala
645 650 655

Pro Ala Glu Gln Leu Phe Glu Glu Phe Gly Phe Thr Val Asp Asn Val
660 665 670

Val Ala Lys Ala Lys Ala Leu Leu
675 680

<210> 197
<211> 306
<212> PRT
<213> Klebsiella pneumoniae
<400> 197

Glu Val Lys Ile Ala Leu Val Ala Lys Ser Leu Gly Asn Gly Phe Phe
1 5 10 15

Glu Ala Ala Asn Val Gly Ala Gln Gln Ala Ala Lys Glu Leu Gly Asp
20 25 30

Val Lys Val Ile Tyr Thr Gly Pro Thr Thr Thr Thr Ala Glu Ala Gln
35 40 45

Ile Asp Val Leu Asn Gly Leu Ile Ala Gln Gly Val Asp Ala Ile Ala
50 55 60

Ile Ser Ala Asn Asp Pro Asp Ala Val Val Pro Val Leu Lys Lys Ala
65 70 75 80

Met Gln Arg Gly Ile Lys Val Val Ser Trp Asp Ser Gly Val Ala Pro
85 90 95

Ala Gly Arg Gln Ile His Leu Asn Pro Ser Asn Asn Ala Leu Ile Gly
100 105 110

Glu Thr Asn Val Lys Leu Ala Ala Asp Ala Leu Gln Ala Leu Asn Val
115 120 125

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Glu Lys Gly Glu Val Ala Val Leu Ser Ala Thr Pro Thr Ser Thr Asn
130 135 140

Gln Asn Ile Trp Ile Glu Glu Met Lys Lys Val Leu Pro Gln Tyr Pro
145 150 155 160

Ser Val Gln Leu Val Thr Val Ala Tyr Gly Asp Asp Leu Ser Asp Lys
165 170 175

Ser Tyr Arg Glu Ala Val Gly Leu Leu Lys Ser Tyr Pro Asp Leu Lys
180 185 190

Val Ile Val Ser Pro Ser Ser Val Gly Ile Val Ala Ala Ala Gln Ala
195 200 205

Val Lys Asp Gln Gly Lys Ile Gly Lys Val Tyr Val Thr Gly Leu Gly
210 215 220

Leu Pro Ser Glu Met Ala Gly Ala Ile Lys Ser Gly Ala Ser Lys Ser
225 230 235 240

Phe Ala Ile Trp Asn Pro Ile Asp Leu Gly Tyr Ala Ala Thr Tyr Leu
245 250 255

Ala Asp Asp Leu Val Lys Gly Thr Ala Thr Lys Thr Glu Ala Ser Met
260 265 270

Gly Lys Leu Gly Lys Val Asn Leu Asp Ala Glu Gly Asn Gly Ala Met
275 280 285

Ala Lys Pro Phe Val Tyr Asp Ala Ser Asn Ile Asp Lys Phe Ser Lys
290 295 300

Ile Phe
305

<210> 198
<211> 226
<212> PRT
<213> Klebsiella pneumoniae
<400> 198

Ala Asn Lys Thr Leu Val Val Ala Thr Asp Thr Ala Phe Val Pro Phe
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Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly Phe Asp Val Asp Leu Trp
20 25 30

Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp Tyr Thr Leu Lys Pro Met
35 40 45

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Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln Thr Lys Asn Ile Asp Leu
50 55 60

Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu Arg Lys Lys Ala Ile Asp
65 70 75 80

Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu Leu Val Met Val Asn Ala
85 90 95

Asn Asn Asn Asp Ile Lys Asp Val Lys Asp Leu Asn Gly Lys Val Val
100 105 110

Ala Val Lys Ser Gly Thr Gly Ser Val Asp Tyr Ala Lys Ala Asn Ile
115 120 125

Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn Ile Asp Asn Ala Tyr Met
130 135 140

Glu Leu Gly Thr Gly Arg Ala Asp Ala Val Leu His Asp Thr Pro Asn
145 150 155 160

Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn Gly Lys Phe Lys Ala Val
165 170 175

Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly Ile Ala Phe Pro Lys Gly
180 185 190

Ser Asp Glu Leu Arg Glu Lys Val Asn Gly Ala Leu Lys Thr Leu Arg
195 200 205

Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys Lys Trp Phe Gly Thr Glu
210 215 220

Pro Lys
225

<210> 199
<211> 334
<212> PRT
<213> Klebsiella pneumoniae

<400> 199

Arg Phe Ile Trp Leu Tyr Thr Glu Leu Lys Asn Ala Pro Thr Leu Lys
1 5 10 15

Thr Tyr Ser Ala Ala Val Asp Trp Asn Val Pro Gly His Tyr Phe Ala
20 25 30

Glu Thr Phe Ser Arg Ser Gly Met Asn Pro Ser Gly Gln Ser Ile Arg
35 40 45

Gly Glu Ile Met Lys Lys Ser Leu Ala Ser Met Cys Leu Ser Ala Val
50 55 60

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Leu Thr Val Ala Phe Ser Tyr His Ala Val Ala Ala Asp Leu Pro Glu
 65 70 75 80
 Ile Glu Lys Ser Gly Thr Leu Lys Val Ala Thr Glu Asp Asp Tyr Ala
 85 90 95
 Pro Phe Asn Phe Met Asn Asn Gly Gln Ala Asp Gly Phe Asn Lys Asp
 100 105 110
 Met Leu Glu Glu Leu Arg Lys Tyr Ala Lys Phe His Val Asp Gln Ser
 115 120 125
 Ile Leu Pro Trp Thr Gly Leu Leu Ala Ala Val Ser Thr Gly Gln Tyr
 130 135 140
 Asp Met Ala Leu Thr Gly Ala Val Ile Thr Asp Glu Arg Leu Lys Val
 145 150 155 160
 Phe Asp Phe Thr Pro Pro Trp Ala Ser Ala Gln His Tyr Phe Val Lys
 165 170 175
 Arg Ala Gly Asp Thr Ser Leu Asn Thr Ile Ala Asp Leu Ser Gly Lys
 180 185 190
 Lys Val Gly Val Gln Ala Gly Ser Ala Leu Leu Ala Arg Leu Pro Glu
 195 200 205
 Leu Lys Ala Met Leu Glu Lys Thr Gly Gly Lys Leu Gly Pro Val Val
 210 215 220
 Glu Tyr Pro Ser Tyr Pro Glu Ala Tyr Ala Asp Leu Ala Asn Lys Arg
 225 230 235 240
 Leu Asp Tyr Val Ile Asn Val Val Ile Ser Val Asn Asp Leu Ala Lys
 245 250 255
 Ala Lys Pro Lys Val Phe Ala Lys Gly Leu Ala Val Ser Gly Pro Gly
 260 265 270
 Tyr Met Ala Trp Pro Ile Pro Lys Asn Ser Pro Gln Leu Leu Ala Tyr
 275 280 285
 Met Thr Arg Phe Met Asn His Met Lys Glu Thr Gly Lys Leu Ala Glu
 290 295 300
 Leu Gln Lys Lys Trp Phe Gly Glu Thr Tyr Asp Asn Leu Pro Thr Glu
 305 310 315 320
 Ala Ile Thr Ser Pro Glu Gln Phe His Lys Leu Ala Gly Leu
 325 330

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<210> 200
 <211> 596
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 200

Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp Asp Tyr Gln Thr Arg
 1 5 10 15

Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile Pro Pro Ser Arg Gly
 20 25 30

Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala Leu Asn Arg Thr Ile
 35 40 45

Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp Asn Val Gln Gln Thr
 50 55 60

Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr Asp Asp Asp Ile Ala
 65 70 75 80

Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg Phe Thr Ser Ile Pro
 85 90 95

Val Lys Val Asn Leu Ser Glu Val Gln Val Ala Arg Phe Ala Val Asn
 100 105 110

Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly Tyr Lys Arg Arg Tyr
 115 120 125

Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile Gly Tyr Val Ser Lys
 130 135 140

Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys Glu Gly Lys Leu Ala
 145 150 155 160

Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu Gly Ile Glu Arg Tyr
 165 170 175

Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr Glu Glu Val Glu Val
 180 185 190

Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys Glu Val Pro Pro Gln
 195 200 205

Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu Lys Leu Gln Gln Tyr
 210 215 220

Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala Val Val Val Thr Asp
 225 230 235 240

Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser Thr Pro Ser Tyr Asp

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250

245

255

Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys Asp Tyr Ser Ala Leu
260 265 270

Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg Ala Thr Gln Gly Val
275 280 285

Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val Ala Val Ser Ala Leu
290 300

Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu Phe Asp Pro Gly Trp
305 310 315 320

Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg Asp Trp Lys Lys Trp
325 330 335

Gly His Gly His Leu Asn Val Thr Lys Ala Leu Glu Glu Ser Ala Asp
340 345 350

Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly Ile Asp Arg Leu Ser
355 360 365

Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr Thr Gly Ile Asp Leu
370 375 380

Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg Glu Trp Lys Leu Lys
385 390 395 400

Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr Ile Pro Val Gly Ile
405 410 415

Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln Met Asn Lys Ala Leu
420 425 430

Met Ile Leu Ile Asn Asp Gly Val Val Lys Val Pro His Leu Leu Gln
435 440 445

Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp Val Gln Pro His Glu
450 455 460

Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp Glu Ile Ala Lys Asp
465 470 475 480

Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly Thr Ala His Lys Tyr
485 490 495

Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys Ser Gly Thr Ala Gln
500 505 510

Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn Ala His Arg Ile Ser
515 520 525

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Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala Phe Ala Pro Tyr Asn
530 535 540

Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu Asn Gly Gly Ala Gly
545 550 555 560

Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu Asp His Ile Met Leu
565 570 575

Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn Pro Ala Val Thr Ala
580 585 590

Gly Glu Asp Gln
595

<210> 201
<211> 717
<212> PRT
<213> Klebsiella pneumoniae

<400> 201

Ala Glu Thr Ala Thr Asp Asp Lys Asn Ser Ala Ala Glu Glu Thr Met
1 5 10 15

Val Val Thr Ala Ala Glu Gln Asn Leu Gln Ala Pro Gly Val Ser Thr
20 25 30

Ile Thr Ala Asp Glu Ile Arg Lys Arg Pro Pro Ala Arg Asp Val Ser
35 40 45

Glu Ile Ile Arg Thr Met Pro Gly Val Asn Leu Thr Gly Asn Ser Thr
50 55 60

Ser Gly Gln Arg Gly Asn Asn Arg Gln Ile Asp Ile Arg Gly Met Gly
65 70 75 80

Pro Glu Asn Thr Leu Ile Leu Ile Asp Gly Lys Pro Val Thr Ser Arg
85 90 95

Asn Ser Val Arg Leu Gly Trp Arg Gly Glu Arg Asp Thr Arg Gly Asp
100 105 110

Thr Ser Trp Val Pro Pro Glu Met Ile Glu Arg Ile Glu Val Ile Arg
115 120 125

Gly Pro Ala Ala Ala Arg Tyr Gly Asn Gly Ala Ala Gly Gly Val Val
130 135 140

Asn Ile Ile Thr Lys Lys Thr Gly Asp Glu Trp His Gly Ser Trp Asn
145 150 155 160

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Thr Tyr Met Asn Ala Pro Glu His Lys Asp Glu Gly Ser Thr Lys Arg
165 170 175

Thr Asn Phe Ser Leu Ser Gly Pro Leu Gly Gly Asp Phe Ser Phe Arg
180 185 190

Leu Phe Gly Asn Leu Asp Lys Thr Gln Ala Asp Ala Trp Asp Ile Asn
195 200 205

Gln Gly His Gln Ser Glu Arg Thr Gly Ile Tyr Ala Asp Thr Leu Pro
210 215 220

Ala Gly Arg Glu Gly Val Lys Asn Lys Asn Ile Asp Gly Leu Val Arg
225 230 235 240

Trp Glu Phe Ala Pro Met Gln Ser Leu Glu Phe Glu Ala Gly Tyr Ser
245 250 255

Arg Gln Gly Asn Leu Tyr Ala Gly Asp Thr Gln Asn Thr Asn Ser Asn
260 265 270

Asp Leu Val Lys Glu Asn Tyr Gly Lys Glu Thr Asn Arg Leu Tyr Arg
275 280 285

Asn Thr Tyr Ser Val Thr Trp Asn Gly Ala Trp Asp Asn Gly Val Thr
290 295 300

Thr Ser Asn Trp Ala Gln Tyr Glu Arg Thr Arg Asn Ser Arg Lys Gly
305 310 315 320

Glu Gly Leu Ala Gly Gly Thr Glu Gly Ile Phe Asn Ser Asn Gln Phe
325 330 335

Thr Asp Ile Asp Leu Ala Asp Val Met Leu His Ser Glu Val Ser Ile
340 345 350

Pro Phe Asp Tyr Leu Val Asn Gln Asn Leu Thr Leu Gly Ser Glu Trp
355 360 365

Asn Gln Gln Arg Met Lys Asp Asn Ala Ser Asn Thr Gln Ala Leu Ser
370 375 380

Gly Gly Glu Ile Pro Gly Tyr Asp Ser Thr Gly Arg Ser Pro Tyr Ser
385 390 395 400

Gln Ala Glu Ile Phe Ser Leu Phe Ala Glu Asn Asn Met Glu Leu Thr
405 410 415

Asp Thr Thr Met Leu Thr Pro Ala Leu Arg Phe Asp His His Ser Ile
420 425 430

Val Gly Asn Asn Trp Ser Pro Ser Leu Asn Leu Ser Gln Gly Leu Trp
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435

440

445

Asp Asp Phe Thr Leu Lys Met Gly Ile Ala Arg Ala Tyr Lys Ala Pro
450 455 460

Ser Leu Tyr Gln Thr Asn Pro Asn Tyr Ile Leu Tyr Ser Lys Gly Gln
465 470 475 480

Gly Cys Tyr Ala Ser Lys Asp Gly Cys Tyr Leu Gln Gly Asn Asp Asp
485 490 495

Leu Lys Ala Glu Thr Ser Ile Asn Lys Glu Ile Gly Leu Glu Phe Lys
500 505 510

Arg Asp Gly Trp Leu Ala Gly Val Thr Trp Phe Arg Asn Asp Tyr Arg
515 520 525

Asn Lys Ile Glu Ala Gly Tyr Ala Pro Val Tyr Gln Asn Asn Lys Gly
530 535 540

Thr Asp Leu Tyr Gln Trp Glu Asn Val Pro Lys Ala Val Val Glu Gly
545 550 555 560

Leu Glu Gly Thr Leu Asn Val Pro Val Ser Glu Thr Val Asn Trp Thr
565 570 575

Asn Asn Ile Thr Tyr Met Leu Gln Ser Lys Asn Lys Glu Thr Gly Asp
580 585 590

Arg Leu Ser Ile Ile Pro Glu Tyr Thr Leu Asn Ser Thr Leu Ser Trp
595 600 605

Gln Val Arg Asp Asp Val Ser Leu Gln Ser Thr Phe Thr Trp Tyr Gly
610 615 620

Lys Gln Glu Pro Lys Lys Tyr Asn Tyr Lys Gly Gln Pro Val Thr Gly
625 630 635 640

Ser Glu Lys Asn Glu Val Ser Pro Tyr Ser Ile Leu Gly Leu Ser Ala
645 650 655

Thr Trp Asp Val Thr Lys Tyr Val Ser Leu Thr Gly Gly Val Asp Asn
660 665 670

Val Phe Asp Lys Arg His Trp Arg Ala Gly Asn Ala Gln Thr Thr Gly
675 680 685

Gly Ala Thr Gly Thr Met Tyr Gly Ala Gly Ala Glu Thr Tyr Asn Glu
690 695 700

Ser Gly Arg Thr Trp Tyr Leu Ser Val Asn Thr His Phe
705 710 715

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<210> 202
 <211> 404
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 202

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Val Asp Phe His Gly Tyr Ala Arg Ser Gly Ile Gly Trp Thr Gly Ser
1      5      10      15

Gly Gly Glu Gln Gln Cys Phe Lys Ala Thr Gly Ala Gln Ser Lys Tyr
20      25      30

Arg Leu Gly Asn Glu Cys Glu Thr Tyr Ala Glu Leu Lys Leu Gly Gln
35      40      45

Glu Leu Trp Lys Glu Gly Asp Lys Ser Phe Tyr Phe Asp Thr Asn Val
50      55      60

Ala Tyr Ser Val Asn Gln Glu Asp Asp Trp Glu Ser Thr Ser Pro Ala
65      70      75      80

Phe Arg Glu Ala Asn Ile Gln Gly Lys Asn Leu Ile Asp Trp Leu Pro
85      90      95

Gly Ser Thr Leu Trp Ala Gly Lys Arg Phe Tyr Gln Arg His Asp Val
100     105     110

His Met Ile Asp Phe Tyr Tyr Trp Asp Ile Ser Gly Pro Gly Ala Gly
115     120     125

Leu Glu Asn Val Asp Leu Gly Phe Gly Lys Leu Ser Leu Ala Ala Thr
130     135     140

Arg Asn Ser Glu Ser Gly Gly Ser Tyr Thr Phe Ser Ser Asp Asp Thr
145     150     155     160

Lys Lys Tyr Ala Ala Lys Thr Ala Asn Asp Val Phe Asp Ile Arg Leu
165     170     175

Ala Gly Leu Glu Thr Asn Pro Gly Gly Val Leu Glu Leu Gly Val Asp
180     185     190

Tyr Gly Arg Ala Asn Pro Gln Asp Asp Tyr Arg Leu Glu Asp Gly Ala
195     200     205

Ser Lys Asp Gly Trp Met Trp Thr Gly Glu His Thr Gln Ser Ile Trp
210     215     220

Gly Gly Phe Asn Lys Phe Val Val Gln Tyr Ala Thr Asp Ala Met Thr
225     230     235     240
  
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Ser Trp Asn Ser Gly His Ser Gln Gly Thr Ser Ile Asp Asn Asn Gly
245 250 255

Ser Met Ile Arg Val Leu Asp His Gly Ala Met Asp Phe Asn Asp Asp
260 265 270

Trp Gly Leu Met Tyr Val Ala Met Tyr Gln Asp Val Asp Leu Asp Ser
275 280 285

Lys Asn Gly Ser Thr Trp Tyr Thr Val Gly Val Arg Pro Met Tyr Lys
290 295 300

Trp Thr Pro Ile Met Ser Thr Gln Leu Glu Ile Gly Tyr Asp Asn Val
305 310 315 320

Lys Ser Gln Arg Thr Ser Glu Asn Asn Asn Gln Tyr Lys Ile Thr Leu
325 330 335

Ala Gln Gln Trp Gln Ala Gly Asn Ser Val Trp Ser Arg Pro Ala Ile
340 345 350

Arg Ile Phe Ala Thr Tyr Ala Lys Trp Asp Glu Asn Trp Gly Tyr Ser
355 360 365

Asn Thr Ser Gly Leu Gln Thr Lys Asp Ser Ser Gly Ser Gly Ala Phe
370 375 380

Thr Ser Ser Arg Gly Asp Asp Ser Glu Val Thr Phe Gly Ala Gln Met
385 390 395 400

Glu Val Trp Trp

<210> 203
<211> 632
<212> PRT
<213> Klebsiella pneumoniae

<400> 203

Met Ala Ile Glu Ile Lys Val Pro Asp Ile Gly Ala Asp Glu Val Glu
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Ile Thr Glu Ile Leu Val Lys Val Gly Asp Lys Val Glu Ala Glu Gln
20 25 30

Ser Leu Ile Thr Val Glu Gly Asp Lys Ala Ser Met Glu Val Pro Ser
35 40 45

Pro Gln Ala Gly Val Val Lys Glu Ile Lys Val Ser Val Gly Asp Lys
50 55 60

Thr Glu Thr Gly Lys Leu Ile Met Ile Phe Asp Ser Ala Glu Gly Ala
65 70 75 80

eo1f-seq1.app

Ala Ala Ala Ala Pro Ala Gln Glu Glu Lys Lys Glu Ala Ala Pro Ala
85 90 95

Ala Ala Ala Pro Ala Ala Ala Ala Ala Ala Lys Glu Val His Val Pro
100 105 110

Asp Ile Gly Gly Asp Glu Val Glu Val Thr Glu Ile Met Val Lys Val
115 120 125

Gly Asp Thr Ile Ala Ala Glu Gln Ser Leu Ile Thr Val Glu Gly Asp
130 135 140

Lys Ala Ser Met Glu Val Pro Ala Pro Phe Ala Gly Thr Val Lys Glu
145 150 155 160

Ile Lys Ile Asn Thr Gly Asp Lys Val Ser Thr Gly Ser Leu Ile Met
165 170 175

Ile Phe Glu Val Ala Gly Ala Ala Pro Ala Ala Ala Pro Ala Gln Ala
180 185 190

Ala Ala Pro Ala Ala Ala Ala Pro Ala Ala Ala Ala Gly Val Lys Asp
195 200 205

Val Asn Val Pro Asp Ile Gly Gly Asp Glu Val Glu Val Thr Glu Val
210 215 220

Met Val Lys Val Gly Asp Lys Val Ala Ala Glu Gln Ser Leu Ile Thr
225 230 235 240

Val Glu Gly Asp Lys Ala Ser Met Glu Val Pro Ala Pro Phe Ala Gly
245 250 255

Thr Val Lys Glu Ile Lys Ile Ser Thr Gly Asp Lys Val Lys Thr Gly
260 265 270

Ser Leu Ile Met Val Phe Glu Val Glu Gly Ala Ala Pro Ala Ala Ala
275 280 285

Pro Ala Gln Ala Ala Ala Pro Ala Pro Ala Ala Ala Pro Ala Gln Ala
290 295 300

Ala Lys Pro Ala Ala Ala Pro Ala Ala Lys Ala Glu Gly Lys Ser Glu
305 310 315 320

Phe Ala Glu Asn Asp Ala Tyr Val His Ala Thr Pro Leu Ile Arg Arg
325 330 335

Leu Ala Arg Glu Phe Gly Val Asn Leu Ala Lys Val Lys Gly Thr Gly
340 345 350

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Arg Lys Gly Arg Ile Leu Arg Glu Asp Val Gln Ala Tyr Val Lys Glu
355 360 365

Ala Val Lys Arg Ala Glu Ser Ala Pro Ala Ala Ala Ala Gly Gly Gly
370 375 380

Ile Pro Gly Met Leu Pro Trp Pro Lys Val Asp Phe Ser Lys Phe Gly
385 390 395 400

Glu Val Glu Glu Val Glu Leu Gly Arg Ile Gln Lys Ile Ser Gly Ala
405 410 415

Asn Leu Ser Arg Asn Trp Val Met Ile Pro His Val Thr His Phe Asp
420 425 430

Lys Thr Asp Ile Thr Asp Leu Glu Ala Phe Arg Lys Gln Gln Asn Ala
435 440 445

Glu Ala Glu Lys Arg Lys Leu Asp Val Lys Phe Thr Pro Val Val Phe
450 455 460

Ile Met Lys Ala Val Ala Ala Ala Leu Glu Gln Met Pro Arg Phe Asn
465 470 475 480

Ser Ser Leu Ser Glu Asp Gly Gln Arg Leu Thr Leu Lys Lys Tyr Ile
485 490 495

Asn Ile Gly Val Ala Val Asp Thr Pro Asn Gly Leu Val Val Pro Val
500 505 510

Phe Lys Asp Val Asn Lys Lys Ser Ile Thr Glu Leu Ser Arg Glu Leu
515 520 525

Thr Thr Ile Ser Lys Lys Ala Arg Asp Gly Lys Leu Thr Ala Gly Glu
530 535 540

Met Gln Gly Gly Cys Phe Thr Ile Ser Ser Ile Gly Gly Leu Gly Thr
545 550 555 560

Thr His Phe Ala Pro Ile Val Asn Ala Pro Glu Val Ala Ile Leu Gly
565 570 575

Val Ser Lys Ser Ala Met Glu Pro Val Trp Asn Gly Lys Glu Phe Val
580 585 590

Pro Arg Leu Met Leu Pro Ile Ser Leu Ser Phe Asp His Arg Val Ile
595 600 605

Asp Gly Ala Asp Gly Ala Arg Phe Ile Thr Ile Ile Asn Asn Thr Leu
610 615 620

eo1f-seq1.app

Ser Asp Ile Arg Arg Leu Val Met
625 630

<210> 204
<211> 257
<212> PRT
<213> *Klebsiella pneumoniae*

<400> 204

Met Asp Arg Ile Ile Glu Lys Leu Asp Arg Gly Trp Trp Val Val Ser
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His Glu Gln Lys Leu Trp Leu Pro Gly Gly Glu Leu Pro His Gly Glu
20 25 30

Ala Val Asn Phe Asp Leu Val Gly Gln His Ala Leu His Ile Gly Glu
35 40 45

Trp Gln Gly Glu Ser Val Trp Met Val Arg Gln Asp Arg Arg His Asp
50 55 60

Met Gly Ser Leu Arg Gln Val Leu Asp Gln Asp Pro Gly Leu Phe Gln
65 70 75 80

Leu Ala Gly Arg Gly Ile Gln Leu Ala Glu Phe Tyr Arg Ser His Lys
85 90 95

Phe Cys Gly Tyr Cys Gly His Pro Met His Ala Ser Lys Ser Glu Trp
100 105 110

Ala Met Leu Cys Ser His Cys Arg Glu Arg Tyr Tyr Pro Gln Ile Ala
115 120 125

Pro Cys Ile Ile Val Ala Ile Arg Arg Asp Asp Ala Ile Leu Leu Ala
130 135 140

Gln His Thr Arg His Arg Asn Gly Val His Thr Val Leu Ala Gly Phe
145 150 155 160

Val Glu Val Gly Glu Thr Leu Glu Gln Ala Val Ala Arg Glu Val Met
165 170 175

Glu Glu Ser Gly Ile Arg Val Lys Asn Leu Arg Tyr Val Thr Ser Gln
180 185 190

Pro Trp Pro Phe Pro Gln Ser Leu Met Thr Ala Phe Met Ala Asp Tyr
195 200 205

Ala Asp Gly Glu Ile Val Val Asp Lys Lys Glu Leu Leu Thr Ala Asp
210 215 220

Trp Tyr Arg Tyr Asp Asp Leu Pro Leu Leu Pro Pro Gly Thr Val
225 230 235 240

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Ala Arg Arg Leu Ile Glu Asp Thr Val Ala Met Cys Arg Ala Glu Phe
245 250 255

Glu

<210> 205
<211> 130
<212> PRT
<213> Klebsiella pneumoniae

<400> 205

Met Phe Ser Tyr Ile Met Leu Gly Thr Asn Asp Leu Pro Arg Ala Ile
1 5 10 15

Lys Phe Tyr Asp Pro Leu Met Ala Leu Leu Gly His Val Lys Ala Gly
20 25 30

Arg Asn Glu Gln Gly Ala Ser Trp Gly Thr Phe Asn Gly Asn His Thr
35 40 45

Cys Gly Leu Cys Val Gly Val Pro Phe Asp Gln Gln Pro Ala Gly Val
50 55 60

Gly Asn Gly Thr Met Val Ala Leu Asn Ala Arg Ser Val Ala His Ile
65 70 75 80

Ala Glu Leu His Ala Leu Ala Leu Gln Leu Gly Gly Arg Asp Glu Gly
85 90 95

Gly Pro Gly His Arg Pro Gln Tyr Gly Asp Gly Phe His Ser Ala Tyr
100 105 110

Val Arg Asp Pro Asp Gly Asn Lys Leu Ala Phe Val Tyr Tyr Ala Ser
115 120 125

Ala Asp
130

<210> 206
<211> 587
<212> PRT
<213> Klebsiella pneumoniae

<400> 206

Met Asn Val Leu Arg Arg Lys Trp Gln Gly Leu Pro Arg Gly Val Val
1 5 10 15

Val Cys Ile Thr Ala Leu Val Ile Tyr Val Pro Leu Leu Phe Ile Val
20 25 30

Val Gln Ser Phe Leu Ser Ala Pro Phe Phe Ser Arg Ser Lys Ser Trp
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35

40

45

Ser Leu Glu Ala Phe Ala Phe Ile Phe Thr Asp Pro Asp Phe Tyr Leu
50 55 60

Ala Leu Arg Ser Gly Phe Ile Leu Ala Phe Gly Leu Val Ile Ile Ala
65 70 75 80

Ile Pro Leu Gly Gly Ile Leu Ala Phe Leu Met Val Arg Thr Asp Leu
85 90 95

Pro Gly Arg Arg Ile Ile Glu Pro Leu Ile Leu Val Pro Ile Phe Val
100 105 110

Ser Pro Met Val Leu Gly Phe Gly Tyr Val Val Ala Ala Gly Pro Val
115 120 125

Gly Phe Phe Ser Gln Trp Ala Gln Gln Leu Ile Gly Phe Val Pro Trp
130 135 140

Asn Ile Tyr Ser Met Phe Ser Ile Val Val Ile Ala Gly Leu Thr His
145 150 155 160

Val Pro His Ala Tyr Leu Tyr Ile Ser Ser Ala Leu Arg Ser Val Gly
165 170 175

Ser Asp Val Glu Glu Ala Ala Arg Thr Val Gly Ala Thr Pro Leu Gln
180 185 190

Val Met Thr Ser Val Ser Leu Pro Met Val Arg Pro Ser Ile Leu Tyr
195 200 205

Ala Cys Val Leu Leu Phe Phe Leu Gly Leu Glu Val Phe Gly Leu Met
210 215 220

Leu Val Leu Gly Asp Pro Glu Gly Asn Met Val Leu Ala Thr Tyr Leu
225 230 235 240

Tyr Lys Leu Thr Asn Lys Leu Gly Thr Pro Ser Tyr His Leu Met Ala
245 250 255

Ala Val Ala Val Val Leu Ile Cys Ile Thr Ile Pro Leu Val Met Leu
260 265 270

Gln Arg Arg Leu Met Arg Thr Ala Asn Arg Phe Val Thr Met Lys Gly
275 280 285

Lys Ala Ser Gln Ala Arg Ala Leu Pro Leu Gly Lys Trp Arg Trp Val
290 295 300

Ala Gly Ala Val Val Val Ala Trp Leu Thr Val Thr Ile Gly Val Pro
305 310 315 320

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Leu Leu Gly Val Ala Leu Arg Ala Phe Ile Ser Asn Trp Gly Val Gly
 325 330 335
 Val Ser Leu Trp Asp Glu Leu Ser Leu Ala Thr Phe His Asn Ile Trp
 340 345 350
 Gln Gln Pro Asn Leu Leu Arg Ala Ile Val Asn Ser Met Ala Ile Gly
 355 360 365
 Ile Ile Gly Gly Ala Leu Ala Val Ile Cys Tyr Leu Phe Val Gly Ile
 370 375 380
 Ala Met His Arg Lys Ala Asp Asn Val Thr Arg Phe Leu Asp Tyr Ser
 385 390 395 400
 Val Leu Val Pro Arg Ala Val Pro Gly Leu Leu Ala Gly Leu Ala Phe
 405 410 415
 Leu Trp Val Phe Leu Phe Val Pro Met Trp Leu Asp Gln Ser Leu Lys
 420 425 430
 His Gly Trp Leu Ser Ala Leu Arg Trp Pro Thr Gly Cys Gly Ser Thr
 435 440 445
 Leu Ser Cys Ser Cys Ala Leu Arg Asn Thr Ile Phe Ser Val Trp Leu
 450 455 460
 Ala Tyr Thr Val Val Trp Met Ala Thr Leu Arg Leu Ile Ser Ser Thr
 465 470 475 480
 Leu Leu Gln Val Gly Pro Glu Leu Glu Glu Ala Ala Arg Ser Thr Gly
 485 490 495
 Ala Ser Arg Gly Gln Ile Thr Arg His Val Thr Val Pro Leu Ser Arg
 500 505 510
 Tyr Gly Leu Ile Gly Ser Trp Leu Leu Met Phe Leu Ile Phe Glu Arg
 515 520 525
 Glu Tyr Ser Thr Gly Val Tyr Leu Leu Ser Pro Gly Thr Glu Thr Ile
 530 535 540
 Gly Ser Met Leu Val Ser Leu Trp Ala Ala Gly Ala Ile Asp Ile Val
 545 550 555 560
 Ala Ala Leu Ser Phe Ile Asn Ile Leu Leu Val Val Ile Gly Leu Gly
 565 570 575
 Ile Ala Leu Arg Phe Gly Val Lys Leu His Asp
 580 585

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<210> 207
 <211> 301
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 207

Met Gln Asp Leu Asn Asp Phe Ala Trp Phe Val Gln Val Val Asp His
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 20 25 30

Leu Ser Arg Arg Ile Ala Gln Leu Glu Glu Arg Leu Gly Val Arg Leu
 35 40 45

Ile Gln Arg Thr Thr Arg Gln Phe Ala Val Thr Glu Val Gly Gln Thr
 50 55 60

Phe Tyr Gln His Cys Lys Ala Met Leu Ile Glu Ala Glu Ala Ala Gln
 65 70 75 80

Gln Ala Val Glu Thr Leu Arg Ala Glu Pro Arg Gly Ser Val Arg Ile
 85 90 95

Thr Cys Pro Val Thr Leu Leu His Val His Ile Gly Pro Met Leu Ala
 100 105 110

Arg Phe Met Ala Arg Tyr Pro Gly Val Thr Leu His Leu Glu Ala Thr
 115 120 125

Asn Arg Arg Val Asp Val Val Gly Glu Gly Ile Asp Val Ala Ile Arg
 130 135 140

Val Arg Pro Arg Pro Ile Glu Asp Ser Asp Leu Val Met Arg Val Leu
 145 150 155 160

Ala Asp Arg Gly His Arg Leu Val Ala Ser Pro Asp Leu Ile Ser Arg
 165 170 175

Leu Gly Arg Pro Gln Ala Pro Ser Glu Leu Ser Ala Trp Pro Gly Leu
 180 185 190

Ser Leu Gly Ala Asn Lys His Gln His Lys Trp Gln Leu Thr Gly Pro
 195 200 205

Gly Gly Ala Arg Ala Glu Val Tyr Phe Thr Pro Arg Met Val Thr Thr
 210 215 220

Asp Met Leu Ala Leu Arg Glu Ala Ala Met Ala Gly Val Gly Val Val
 225 230 235 240

Gln Leu Pro Leu Leu Met Val Arg Asp Gln Leu Ala Ser Gly Glu Leu

Glu Val Val Leu Asp Glu Trp Gln Pro Arg Arg Glu Val Ile His Ala
260 265 270

Val Phe Ala Ser Arg Arg Gly Leu Leu Pro Ser Val Arg Ala Leu Val
275 280 285

Asp Tyr Leu Ser Glu Glu Tyr Gln Arg Met Glu Glu Asp
290 295 300

<210> 208

<211> 381

<212> PRT

<213> Klebsiella pneumoniae

<400> 208

Met Ser Gly Ala Asn Ala Ser Gly Tyr Leu Glu Ser Arg Thr Met Lys
1 5 10 15

Thr Glu Thr Pro Thr Val Lys Met Val Ala Ile Ala Ala Asp Glu Ala
20 25 30

Gly Gln Arg Ile Asp Asn Phe Leu Arg Thr Gln Leu Lys Gly Val Pro
35 40 45

Lys Ser Met Ile Tyr Arg Ile Leu Arg Lys Gly Glu Val Arg Val Asn
50 55 60

Lys Lys Arg Val Lys Pro Glu Tyr Lys Leu Glu Ala Gly Asp Glu Val
65 70 75 80

Arg Ile Pro Pro Val Arg Val Ala Glu Arg Glu Glu Glu Ala Val Ser
85 90 95

Pro His Leu Gln Lys Val Ala Ala Leu Ser Glu Val Ile Leu Tyr Glu
100 105 110

Asp Asp His Ile Leu Val Leu Asn Lys Pro Ser Gly Thr Ala Val His
115 120 125

Gly Gly Ser Gly Leu Ser Phe Gly Val Ile Glu Gly Leu Arg Ala Leu
130 135 140

Arg Pro Glu Ala Arg Phe Leu Glu Leu Val His Arg Leu Asp Arg Asp
145 150 155 160

Thr Ser Gly Val Leu Leu Val Ala Lys Lys Arg Ser Ala Leu Arg Ser
165 170 175

Leu His Glu Gln Leu Arg Asp Lys Gly Met Gln Lys Asp Tyr Leu Ala
180 185 190

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Leu Val Arg Gly Gln Trp Gln Ser His Thr Lys Val Val Gln Ala Pro
195 200 205

Leu Leu Lys Asn Ile Leu Gln Ser Gly Glu Arg Ile Val Arg Val Ser
210 215 220

Gln Glu Gly Lys Pro Ser Glu Thr Arg Phe Lys Val Glu Glu Arg Tyr
225 230 235 240

Glu Phe Ala Thr Leu Val Arg Cys Ser Pro Val Thr Gly Arg Thr His
245 250 255

Gln Ile Arg Val His Thr Gln Tyr Ala Gly His Pro Ile Ala Phe Asp
260 265 270

Asp Arg Tyr Gly Asp Arg Glu Phe Asp Lys Gln Leu Ser Ala Thr Gly
275 280 285

Leu Asn Arg Leu Phe Leu His Ala Ala Ala Leu Lys Phe Thr His Pro
290 295 300

Gly Ser Gly Glu Val Met Arg Val Glu Ala Pro Ala Gly Gln Pro Ala
305 310 315 320

Glu Ala Leu Phe Thr Gly Ala Thr Glu Glu Gln Ile Ser Ala Thr Arg
325 330 335

Asn Gln Phe Arg Arg Phe Phe Cys Leu Ser Leu Thr Ala Gly Cys Ser
340 345 350

Phe His Gly Ala Thr Ser Asp Arg Ala Arg Leu Arg Val Asn Arg Pro
355 360 365

Gly Cys Ser Gly Arg Gly Leu Pro Ala Val Arg Thr Ala
370 375 380

<210> 209

<211> 842

<212> PRT

<213> Klebsiella pneumoniae

<400> 209

Met Asn Lys Ile Thr Lys Tyr Ile Asp Ala Leu Pro Leu Ser Asp Ala
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Glu Lys Ser Ala Leu Pro Asp Thr Ser Leu Gln Ala Val His Gln Ala
20 25 30

Leu Asp Asp Asp His Gln Thr Phe Ala Arg Glu Asp Asp Ser Pro Leu
35 40 45

Gly Ser Val Lys Ala Arg Leu Ala His Ser Trp Pro Asp Ser Leu Ser
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50

55

60

Gly Asp Gln Leu Val Lys Asp Asp Glu Gly Arg Thr Gln Leu His Ala
65 70 75 80

Met Pro Lys Ala Lys Arg Ser Ser Met Ile Pro Asp Pro Trp Arg Thr
85 90 95

Asn Pro Val Gly Arg Phe Trp Asp Arg Leu Arg Gly Arg Asp Val Thr
100 105 110

Pro Arg Tyr Leu Ser Arg Leu Thr Gln Glu Glu Arg Glu Ser Glu Gln
115 120 125

Lys Trp Arg Thr Val Gly Thr Ile Arg Arg Tyr Ile Leu Leu Leu Leu
130 135 140

Thr Leu Ser Gln Thr Val Val Ala Thr Trp Tyr Met Lys Thr Ile Leu
145 150 155 160

Pro Tyr Gln Gly Trp Ala Leu Ile Asn Pro Ala Asp Met Val Gly Gln
165 170 175

Asn Leu Trp Ile Ser Phe Met Gln Leu Leu Pro Tyr Val Leu Gln Ser
180 185 190

Gly Ile Leu Ile Leu Phe Ala Val Leu Phe Cys Trp Val Ser Ala Gly
195 200 205

Phe Trp Thr Ala Leu Met Gly Phe Leu Gln Leu Leu Ile Gly Arg Asp
210 215 220

Lys Tyr Ser Ile Ser Ala Ser Thr Val Gly Asp Glu Pro Leu Asn Pro
225 230 235 240

Ala His Arg Thr Ala Leu Ile Met Pro Ile Cys Asn Glu Asp Val Asp
245 250 255

Arg Val Phe Ala Gly Leu Arg Ala Thr Trp Glu Ser Val Lys Ala Thr
260 265 270

Gly Asn Ala Ala His Phe Asp Val Tyr Ile Leu Ser Asp Ser Tyr Asn
275 280 285

Pro Asp Ile Cys Val Ala Glu Gln Lys Ala Trp Met Glu Leu Ile Ala
290 295 300

Glu Val Gln Gly Glu Gly Gln Ile Phe Tyr Arg Arg Arg Arg Arg Arg
305 310 315 320

Val Lys Arg Lys Ser Gly Asn Ile Asp Asp Phe Cys Arg Arg Trp Gly
325 330 335

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Ser Gln Tyr Ser Tyr Met Val Val Leu Asp Ala Asp Ser Val Met Thr
340 345 350

Gly Glu Cys Leu Ser Ser Leu Val Arg Leu Met Glu Ala Asn Pro Asn
355 360 365

Ala Gly Ile Ile Gln Ser Ser Pro Arg Ala Ser Gly Met Asp Thr Leu
370 375 380

Tyr Ala Arg Cys Gln Gln Phe Ala Thr Arg Val Tyr Gly Pro Leu Phe
385 390 395 400

Thr Ala Gly Leu His Phe Trp Gln Leu Gly Glu Ser His Tyr Trp Gly
405 410 415

His Asn Ala Ile Ile Arg Val Lys Pro Phe Ile Glu His Cys Ala Leu
420 425 430

Ala Pro Leu Pro Gly Glu Gly Asn Phe Ala Gly Ser Ile Leu Ser His
435 440 445

Asp Phe Val Glu Ala Ala Leu Met Arg Arg Ala Gly Trp Gly Val Trp
450 455 460

Ile Ala Tyr Asp Leu Pro Gly Ser Tyr Glu Glu Leu Pro Pro Asn Leu
465 470 475 480

Leu Asp Glu Leu Lys Arg Asp Arg Arg Trp Cys Gln Gly Asn Leu Met
485 490 495

Asn Phe Arg Leu Phe Leu Val Arg Gly Met His Pro Val His Arg Ala
500 505 510

Val Phe Leu Thr Gly Val Met Ser Tyr Leu Ser Ala Pro Leu Trp Phe
515 520 525

Met Phe Leu Ala Leu Ser Thr Ala Leu Gln Val Val His Ala Leu Thr
530 535 540

Glu Pro Gln Tyr Phe Leu Gln Pro Arg Gln Leu Phe Pro Val Trp Pro
545 550 555 560

Gln Trp Arg Pro Glu Leu Ala Ile Ala Leu Phe Ala Ser Thr Met Val
565 570 575

Leu Leu Phe Leu Pro Lys Leu Leu Ser Ile Ile Leu Val Trp Cys Lys
580 585 590

Gly Pro Lys Glu Tyr Gly Gly Phe Phe Arg Val Thr Leu Ser Leu Leu
595 600 605

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Leu Glu Val Leu Phe Ser Val Leu Leu Ala Pro Val Arg Met Leu Phe
610 615 620

His Thr Val Phe Val Val Ser Ala Phe Leu Gly Trp Glu Val Val Trp
625 630 635 640

Asn Ser Pro Gln Arg Asp Asp Asp Ser Thr Pro Trp Gly Glu Ala Phe
645 650 655

Met Arg His Gly Ser Gln Leu Leu Leu Gly Leu Val Trp Ala Val Gly
660 665 670

Met Ala Trp Leu Asp Leu Arg Phe Leu Phe Trp Leu Ala Pro Ile Val
675 680 685

Val Ser Leu Ile Leu Ser Pro Phe Val Ser Ala Ile Ser Ser Arg Ala
690 695 700

Thr Val Gly Leu Arg Thr Lys Arg Trp Lys Leu Phe Leu Ile Pro Glu
705 710 715 720

Glu Tyr Ser Pro Pro Gln Val Leu Lys Asp Thr Asp Ala Tyr Leu Thr
725 730 735

Met Asn Arg Gln Arg Ser Leu Asp Asp Gly Phe Met His Ala Val Phe
740 745 750

Asn Pro Ser Phe Asn Ala Leu Ala Thr Ala Met Ala Thr Ala Arg His
755 760 765

Arg Gln Gly His Ile Leu Glu Ile Ala Arg Glu Arg His Val Glu Gln
770 775 780

Ala Leu Asn Glu Thr Pro Asp Lys Leu Asn Arg Asp Arg Arg Leu Val
785 790 795 800

Leu Leu Ser Asp Pro Val Thr Met Ser Arg Leu His Tyr Arg Val Trp
805 810 815

Ala Ala Pro Glu Lys Tyr Ser Ser Trp Val Asn Ala Tyr Gln Gln Leu
820 825 830

Ala Leu Asn Pro Leu Ala Leu Lys Thr Lys
835 840

<210> 210

<211> 200

<212> PRT

<213> Klebsiella pneumoniae

<400> 210

Met Glu Met Ala Lys Ile Leu Val Leu Tyr Tyr Ser Met Tyr Gly His
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eo1f-seq1.app
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Ile Glu Thr Met Ala His Ala Val Ala Asp Gly Ala Asn Arg Val Asp
20 25 30
Gly Val Glu Val Val Val Lys Arg Val Pro Glu Thr Met Gln Ala Glu
35 40 45
Ala Phe Ala Lys Ala Gly Gly Lys Ala Gln Asn Ala Pro Val Ala Thr
50 55 60
Pro Gln Glu Leu Ala Glu Tyr Asp Ala Ile Ile Phe Gly Thr Pro Thr
65 70 75 80
Arg Phe Gly Asn Met Ser Gly Gln Met Arg Thr Phe Leu Asp Gln Thr
85 90 95
Gly Gly Leu Trp Ala Ser Gly Ala Leu Tyr Gly Lys Ile Ala Ser Val
100 105 110
Phe Ser Ser Thr Gly Thr Gly Gly Gly Gln Glu Gln Thr Ile Thr Ser
115 120 125
Thr Trp Thr Thr Leu Ala His His Gly Met Ile Ile Val Pro Ile Gly
130 135 140
Tyr Gly Ala Gln Glu Leu Phe Asp Ile Ser Gln Val Arg Gly Gly Thr
145 150 155 160
Pro Tyr Gly Ala Thr Thr Ile Ala Gly Gly Asp Gly Ser Arg Gln Pro
165 170 175
Ser Glu Glu Glu Leu Ala Ile Ala Arg Tyr Gln Gly Glu His Val Ala
180 185 190
Lys Leu Ala Val Lys Leu His Gly
195 200

<210> 211
<211> 773
<212> PRT
<213> Klebsiella pneumoniae

<400> 211

Val Glu Gln His Ala Gly Asp Phe Ser Val Thr Val Arg Asp Val Arg
1 5 10 15
Gln Leu Thr Gln Pro Glu Ser Asp Leu Leu Thr Leu Leu Trp Val Leu
20 25 30
Glu Gly Ser Val Asn Leu Ala Val Ala Glu Gly Ala Ser Gln Pro Leu
35 40 45

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Ala Ala Asp Gly Leu Ala Ile Val Asn Arg Asn Arg Arg Trp Ser Leu
50 55 60

Arg Ser Ala Gly Ala Asn Ala Val Met Ile Leu Thr Leu Ser Ala Asn
65 70 75 80

Trp Leu Ala Arg Leu Asp Asn Ala Phe Phe Ala Val Asp Tyr Gln Ile
85 90 95

Thr Pro Arg Thr Arg Asp Ala Asp Asp Gly Leu Arg Arg Leu Met Arg
100 105 110

Gln Leu Leu Val Ser Gly Leu Val Asn His Pro Gly His Tyr Arg Leu
115 120 125

Glu Ala Asn Arg Trp Leu Ser Glu Ile Ala Leu Leu Leu Ala Thr Arg
130 135 140

Phe Ser Gln Pro Ile Ala Ser Thr Pro Arg Arg Asp Thr Glu Lys Trp
145 150 155 160

Ser Arg Arg Ile Ala Ser Val Val Ala Arg Ile Asp Ala Asn Tyr Gln
165 170 175

Arg Arg Leu Ser Leu His Glu Val Ala Ala Ala Glu Phe Val Ser Glu
180 185 190

Ala Trp Leu Ser Arg Leu Phe Arg Lys Glu Val Gly Val Ser Phe Val
195 200 205

Gln Tyr Leu Thr Ala Leu Arg Leu Arg His Ala Ala Asp Gln Leu Leu
210 215 220

Thr Thr Arg Lys Thr Val Gln Gln Ile Ala Arg Glu Gln Gly Phe Ala
225 230 235 240

Ser Thr Arg Met Met Ser Asp Leu Phe Lys Arg Gln His Gly Val Thr
245 250 255

Pro Arg Gln Tyr Arg Glu Gln His Pro Leu Glu Leu Ala Arg Pro Arg
260 265 270

Pro Pro Gln Ala Asp Arg Trp Gln Pro Val Ala Ala Asp Arg Leu Tyr
275 280 285

Ala Arg Leu Asn Glu Pro Glu Pro Arg Asp Arg Glu Ser Pro Pro Leu
290 295 300

Pro Ile Asn Pro Pro Gln Thr Arg Glu Ile Asn Leu Arg Asp Arg Pro
305 310 315 320

Ala Arg Pro Ala Ala Leu Arg His Thr Arg Met Val Val Thr Val Arg
325 330 335

Glu Leu Asp Asp Leu Leu Arg Glu Asp Val Arg Arg Glu Leu Glu Gln
340 345 350

Leu His His Ala Leu Pro Val Tyr Ala Ile Asp Ile Asn Asp Pro Phe
355 360 365

Leu Ser Ser Arg Leu Phe Gly Thr Gly Trp Asp Asp Pro Gln Met Ala
370 375 380

Gly Tyr Ala Cys Trp Tyr Asn Leu Gln Gln Ile Phe Ser Trp Leu Ala
385 390 400

Ala Met Gly Trp Gln Val Ile Leu His Thr Gly Val Thr Thr Arg Ser
405 410 415

Asp Leu Leu Gln Arg Phe Leu Gln Leu Ala Ala Asn His Phe Pro Pro
420 425 430

Ala Thr Leu Asn Ser Trp Arg Phe Val Trp His Trp Ser Pro Gln Ala
435 440 445

Ser Glu Ala Ala Arg Gln Ala Ala Trp Arg Gln Gln Arg Gly Val Leu
450 455 460

His Arg Leu Leu Pro Gln Pro Gln Leu Gly Ile Trp His Arg Phe Ala
465 470 475 480

Pro Ser Asp Pro Gly Asn Asp Pro Leu Phe His Ser Pro Leu Leu Ala
485 490 495

Glu Ala Asp Phe Leu Ala Cys Gln Ala Asp Ala Asn Glu Gln Leu Asp
500 505 510

Leu Ala Gln Ala Asp Ser Ser Arg Leu Ala Ser Ser Glu His Tyr Pro
515 520 525

Leu His Lys Leu Arg Gln Ile His Ser Ala Leu Arg Gln Arg Gln Leu
530 535 540

Asn Leu Pro Leu Trp Leu Leu Ser Trp Asn Thr Leu Thr Gly Asp Thr
545 550 555 560

Arg Asp Thr Asn Gly Arg Phe Phe Arg Gly Ala Leu Leu Met Asp Asn
565 570 575

Leu Leu Gly Val Ala Asp Gln Val Trp Leu Ala Gly Phe Trp Leu Asn
580 585 590

Ser Gly Leu Gln Gly Glu Ala Arg Ala Asn Gly Lys Leu Asp Thr Ser
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595

600

605

Ser Leu Ala Leu His Tyr Leu His Gly Leu Pro Arg Pro Val Tyr Trp
610 615 620

Val Leu Trp Leu Trp Arg Arg Leu Arg Gly Glu Ile Leu Val His Asp
625 630 635 640

Lys Asn Leu Leu Leu Leu His His Gln Gly His Tyr Gln Leu Leu Leu
645 650 655

Arg Asn Thr Val Val Tyr Asn Pro Trp Leu Ser Ser Glu Ala Ala Phe
660 665 670

Ile Gln Arg Phe Ser Gln Leu Tyr Ser Val Arg Leu Gln Gly Leu Asp
675 680 685

Gly Ser Trp Arg Ile Lys Gln His Leu Phe Asp Gln His His Gly Ala
690 695 700

Leu Phe Pro Leu Val Asp Ala Phe Arg Ser Arg Ser Gly Pro Asp Ala
705 710 715 720

Glu Asp Tyr Gln Trp Leu Met His Gln Ala Arg Pro Ala Leu Ser Val
725 730 735

Asp Glu Ala Arg Leu Asp Gly Tyr Trp Leu Arg Ile Asp Ser Leu Gln
740 745 750

Ser Asn Ala Leu Val Leu Tyr Glu Phe Thr Pro Gln Leu Ser Ser Gly
755 760 765

Ala Asp Pro Ala Pro
770

<210> 212
<211> 315
<212> PRT
<213> Klebsiella pneumoniae
<400> 212

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1 5 10 15

Glu Phe Ile Asp Pro Gln Pro Ala Pro Gly Gln Thr Leu Ile Asp Val
20 25 30

Arg Ala Ala Ala Ile Ser His Val Val Lys Ala Arg Ala Ser Gly Arg
35 40 45

His Tyr Ser Phe Asp Gly Asn Leu Pro Phe Val Pro Gly Ile Asp Gly
50 55 60

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Val Gly Thr Thr Pro Gln Gly Gln Arg Val Tyr Phe Ala Phe Pro Thr
65 70 75 80

Ala Pro Phe Gly Ser Met Ala Gln Arg Ala Pro Val Ala Leu Gln Asn
85 90 95

Cys Leu Pro Leu Pro Asp Ala Leu Asp Asp Ile Gln Ala Ala Ala Met
100 105 110

Ala Asn Pro Gly Met Ser Ala Trp Ala Ser Leu Val Thr Arg Ala Gln
115 120 125

Leu Gln Ala Gly Glu Thr Val Leu Ile Asn Gly Ala Thr Gly Ser Ala
130 135 140

Gly Gln Leu Ala Val Gln Ile Ala Arg Tyr Leu Gly Ala Lys Lys Ile
145 150 155 160

Ile Ala Thr Gly Arg Asn Ala Gln Ser Leu Ala Ala Leu Asp Ala Asp
165 170 175

Glu Cys Ile Gln Leu Thr Ala Asp Asp Lys Thr Leu Ser Gly Gln Phe
180 185 190

Ser Ala Val Ser Ala Ala Gln Ile Asp Val Val Ile Asp Tyr Leu Trp
195 200 205

Gly His Ser Ala Glu Leu Leu Leu Pro Ala Leu Ala Lys Tyr Thr Pro
210 215 220

Ala Gly Ser Pro Val Arg Tyr Val Gln Val Gly Ser Leu Ala Gly Ala
225 230 235 240

Asp Ile Ala Leu Asn Gly Ala Val Leu Arg Ser Ala Pro Leu Leu Leu
245 250 255

Met Gly Ser Gly Ile Gly Ser Leu Ser Val Ser Gln Leu Leu Ala Ala
260 265 270

Thr Gly Glu Met Leu Gln Ala Ala Val Pro Gly Lys Leu Thr Ile Ala
275 280 285

Thr Thr Pro Arg Pro Leu Gln Glu Ile Ala Ala Ala Trp Pro Gln Asp
290 295 300

Asp Ser Gln Lys Arg Thr Val Phe Thr Leu Gly
305 310 315

<210> 213
<211> 482
<212> PRT
<213> Klebsiella pneumoniae

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<400> 213

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Val Asp Leu Ser Ile Ile Ile Ser Ala Val Ile Ala Leu Ala Ala Gly
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Ala Asp Leu Ile Glu Glu Arg Arg Glu Leu Asp Ile Glu Leu Ser Ala
35     40     45
Ala Arg Gln Gln Leu Ala Gln Glu Ala His Trp Arg Glu Glu Cys Glu
50     55     60
Leu Leu Asn Asn Glu Leu Arg Ser Leu Arg Asp Ile Asn Thr Ser Leu
65     70     75     80
Glu Ala Asp Leu Arg Glu Val Thr Thr Arg Leu Glu Ser Thr Gln Leu
85     90     95
His Ala Glu Asp Lys Ile Arg Gln Met Met Asn Ser Glu Gln Arg Leu
100    105   110
Ser Glu Gln Phe Glu Asn Leu Ala Asn Arg Ile Phe Glu His Ser Asn
115    120   125
Arg Arg Val Asp Glu Gln Asn Arg Gln Ser Leu His Gly Leu Leu Thr
130    135   140
Pro Leu Arg Glu Gln Leu Asp Gly Phe Arg Arg Gln Val Gln Glu Ser
145    150   155   160
Phe Gly Gln Glu Ala Arg Glu Arg His Thr Leu Ala His Glu Ile Arg
165    170   175
Asn Leu Gln Gln Leu Asn Ala Gln Met Ala Gln Glu Ala Leu Asn Leu
180    185   190
Thr Lys Ala Leu Lys Gly Asp Asn Lys Thr Gln Gly Asn Trp Gly Glu
195    200   205
Val Val Leu Thr Arg Val Leu Glu Ala Ser Gly Leu Arg Glu Gly Tyr
210    215   220
Glu Tyr Gln Thr Gln Val Ser Ile Glu Thr Asp Asn Arg Ser Arg Met
225    230   235   240
Gln Pro Asp Val Ile Val Arg Leu Pro Gln Gly Lys Asp Val Val Ile
245    250   255
Asp Ala Lys Met Thr Leu Val Ala Tyr Glu Arg Tyr Phe Asn Ala Glu
260    265   270

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Asp Asp Tyr Thr Arg Glu Val Ala Leu Gln Glu His Leu Ala Ser Val
275 280 285

Arg Asn His Ile Arg Leu Leu Gly Arg Lys Asp Tyr Gln Gln Leu Pro
290 295 300

Gly Leu Arg Ser Leu Asp Tyr Val Leu Met Phe Ile Pro Val Glu Pro
305 310 315 320

Ala Phe Leu Leu Ala Ile Asp Arg Gln Pro Glu Leu Ile Ser Glu Ala
325 330 335

Leu Gln Asn Asn Ile Met Leu Val Ser Pro Thr Thr Leu Leu Val Ala
340 345 350

Leu Arg Thr Ile Ala Asn Leu Trp Arg Tyr Glu His Gln Ser Arg Asn
355 360 365

Ala Gln Lys Ile Ala Glu Arg Ala Gly Arg Leu Tyr Asp Lys Met Arg
370 375 380

Leu Phe Val Asp Asp Met Ser Ala Ile Gly Gln Ser Leu Asp Lys Ala
385 390 400

Gln Glu Ser Tyr Arg Gln Ala Met Lys Lys Leu Ala Ser Gly Arg Gly
405 410 415

Asn Leu Leu Ala Gln Ala Glu Ala Phe Arg Gly Leu Gly Val Glu Val
420 425 430

Lys Arg Gly Ile Asn Pro Asp Leu Val Glu Gln Ala Thr Ala Gln Asp
435 440 445

Glu Gln Tyr Arg Leu Glu Asp Glu Asp Asn Leu Pro Glu Asn Asp Ala
450 455 460

Phe Ser Ala Asp Ser Ala Glu Thr Val Arg Ser Arg Glu Ala Ala Pro
465 470 475 480

Pro Arg

<210> 214
<211> 398
<212> PRT
<213> Klebsiella pneumoniae

<400> 214

Met Leu Asn Val Glu Met Leu Ser Thr Gly Asp Glu Val Leu His Gly
1 5 10 15

Gln Ile Ile Asp Thr Asn Ala Ala Trp Leu Ala Asp Phe Phe Phe Asn
20 25 30

Gln Gly Leu Pro Leu Thr Arg Arg Asn Thr Val Gly Asp Asp Leu Asp
35 40 45

Ala Leu Val Ala Ile Leu Arg Glu Arg Ser Glu Gln Ala Asp Val Leu
50 55 60

Ile Val Asn Gly Gly Leu Gly Pro Thr Ser Asp Asp Leu Ser Ala Leu
65 70 75 80

Ala Ala Ala Thr Ala Lys Gly Glu Gly Leu Ile Leu His Pro Glu Trp
85 90 95

Leu Glu Thr Met Thr Arg Phe Phe Ala Glu Arg Gly Arg Pro Met Ala
100 105 110

Glu Ser Asn Arg Lys Gln Ala Glu Ile Pro Ala Ser Ala Glu Met Ile
115 120 125

Asn Asn Pro Val Gly Thr Ala Cys Gly Phe Ala Ile Gln Leu Asn Arg
130 135 140

Cys Leu Met Phe Phe Thr Pro Gly Val Pro Ser Glu Phe Lys Val Met
145 150 155 160

Val Glu Gln Glu Ile Leu Pro Arg Leu Arg Gln Arg Phe Thr Leu Pro
165 170 175

Asp Pro Pro Val Cys Leu Arg Leu Thr Thr Phe Gly Arg Ser Glu Ser
180 185 190

Glu Leu Ala Gln Ser Leu Asn Pro Leu Thr Leu Pro Pro Gly Val Val
195 200 205

Met Gly Tyr Arg Ser Ser Met Pro Ile Ile Glu Leu Lys Leu Thr Gly
210 215 220

Pro Ala Asn Gln Arg Asp Ala Met Leu Ala Leu Trp Pro Glu Val Arg
225 230 235 240

Lys Val Ala Gly Asp Ser Leu Ile Phe Glu Gly Thr Glu Gly Leu Pro
245 250 255

Ala Gln Ile Ala Arg Cys Leu Gln Glu Arg Gln Leu Ser Leu Thr Leu
260 265 270

Ser Glu Gln Phe Thr Ser Gly Leu Leu Ala Leu Gln Leu Ser Arg Ala
275 280 285

Gly Ala Pro Leu Leu Ala Ser Glu Val Val Pro Ala Gln Glu Glu Thr

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300

290

295

Leu Ala Gln Ala Ala Arg Trp Ala Ala Glu Arg Arg Ile Asn His Phe
305 310 315 320

Ala Gly Leu Ala Leu Ala Val Ser Gly Gln Glu Asn Asp His Leu Asn
325 330 335

Val Ala Leu Ala Thr Pro Asp Gly Thr Phe Ala Leu Arg Val Lys Phe
340 345 350

Ser Ala Thr Arg His Ser Leu Ala Val Arg Gln Glu Val Cys Ala Met
355 360 365

Met Ala Leu Asn Met Leu Arg Arg Trp Leu Asn Gly Gln Pro Leu Ala
370 375 380

Ser Glu His Gly Trp Ile Asn Val Val Asp Ser Leu Ser Leu
385 390 395

<210> 215
<211> 315
<212> PRT
<213> Klebsiella pneumoniae

<400> 215

Met Ile Glu Phe Gln Gly Val Ser Lys Val Phe Ala Gly His Pro Ala
1 5 10 15

Val Lys Asp Leu Thr Leu Glu Leu Arg Glu Gly Ala Phe Ser Val Leu
20 25 30

Val Gly Thr Ser Gly Ser Gly Lys Ser Thr Thr Leu Lys Met Ile Asn
35 40 45

Arg Leu Leu Glu Pro Asp Arg Gly Thr Ile Arg Phe Ala Gly Glu Asp
50 55 60

Ile Arg Gln Gln Pro Val Leu Thr Leu Arg Arg Arg Met Gly Tyr Ala
65 70 75 80

Ile Gln Ser Ile Gly Leu Phe Pro His Trp Thr Val Ala Gln Asn Ile
85 90 95

Ala Thr Val Pro Gln Leu Gln Arg Trp Pro Arg Ala Arg Ile Ala Asp
100 105 110

Arg Ile Asp Glu Leu Met Ala Leu Leu Gly Leu Glu Ala Thr Leu Arg
115 120 125

Asp Arg Tyr Pro His Gln Leu Ser Gly Gly Gln Gln Gln Arg Val Gly
130 135 140

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Val Ala Arg Ala Leu Ala Ala Asp Pro Glu Val Leu Leu Met Asp Glu
145 150 155 160

Pro Phe Gly Ala Leu Asp Pro Val Thr Arg Glu Ala Leu Gln Gln Glu
165 170 175

Met Leu Arg Ile His Arg Leu Leu Gly Arg Thr Ile Val Leu Val Thr
180 185 190

His Asp Ile Asp Glu Ala Leu Arg Leu Ala Asp His Leu Val Leu Met
195 200 205

Asp Gly Gly Glu Val Val Gln Gln Gly Ala Pro Leu Glu Met Leu Leu
210 215 220

Arg Pro Lys Asn Ser Phe Val Gln Thr Phe Phe Gly Arg Ser Glu Leu
225 230 235 240

Gly Val Arg Leu Leu Ser Leu Arg Glu Val Gly Asp Tyr Leu Arg Pro
245 250 255

Asp Glu Arg Leu Ala Gly Glu Gly Leu Thr Val Thr Met Thr Leu Arg
260 265 270

Glu Ala Leu Ser Gln Phe Val Ala Arg Arg Cys Glu Thr Leu Pro Val
275 280 285

Val Asp Ala Glu Gly Arg Pro Cys Gly Thr Leu His Phe Ala Asp Leu
290 295 300

Leu Arg Gln Glu Met Ser His Glu Gly Ala Ser
305 310 315

<210> 216
<211> 356
<212> PRT
<213> Klebsiella pneumoniae

<400> 216

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
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65				70				75				80			
Arg	Val	Thr	Asp	Val ₈₅	Ala	Gln	Arg	Phe	Pro ₉₀	Gln	Arg	Ala	Arg	Lys ₉₅	Asp
Gly	Arg	Phe	Tyr ₁₀₀	Ala	Ile	Asp	Phe	Thr ₁₀₅	Leu	Asp	Glu	Ile	Lys ₁₁₀	Ser	Leu
Lys	Phe	Thr ₁₁₅	Glu	Gly	Phe	Glu	Pro ₁₂₀	Lys	Asn	Gly	Lys	Asn ₁₂₅	Val	Gln	Thr
Tyr	Pro ₁₃₀	Gly	Arg	Phe	Pro	Met ₁₃₅	Gly	Lys	Ser	Asp	Phe ₁₄₀	Arg	Ile	His	Thr
Phe ₁₄₅	Glu	Glu	Glu	Ile	Glu ₁₅₀	Phe	Val	Gln	Gly	Leu ₁₅₅	Asn	His	Ser	Thr	Gly ₁₆₀
Lys	Asn	Ile	Gly	Ile ₁₆₅	Tyr	Pro	Glu	Ile	Lys ₁₇₀	Ala	Pro	Trp	Phe	His ₁₇₅	His
Gln	Glu	Gly	Lys ₁₈₀	Asp	Ile	Ala	Ala	Ser ₁₈₅	Thr	Leu	Lys	Val	Leu ₁₉₀	Lys	Glu
Tyr	Gly	Tyr ₁₉₅	Thr	Ser	Lys	Gln	Asp ₂₀₀	Lys	Val	Tyr	Leu	Gln ₂₀₅	Cys	Phe	Asp
Ala	Asn ₂₁₀	Glu	Leu	Lys	Arg	Ile ₂₁₅	Lys	Asn	Glu	Leu	Glu ₂₂₀	Pro	Lys	Met	Gly
Met ₂₂₅	Asp	Leu	Asn	Leu	Val ₂₃₀	Gln	Leu	Ile	Ala	Tyr ₂₃₅	Thr	Asp	Trp	Asn	Glu ₂₄₀
Thr	Gln	Gln	Lys	Gln ₂₄₅	Ala	Asp	Gly	Lys	Trp ₂₅₀	Val	Asn	Tyr	Ser	Tyr ₂₅₅	Asp
Trp	Met	Phe	Lys ₂₆₀	Pro	Gly	Ala	Met	Ala ₂₆₅	Gln	Ile	Ala	Gln	Tyr ₂₇₀	Ala	Asp
Gly	Ile	Gly ₂₇₅	Pro	Asp	Tyr	His	Met ₂₈₀	Leu	Val	Ala	Glu	Gly ₂₈₅	Ser	Lys	Pro
Gly	Ala ₂₉₀	Val	Lys	Leu	Thr	Ala ₂₉₅	Met	Val	Lys	Glu	Ala ₃₀₀	His	Ala	Ser	His
Leu ₃₀₅	Gln	Val	His	Pro	Tyr ₃₁₀	Thr	Val	Arg	Ala	Asp ₃₁₅	Gln	Leu	Pro	Glu	Tyr ₃₂₀
Ala	Thr	Asn	Val	Asn ₃₂₅	Gln	Leu	Tyr	Asp	Val ₃₃₀	Leu	Tyr	Asn	Gln	Ala ₃₃₅	Gly
Val	Asp	Gly	Leu ₃₄₀	Phe	Thr	Asp	Phe	Pro ₃₄₅	Asp	Lys	Ala	Val	Gln ₃₅₀	Phe	Leu

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Asp Ala Lys Arg
355

<210> 217
<211> 353
<212> PRT
<213> Klebsiella pneumoniae
<400> 217

Met Arg Pro Thr Met Met Thr Tyr Ile Ser Glu Glu Pro Ala Cys Leu
1 5 10 15

Ala Gln Ile Leu Arg Asp Tyr Arg Gln Lys Leu Ala Pro Ile Glu Thr
20 25 30

Phe Val Arg Gln His Pro Val Arg Arg Ile Leu Leu Leu Ala Thr Gly
35 40 45

Ser Ser Leu Asn Ala Ala Leu Cys Ala Arg Tyr Phe Phe Glu Gln Arg
50 55 60

Phe Gly Val Leu Leu Asp Ile Lys Glu Pro Tyr Asn Phe Thr His Tyr
65 70 75 80

Asp Ala Ile Asp Pro His Ala Asp Leu Val Val Ala Ile Ser Gln Ser
85 90 95

Gly Lys Ser Ala Ser Thr Leu Glu Ala Met Arg Lys Val Gln Ala Ser
100 105 110

Gly Lys Ser Val Phe Ala Leu Thr Ser Asp Pro Gln Ser Pro Ile Gly
115 120 125

Gly Ala Ser Asp Gly Val Leu Asp Ile Asn Thr Gly Ile Glu Ser Val
130 135 140

Gly Phe Val Thr Arg Gly Phe Ser Ala Thr Val Leu Asn Leu Leu Leu
145 150 155 160

Ile Ala Leu Ile Ile Ala Arg Lys Gln Glu Lys Ala Ser Glu Val Glu
165 170 175

Glu Gln His Tyr Leu Ala Glu Leu Gln Arg Leu Val Ala Ala Ile Pro
180 185 190

Glu Val Ile Val Arg Thr Ser Arg Phe Ile Asp Arg His Ser Glu Thr
195 200 205

Leu Arg Ser Gly Glu Arg Phe Val Ala Thr Gly Tyr Gly Ala Leu Val
210 215 220

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Gly Val Ala Lys Glu Phe Glu Thr Lys Phe Thr Glu Thr Val Arg Val
225 230 235 240

Pro Ser Ser Gly Phe Glu Leu Glu Ala Tyr Met His Gly Pro Tyr Leu
245 250 255

Glu Ala Asn Ala Arg His Val Met Leu Phe Ile Glu Asp Thr Pro Asp
260 265 270

Ala Arg Thr Arg Ala Leu Arg Asp Tyr Leu Ala Pro Ser Ile Gly Arg
275 280 285

Ala Phe Thr Leu Thr Leu Gly Asp Glu Glu Asp Ala Gln Thr Leu Ala
290 295 300

Leu Asn Cys Pro Cys Glu His His Leu Ala Pro Leu Leu Leu Ile Val
305 310 315 320

Pro Val Gln Met Leu Ala Trp His Thr Ala Gly Leu Lys Gly Ile Asp
325 330 335

Leu Ala Lys Arg Ile Phe Asp Asp Phe Asp Arg Val Leu Lys Ser Lys
340 345 350

Ile

<210> 218
<211> 938
<212> PRT
<213> Klebsiella pneumoniae
<400> 218

Met Ser Asp Tyr Lys Ser Thr Leu Asn Leu Pro Glu Thr Gly Phe Pro
1 5 10 15

Met Arg Gly Asp Leu Ala Lys Arg Glu Pro Gly Met Leu Ala Arg Trp
20 25 30

Thr Asp Asp Asp Leu Tyr Gly Ile Ile Arg Ala Ala Lys Lys Gly Lys
35 40 45

Lys Thr Phe Ile Leu His Asp Gly Pro Pro Tyr Ala Asn Gly Ser Ile
50 55 60

His Ile Gly His Ser Val Asn Lys Ile Leu Lys Asp Ile Ile Val Lys
65 70 75 80

Ser Lys Gly Leu Thr Gly Tyr Asp Ser Pro Tyr Val Pro Gly Trp Asp
85 90 95

Cys His Gly Leu Pro Ile Glu Leu Lys Val Glu Gln Glu Tyr Gly Lys
100 105 110

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Pro Gly Glu Lys Phe Thr Ala Ala Glu Phe Arg Ala Lys Cys Arg Glu
115 120 125

Tyr Ala Ala Glu Gln Ile Asp Gly Gln Arg Lys Asp Phe Ile Arg Leu
130 135 140

Gly Val Leu Gly Asp Trp Ser His Pro Tyr Leu Thr Met Asp Phe Lys
145 150 155 160

Thr Glu Ala Asn Ile Ile Arg Ala Leu Gly Lys Ile Ile Gly Asn Gly
165 170 175

His Leu His Lys Gly Ala Lys Pro Val His Trp Cys Val Asp Cys Arg
180 185 190

Ser Ala Leu Ala Glu Ala Glu Val Glu Tyr Tyr Asp Lys Thr Ser Pro
195 200 205

Ser Ile Asp Val Ala Phe His Ala Val Asp Lys Ala Ala Val Leu Ala
210 215 220

Lys Phe Gly Val Ala Asp Val Asn Gly Pro Val Ser Leu Val Ile Trp
225 230 235 240

Thr Thr Thr Pro Trp Thr Leu Pro Ala Asn Arg Ala Ile Ser Leu Ser
245 250 255

Pro Glu Phe Asp Tyr Ala Leu Val Gln Val Asp Gly Gln Ala Leu Ile
260 265 270

Leu Ala Lys Asp Leu Val Glu Ser Val Met Lys Arg Val Gly Ala Thr
275 280 285

Asp Tyr Thr Ile Leu Ala Ala Val Gln Gly Ser Glu Leu Glu Leu Met
290 295 300

Arg Phe Lys His Pro Phe Leu Asp Phe Asp Val Pro Ala Ile Leu Gly
305 310 315 320

Asp His Val Thr Leu Asp Ala Gly Thr Gly Ala Val His Thr Ala Gly
325 330 335

Gly His Gly Pro Asp Asp Tyr Thr Ile Ser Gln Lys Tyr Gly Leu Glu
340 345 350

Ile Ala Asn Pro Val Gly Pro Asp Gly Ala Tyr Leu Pro Gly Thr Trp
355 360 365

Pro Ser Leu Asp Gly Ile Asn Val Phe Lys Ala Asn Asp Ile Ile Val
370 375 380

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Glu Met Leu Arg Glu Arg Gly Ala Leu Leu His Val Glu Lys Leu Gln
 385 390 395 400
 His Ser Tyr Pro Cys Cys Trp Arg His Lys Ser Pro Ile Ile Phe Arg
 405 410 415
 Ala Thr Pro Gln Trp Phe Val Ser Met Asp Gln Lys Gly Leu Arg Ala
 420 425 430
 Gln Ser Leu Lys Glu Ile Lys Gly Val Gln Trp Ile Pro Asp Trp Gly
 435 440 445
 Gln Ala Arg Ile Glu Ser Met Val Ala Asn Arg Pro Asp Trp Cys Ile
 450 455 460
 Ser Arg Gln Arg Thr Trp Gly Val Pro Met Ser Leu Phe Val His Lys
 465 470 475 480
 Glu Thr His Glu Leu His Pro Arg Thr Leu Glu Leu Met Glu Glu Val
 485 490 495
 Ala Lys Arg Val Glu Val Asp Gly Ile Gln Ala Trp Trp Asp Leu Asp
 500 505 510
 Ser Arg Asp Ile Leu Gly Asp Asp Ala Asp Ser Tyr Glu Lys Val Pro
 515 520 525
 Asp Thr Leu Asp Val Trp Phe Asp Ser Gly Ser Thr His Ser Ser Val
 530 535 540
 Val Asp Val Arg Pro Glu Phe Ala Gly His Ala Ala Asp Met Tyr Leu
 545 550 555 560
 Glu Gly Ser Asp Gln His Arg Gly Trp Phe Met Ser Ser Leu Met Ile
 565 570 575
 Ser Thr Ala Met Lys Gly Lys Ala Pro Tyr Arg Gln Val Leu Thr His
 580 585 590
 Gly Phe Thr Val Asp Gly Gln Gly Arg Lys Met Ser Lys Ser Ile Gly
 595 600 605
 Asn Thr Val Ser Pro Gln Asp Val Met Asn Lys Leu Gly Ala Asp Ile
 610 615 620
 Leu Arg Leu Trp Val Ala Ser Thr Asp Tyr Thr Gly Glu Met Ala Val
 625 630 635 640
 Ser Asp Glu Ile Leu Lys Arg Ala Ala Asp Ser Tyr Arg Arg Ile Arg
 645 650 655

Asn Thr Ala Arg Phe Leu Leu Ala Asn Leu Asn Gly Phe Asp Pro Val
660 665 670

Lys Asp Met Val Lys Pro Glu Glu Met Val Val Leu Asp Arg Trp Ala
675 680 685

Val Gly Cys Ala Gln Ala Ala Gln Glu Asp Ile Leu Lys Ala Tyr Glu
690 695 700

Ser Tyr Asp Phe His Glu Val Val Gln Arg Leu Met Arg Phe Cys Ser
705 710 715 720

Ile Glu Met Gly Ser Phe Tyr Leu Asp Ile Ile Lys Asp Arg Gln Tyr
725 730 735

Thr Ala Lys Ala Asp Ser Val Ala Arg Arg Ser Cys Gln Thr Ala Leu
740 745 750

Phe His Ile Val Glu Ala Leu Val Arg Trp Met Ala Pro Ile Met Ser
755 760 765

Phe Thr Ala Asp Glu Ile Trp Gly Tyr Leu Pro Gly Glu Arg Glu Lys
770 775 780

Tyr Val Phe Thr Gly Glu Trp Tyr Glu Gly Leu Phe Gly Leu Ala Asp
785 790 795 800

Asp Glu Ala Met Asn Asp Asp Phe Trp Asp Glu Leu Leu Lys Val Arg
805 810 815

Gly Glu Val Asn Lys Val Ile Glu Gln Ala Arg Ala Asp Lys Lys Val
820 825 830

Gly Gly Ser Leu Glu Ala Ala Val Thr Leu Tyr Ala Asp Ala Asp Leu
835 840 845

Ala Ala Lys Leu Asn Ala Leu Gly Asp Glu Leu Arg Phe Val Leu Leu
850 855 860

Thr Ser Gly Ala Asn Val Ala Asp Tyr Ala Ser Ala Ser Ala Asp Ala
865 870 875 880

Gln Gln Ser Glu Leu Leu Lys Gly Leu Lys Val Ala Leu Ser Lys Ala
885 890 895

Glu Gly Glu Lys Cys Pro Arg Cys Trp His Tyr Thr Thr Asp Ile Gly
900 905 910

Lys Val Ala Glu His Ala Glu Ile Cys Gly Arg Cys Val Ser Asn Val
915 920 925

Ala Gly Asp Gly Glu Gln Arg Lys Phe Ala

930

935

<210> 219
 <211> 345
 <212> PRT
 <213> *Klebsiella pneumoniae*
 <400> 219

Met Thr Asp Gln Pro Gln Arg His Arg Arg Trp Val Leu Ala Ser Arg
 1 5 10 15

Pro His Gly Glu Pro Thr Ala Glu Asn Phe Arg Leu Glu Glu Ser Glu
 20 25 30

Val Pro Thr Pro Gly Pro Gly Gln Val Leu Leu Arg Thr Val Tyr Leu
 35 40 45

Ser Leu Asp Pro Tyr Met Arg Gly Arg Met Ser Asp Ala Pro Ser Tyr
 50 55 60

Ser Pro Pro Val Ala Ile Gly Ala Val Met Val Gly Gly Thr Val Ser
 65 70 75 80

Arg Val Val Ser Ser Asn His Ala Asp Tyr Gln Pro Gly Asp Trp Val
 85 90 95

Leu Gly Tyr Ser Gly Trp Gln Asp Tyr Glu Leu Ser Asp Gly Ser Gly
 100 105 110

Leu Val Lys Leu Gly Asp Asn Pro Gln His Pro Ser Trp Ser Leu Gly
 115 120 125

Val Leu Gly Met Pro Gly Phe Thr Ala Tyr Met Gly Leu Leu Glu Ile
 130 135 140

Gly Gln Pro Lys Ala Gly Glu Thr Leu Val Val Ala Ala Ala Thr Gly
 145 150 155 160

Pro Val Gly Ala Thr Val Gly Gln Ile Gly Lys Ile Lys Gly Cys Arg
 165 170 175

Thr Val Gly Ile Ala Gly Gly Ala Glu Lys Cys Arg Tyr Ala Val Glu
 180 185 190

Thr Leu Gly Phe Asp Leu Cys Leu Asp His Arg Ala Asp Asp Phe Ala
 195 200 205

Glu Gln Leu Ala Lys Ala Cys Pro Gln Gly Ile Asp Val Tyr Tyr Glu
 210 215 220

Asn Val Gly Gly Lys Val Phe Asp Ala Val Leu Pro Leu Leu Asn Thr
 225 230 235 240

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Ala Ala Arg Val Pro Val Cys Gly Leu Val Ser Gly Tyr Asn Ala Thr
245 250 255

Gly Leu Pro Asp Gly Pro Asp Arg Leu Pro Leu Leu Met Ala Thr Ile
260 265 270

Leu Lys Lys Arg Ile Arg Met Gln Gly Phe Ile Ile Gly Gln Asp Tyr
275 280 285

Gly His Arg Ile Ala Glu Phe Gln Gln Gln Met Gly Arg Trp Val Gln
290 295 300

Glu Gly Lys Ile Lys Tyr Arg Glu Gln Leu Ile Asp Gly Leu Asp Gln
305 310 315 320

Ala Pro Gln Ala Leu Ile Gly Leu Leu Lys Gly Glu Asn Phe Gly Lys
325 330 335

Val Val Ile Arg Val Ala Ala Asp Asp
340 345

<210> 220
<211> 803
<212> PRT
<213> Klebsiella pneumoniae

<400> 220

Met Thr Asn His Trp Val Asp Ile Lys Asn Ala Asn Val Val Val Val
1 5 10 15

Met Gly Gly Asn Ala Ala Glu Ala His Pro Val Gly Phe Arg Trp Ala
20 25 30

Met Glu Ala Lys Asn Asn Asn Asp Ala Thr Leu Ile Val Val Asp Pro
35 40 45

Arg Phe Thr Arg Thr Ala Ser Val Ala Asp Ile Tyr Ala Pro Ile Arg
50 55 60

Ser Gly Thr Asp Ile Thr Phe Leu Ser Gly Val Leu Leu Tyr Leu Ile
65 70 75 80

Glu Asn Asn Lys Ile Asn Ala Glu Tyr Val Lys His Tyr Thr Asn Ala
85 90 95

Ser Leu Leu Val Arg Asp Asp Phe Ala Phe Glu Glu Gly Leu Phe Ser
100 105 110

Gly Tyr Asp Ala Glu Lys Arg Gln Tyr Asp Lys Ser Ser Trp Asn Tyr
115 120 125

Gln Phe Asp Glu Asn Gly Tyr Ala Lys Arg Asp Glu Thr Leu Thr His
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140

130

135

Pro Arg Cys Val Trp Asn Leu Leu Lys Gln His Val Ser Arg Tyr Thr
145 150 155 160

Pro Glu Val Val Glu Asn Ile Cys Gly Thr Pro Lys Ala Asp Phe Leu
165 170 175

Lys Val Cys Asp Val Leu Ala Ser Thr Ser Ala Ala Asp Arg Thr Thr
180 185 190

Thr Phe Leu Tyr Ala Leu Gly Trp Thr Gln His Thr Val Gly Ala Gln
195 200 205

Asn Ile Arg Thr Met Ala Met Ile Gln Leu Leu Leu Gly Asn Met Gly
210 215 220

Met Ala Gly Gly Gly Val Asn Ala Leu Arg Gly His Ser Asn Ile Gln
225 230 235 240

Gly Leu Thr Asp Leu Gly Leu Leu Ser Thr Ser Leu Pro Gly Tyr Leu
245 250 255

Thr Leu Pro Ser Asp Lys Gln Thr Asp Leu Gln Ser Tyr Leu Ser Ala
260 265 270

Asn Thr Pro Lys Ala Thr Leu Pro Glu Gln Val Asn Tyr Trp Ser Asn
275 280 285

Tyr Pro Lys Phe Phe Val Ser Leu Met Lys Ser Phe Tyr Gly Glu Ala
290 295 300

Ala Gln Lys Glu Asn Asp Trp Gly Phe Glu Trp Leu Pro Lys Trp Asp
305 310 315 320

Gln Ala Tyr Asp Val Ile Lys Tyr Phe Asn Met Met Asp Asn Gly Asn
325 330 335

Val Thr Gly Tyr Ile Cys Gln Gly Phe Asn Pro Val Ala Ser Phe Pro
340 345 350

Asp Lys Asn Lys Val Val Arg Ser Leu Ser Lys Leu Lys Tyr Met Val
355 360 365

Val Ile Asp Pro Leu Val Thr Glu Thr Ser Thr Phe Trp Gln Asn His
370 375 380

Gly Glu Ser Asn Asp Val Asp Pro Ser Ala Ile Gln Thr Glu Val Phe
385 390 395 400

Arg Leu Pro Ser Thr Cys Phe Ala Glu Glu Asp Gly Ser Ile Ala Asn
405 410 415

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Ser Gly Arg Trp Leu Gln Trp His Trp Lys Gly Gln Asp Ala Pro Gly
420 425 430

Glu Ala Arg Asn Asp Gly Glu Ile Leu Ala Gly Ile Tyr His Arg Leu
435 440 445

Arg Glu Leu Tyr Arg Thr Glu Gly Gly Lys Gly Ala Glu Pro Leu Leu
450 455 460

Lys Met Ser Trp Arg Tyr Lys Gln Pro Asp His Pro Glu Ser Glu Glu
465 470 475 480

Val Ala Lys Glu Asn Asn Gly Tyr Ala Leu Ala Asp Leu Tyr Asp Gln
485 490 495

Asn Gly Thr Leu Leu Ala Lys Lys Gly Gln Leu Leu Asn Ser Phe Ala
500 505 510

Leu Leu Arg Asp Asp Gly Ser Thr Ala Ser Ser Cys Trp Ile Tyr Thr
515 520 525

Gly Ser Trp Thr Glu Gln Gly Asn Gln Met Ala Asn Arg Asp Asn Ala
530 535 540

Asp Pro Ser Gly Leu Gly Asn Thr Leu Gly Trp Ala Trp Ala Trp Pro
545 550 555 560

Leu Asn Arg Arg Val Leu Tyr Asn Arg Ala Ser Ala Asp Ile Asn Gly
565 570 575

Lys Pro Trp Asp Ala Lys Arg Met Leu Ile Gln Trp Asn Gly Asn Lys
580 585 590

Trp Val Gly Asn Asp Ile Pro Asp Phe Asn Thr Ala Pro Pro Gly Ser
595 600 605

Asn Thr Gly Pro Phe Ile Met Gln Gln Glu Gly Leu Gly Arg Leu Phe
610 615 620

Ala Leu Asp Lys Leu Ala Glu Gly Pro Phe Pro Glu His Tyr Glu Pro
625 630 635 640

Met Glu Thr Pro Leu Gly Thr Asn Pro Leu His Pro Lys Val Val Ser
645 650 655

Ser Pro Val Val Arg Leu Tyr Glu Glu Asp Ala Ile Arg Leu Gly Lys
660 665 670

Lys Asp Lys Phe Pro Tyr Val Gly Thr Thr Tyr Arg Leu Thr Glu His
675 680 685

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Phe His Thr Trp Thr Lys His Ala Leu Leu Asn Ser Ile Ala Gln Pro
690 695 700

Glu Gln Phe Val Glu Ile Ser Glu Gly Leu Ala Lys Ser Lys Gly Ile
705 710 715 720

Ala Asn Gly Asp Trp Val Lys Val Ser Ser Lys Arg Gly Phe Ile Arg
725 730 735

Ala Val Ala Val Val Thr Arg Arg Leu Arg Thr Leu Asn Val Asn Gly
740 745 750

Gln Gln Val Glu Thr Val Gly Ile Pro Leu His Trp Gly Phe Glu Gly
755 760 765

Val Ala Arg Lys Gly Tyr Ile Ala Asn Thr Leu Thr Pro Asn Val Gly
770 775 780

Asp Ser Asn Ser Gln Thr Pro Glu Tyr Lys Ala Phe Leu Val Asn Ile
785 790 795 800

Glu Lys Ala

<210> 221

<211> 655

<212> PRT

<213> Klebsiella pneumoniae

<400> 221

Met Leu Pro Gly Arg Tyr Ala Val Gly Phe Ser Ser Asp Ser Gly Asp
1 5 10 15

Val Pro Leu Met Pro Leu Leu Arg Asp Glu Ile Arg Asp His Ser Ala
20 25 30

Glu Glu Met Leu Phe Ile Arg Arg Ala Ala Ile Ala Phe Leu Leu Val
35 40 45

Val Val Cys Phe Gly Val Leu Ile Val Asn Leu Tyr His Leu Gln Val
50 55 60

Glu Gln His Asp Phe Tyr Gln Thr Arg Ser Asn Gln Asn Asp Ile Lys
65 70 75 80

Met Leu Pro Ile Ala Pro Ser Arg Gly Leu Ile Phe Asp Arg Asn Gly
85 90 95

Ile Pro Leu Val Gln Asn Ile Thr Leu Tyr Arg Leu Gln Val Ile Pro
100 105 110

Ser Lys Ile Pro Asp Met Ala Ala Leu Leu Gln Gln Leu Thr Pro Ile

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115

120

125

Val Asp Leu Thr Pro Asp Asp Ile Ala Ser Phe Arg Asp Asp Met His
130 135 140

His Thr Ser Arg Tyr Lys Ala Val Thr Leu Lys Ser Asp Leu Ser Asp
145 150 155 160

Val Glu Val Ala Arg Phe Ala Val Asn Glu Phe Arg Phe Pro Gly Val
165 170 175

Thr Val Glu Ser Tyr Gln Gln Arg Glu Tyr Pro Tyr Gly Ala Glu Leu
180 185 190

Ala His Val Val Gly Tyr Val Ser Lys Ile Asn Asp Ser Asp Leu Gln
195 200 205

Arg Leu Ala Lys Asn Gly Glu Glu Glu Asn Tyr Ala Ala Asp Arg Asn
210 215 220

Ile Gly Lys Gln Gly Ile Glu Gly Tyr Tyr Glu Lys Ala Leu His Gly
225 230 235 240

Thr Thr Gly Tyr Gln Glu Val Glu Val Asp Asn His Gly Arg Val Val
245 250 255

Arg Leu Leu Lys Glu Val Pro Pro Val Ala Gly Lys Asn Leu Tyr Leu
260 265 270

Thr Leu Asp Leu His Leu Gln Gln Tyr Ile Glu Ser Val Leu Lys Gly
275 280 285

Gln Arg Ala Ala Val Val Val Val Asp Pro Arg Asp Gly Gly Val Leu
290 295 300

Ala Met Val Ser Ser Pro Ser Tyr Asp Pro Asn Pro Phe Val Lys Gly
305 310 315 320

Ile Gly Tyr Gln Ala Tyr Lys Ser Leu Leu Glu Asn Pro Asp Arg Pro
325 330 335

Leu Ile Asn Arg Val Thr Gln Gly Leu Tyr Pro Pro Ala Ser Thr Val
340 345 350

Lys Pro Tyr Met Ala Leu Ser Ala Leu Ser Ala Gly Val Ile Thr Pro
355 360 365

Asn Thr Thr Phe Phe Gly Ala Pro Thr Trp Thr Leu Pro Gly Thr Gln
370 375 380

Arg Arg Tyr Arg Asp Trp Leu Lys Thr Gly His Gly Met Leu Asn Val
385 390 395 400

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Thr Lys Ala Ile Glu Glu Ser Ala Asp Thr Phe Phe Tyr Gln Val Ala
405 410 415

Phe Glu Met Gly Ile Asp Arg Ile His Glu Trp Leu Ser Lys Phe Gly
420 425 430

Tyr Gly Gln Ser Thr Gly Ile Asp Leu Asn Glu Glu Tyr Ala Gly Val
435 440 445

Leu Pro Ser Arg Glu Trp Lys Gln Arg Val His Lys Lys Pro Trp Tyr
450 455 460

Gln Gly Asp Thr Ile Ser Val Gly Ile Gly Gln Gly Tyr Trp Ile Ala
465 470 475 480

Thr Pro Ile Gln Met Val Lys Ala Leu Thr Thr Leu Leu Asn Asn Gly
485 490 495

Lys Val Gln Asp Pro His Leu Leu Tyr Ser Met Lys Gln Gly Asn His
500 505 510

Val Glu Arg Tyr Gln Gln Pro Ala Asn Leu Pro Gln Val Gly Asp Pro
515 520 525

Lys Ser Pro Tyr Trp Gly Ile Val Arg Asn Gly Met Tyr Gly Met Ala
530 535 540

Asn Gln Pro Asn Gly Thr Gly Tyr Lys Leu Phe His Thr Ala Pro Tyr
545 550 555 560

Gln Ile Ala Ala Lys Ser Gly Thr Ser Gln Val Phe Ser Leu Lys Gln
565 570 575

Asn Gln Thr Tyr Asn Ala Lys Met Ile Pro Val Arg Leu Arg Asp His
580 585 590

Ile Phe Tyr Thr Leu Phe Ala Pro Tyr Gln His Pro Lys Val Ala Met
595 600 605

Ala Leu Ile Leu Glu Asn Gly Gly Gly Asp Gly Val Val Ala Gly Pro
610 615 620

Thr Ala Arg Ala Ile Leu Asp His Ile Phe Val Pro Gln Gln Ala Ser
625 630 635 640

Ser Ala Ala Ala Asp Val Pro Gln Arg Asp Ser Ala Asp Ala Gln
645 650 655

<210> 222
<211> 372
<212> PRT

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<213> Klebsiella pneumoniae

<400> 222

Met Asn Ile Cys Cys Ala Asn Ala Lys Ala Ile Ala Gly Lys Asn Ser
1 5 10 15

Ser Leu Asn Leu Thr Glu Met Pro Ala Met Asn Pro Ala Ser Lys Lys
20 25 30

Asn Ile Leu Val Leu Ala Ala Leu Gly Ala Ala Ala Leu Ala Ala Ala
35 40 45

Ser Tyr Gly Ala Tyr Trp Trp His Thr Gly Arg Phe Met Gln Thr Thr
50 55 60

Asp Asp Ala Tyr Val Gly Gly Asp Ile Ser Ala Ile Ser Ser Lys Val
65 70 75 80

Ser Gly Tyr Ile Gln Gln Leu Ala Val Gln Asp Asn Met Ala Val Lys
85 90 95

Lys Gly Asp Leu Leu Ile Arg Ile Asp Asp Arg Asp Tyr Arg Ala Ala
100 105 110

Leu Ala Lys Ala Ala Gly Glu Val Ala Ala Gln Gln Ala Ala Leu Ala
115 120 125

Asp Ile Gln Ala Thr Arg Gln Leu Gln Gln Ala Thr Ile Thr Gly Ser
130 135 140

Ala Ala Ser Leu Leu Ala Ala Thr Ala Ala Thr Glu Lys Leu Ala Asn
145 150 155 160

Asp Asn Arg Arg Tyr Asn Ala Leu Ala Ala Ser Ser Ala Ile Ser Ala
165 170 175

Gln Ile Arg Asp Asn Ala Ser Ala Asp Tyr Arg Arg Ala His Ala Glu
180 185 190

Gln Glu Lys Ala Lys Ala Asp Lys Thr Val Ala Glu Arg Gln Leu Ala
195 200 205

Val Leu Asp Ala Arg Gln Gln Gln Ile Leu Ala Ala Leu Ala Gln Ala
210 215 220

Gln Ala Asn Leu Glu Ile Ala Arg Leu Asn Leu Ser Tyr Thr Asp Ile
225 230 235 240

Arg Ala Pro Phe Asp Gly Val Ile Gly Asn Arg Arg Ala Trp Ser Gly
245 250 255

Ser Phe Val Ser Ser Gly Thr Gln Leu Leu Ser Leu Val Pro Ala His
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260

265

270

Gly Leu Trp Ile Asp Ala Asn Phe Lys Glu Asn Gln Leu Ala His Met
275 280 285

Arg Ala Gly Gln Pro Val Thr Ile Val Ala Asp Val Leu Pro Asn His
290 295 300

Thr Phe Lys Gly His Val Ala Ser Leu Ala Pro Ala Thr Gly Ser Arg
305 310 315 320

Phe Ser Ile Leu Pro Ala Glu Asn Ala Thr Gly Asn Phe Thr Lys Ile
325 330 335

Val Gln Arg Val Pro Val Arg Ile Ala Leu Glu Gly Asp Gly Ala Lys
340 345 350

Leu Asp Val Leu Arg Pro Gly Leu Ser Val Ile Val Thr Val Asn Glu
355 360 365

Lys Ser Pro Arg
370

<210> 223
<211> 180
<212> PRT
<213> Klebsiella pneumoniae

<400> 223

Met Leu Leu Met Gln Arg Ile Thr Lys Leu Asp Asn Asp Leu Thr Cys
1 5 10 15

Lys Gly Met Leu Met Lys Leu Trp Asn Lys Thr Leu Leu Ala Ser Ala
20 25 30

Leu Cys Leu Thr Leu Phe Gly Cys Asp Asp Ala Ser Lys Val Asp Asn
35 40 45

Lys Leu Asp Lys Ala Lys Asp Asn Ala Glu Gln Met Lys Asp Ala Ala
50 55 60

Ala Asp Lys Ala Gln Ala Ile Lys Gln Asp Ala Asp Lys Gln Ile Asp
65 70 75 80

Thr Leu Lys Ser Gln Ala Asp Ala Glu Ala Asp Arg Leu Lys Asp Gln
85 90 95

Ala Ser Ala Ile Lys Ala Glu Ala Asp Lys Lys Ala Asp Ala Ile Ala
100 105 110

Gln Gln Ala Lys Ala Gln Ala Asp Ala Val Lys Gln Asn Ala Lys Gln
115 120 125

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Glu Ser Asp Arg Ile Val Lys Glu Ala Gly Gln Ile Lys Asp Asn Ala
130 135 140

Ile Gly Asp Ala Asn Gln Leu Ser Ala Glu Ala Ala Ser Lys Thr Lys
145 150 155 160

Ala Ile Gln Asp Ser Ile Ala Lys Asp Lys Gln Asn Ala Ala Pro Pro
165 170 175

Ala Ala Gln Gln
180

<210> 224
<211> 168
<212> PRT
<213> Klebsiella pneumoniae
<400> 224

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 225

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<211> 853

<212> PRT

<213> Klebsiella pneumoniae

<400> 225

Met Ser Thr Ile Asp Asn Leu Asp Ala His Thr Pro Met Met Gln Gln
1 5 10 15

Tyr Leu Lys Leu Lys Ala Gln His Pro Asp Ile Leu Leu Phe Tyr Arg
20 25 30

Met Gly Asp Phe Tyr Glu Leu Phe Tyr Asp Asp Ala Lys Arg Ala Ser
35 40 45

Gln Leu Leu Asp Ile Ser Leu Thr Lys Arg Gly Ala Ser Ala Gly Glu
50 55 60

Pro Ile Pro Met Ala Gly Ile Pro His His Ala Val Glu Asn Tyr Leu
65 70 75 80

Ala Lys Leu Val Asn Gln Gly Glu Ser Val Ala Ile Cys Glu Gln Ile
85 90 95

Gly Asp Pro Ala Thr Thr Lys Gly Pro Val Glu Arg Lys Val Val Arg
100 105 110

Ile Val Thr Pro Gly Thr Ile Ser Asp Glu Ala Leu Leu Gln Glu Arg
115 120 125

Gln Asp Asn Leu Leu Ala Ala Ile Trp Gln Asp Ser Lys Gly Phe Gly
130 135 140

Tyr Ala Thr Leu Asp Ile Ser Ser Gly Arg Phe Arg Leu Ser Glu Pro
145 150 155 160

Ala Asp Arg Glu Thr Met Ala Ala Glu Leu Gln Arg Thr Asn Pro Ala
165 170 175

Glu Leu Leu Tyr Ala Glu Asp Phe Ala Glu Ser Ser Leu Ile Glu Gly
180 185 190

Arg Arg Gly Leu Arg Arg Arg Pro Leu Trp Glu Phe Glu Ile Asp Thr
195 200 205

Ala Arg Gln Gln Leu Asn Leu Gln Phe Gly Thr Arg Asp Leu Val Gly
210 215 220

Phe Gly Val Glu Asn Ala Pro Arg Gly Leu Cys Ala Ala Gly Cys Leu
225 230 235 240

Leu Gln Tyr Val Lys Asp Thr Gln Arg Thr Ser Leu Pro His Ile Arg
245 250 255

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Ser Ile Thr Met Glu Arg Gln Gln Asp Ser Ile Ile Met Asp Ala Ala
260 265 270

Thr Arg Arg Asn Leu Glu Ile Thr Gln Asn Leu Ala Gly Gly Thr Asp
275 280 285

Asn Thr Leu Ala Ser Val Leu Asp Cys Thr Val Thr Pro Met Gly Ser
290 295 300

Arg Met Leu Lys Arg Trp Leu His Met Pro Val Arg Asp Thr Ala Val
305 310 315 320

Leu Val Glu Arg Gln Gln Thr Ile Gly Ala Leu Gln Glu Arg Tyr Thr
325 330 335

Glu Leu Gln Pro Val Leu Arg Gln Val Gly Asp Leu Glu Arg Ile Leu
340 345 350

Ala Arg Leu Ala Leu Arg Thr Ala Arg Pro Arg Asp Leu Ala Arg Met
355 360 365

Arg His Ala Leu Gln Gln Leu Pro Leu Leu Arg Glu Leu Leu Ala Asp
370 375 380

Val Asp Ser Gln Pro Val Gln Lys Leu Arg Glu Lys Met Gly Glu Phe
385 390 395 400

Thr Glu Leu Arg Glu Leu Leu Glu Arg Ala Val Ile Asp Ala Pro Pro
405 410 415

Val Leu Val Arg Asp Gly Gly Val Ile Ala Pro Gly Tyr Ser Glu Glu
420 425 430

Leu Asp Glu Trp Arg Ala Leu Ala Asp Gly Ala Thr Asp Tyr Leu Asp
435 440 445

Lys Leu Glu Ile Arg Glu Arg Glu Arg Leu Gly Leu Asp Thr Leu Lys
450 455 460

Val Gly Tyr Asn Ala Val His Gly Tyr Tyr Ile Gln Ile Ser Arg Gly
465 470 475 480

Gln Ser His Leu Ala Pro Ile His Tyr Val Arg Arg Gln Thr Leu Lys
485 490 495

Asn Ala Glu Arg Tyr Ile Ile Pro Glu Leu Lys Glu Tyr Glu Asp Lys
500 505 510

Val Leu Thr Ser Lys Gly Lys Ala Leu Ala Leu Glu Lys Gln Leu Tyr
515 520 525

Asp Glu Leu Phe Asp Leu Leu Leu Pro His Leu Ala Asp Leu Gln Thr
530 535 540

Ser Ala Ser Ala Leu Ala Glu Leu Asp Val Leu Val Asn Leu Ala Glu
545 550 555 560

Arg Ala Glu Thr Leu Asn Tyr Cys Cys Pro Thr Phe Ser Asp Lys Pro
565 570 575

Gly Ile Arg Ile Ser Glu Gly Arg His Pro Val Val Glu Gln Val Leu
580 585 590

Lys Glu Pro Phe Ile Ala Asn Pro Leu Gln Leu Ala Pro Gln Arg Arg
595 600 605

Met Leu Ile Ile Thr Gly Pro Asn Met Gly Gly Lys Ser Thr Tyr Met
610 615 620

Arg Gln Thr Ala Leu Ile Ala Leu Leu Ala Tyr Ile Gly Ser Tyr Val
625 630 635 640

Pro Ala Gln Lys Val Glu Ile Gly Pro Ile Asp Arg Ile Phe Thr Arg
645 650 655

Val Gly Ala Ala Asp Asp Leu Ala Ser Gly Arg Ser Thr Phe Met Val
660 665 670

Glu Met Thr Glu Thr Ala Asn Ile Leu His Asn Ala Thr Glu His Ser
675 680 685

Leu Val Leu Met Asp Glu Ile Gly Arg Gly Thr Ser Thr Tyr Asp Gly
690 695 700

Leu Ser Leu Ala Trp Ala Cys Ala Glu Asn Leu Ala Asn Lys Ile Lys
705 710 715 720

Ala Leu Thr Leu Phe Ala Thr His Tyr Phe Glu Leu Thr Gln Leu Pro
725 730 735

Glu Lys Met Glu Gly Val Ala Asn Val His Leu Asp Ala Leu Glu His
740 745 750

Gly Asp Thr Ile Ala Phe Met His Ser Val Gln Asp Gly Ala Ala Ser
755 760 765

Lys Ser Tyr Gly Leu Ala Val Ala Ala Leu Ala Gly Val Pro Lys Glu
770 775 780

Val Ile Lys Arg Ala Arg Gln Lys Leu Arg Glu Leu Glu Ser Ile Ser
785 790 795 800

Pro Asn Ala Ala Ala Thr Gln Val Asp Gly Thr Gln Met Ser Leu Leu

Ala Ala Pro Glu Glu Thr Ser Pro Ala Val Glu Ala Leu Glu Asn Leu
820 825 830

Asp Pro Asp Ser Leu Thr Pro Arg Gln Ala Leu Glu Trp Ile Tyr Arg
835 840 845

Leu Lys Ser Leu Val
850

<210> 226
<211> 373
<212> PRT
<213> Klebsiella pneumoniae

<400> 226

Met Arg Tyr Val Asp Glu Tyr Arg Ala Pro Glu Gln Val Met Gln Leu
1 5 10 15

Val Ala His Leu Gln Gln Arg Ala Arg Leu Leu Pro His Thr Ala Ala
20 25 30

Arg Pro Leu Arg Ile Met Glu Val Cys Gly Gly His Thr His Ala Ile
35 40 45

Phe Lys Phe Gly Leu Asp Gln Leu Leu Pro Glu Asn Ile Glu Phe Ile
50 55 60

His Gly Pro Gly Cys Pro Val Cys Val Leu Pro Met Gly Arg Ile Asp
65 70 75 80

Ala Cys Ile Glu Ile Ala Ser Arg Pro Gly Val Ile Phe Cys Thr Phe
85 90 95

Gly Asp Ala Met Arg Val Pro Gly Lys Asn Gly Ser Leu Leu Gln Ala
100 105 110

Lys Ala Arg Gly Ala Asp Val Arg Ile Val Tyr Ser Pro Met Asp Ala
115 120 125

Leu Arg Leu Ala Gln Gln Asn Pro Gln Arg Glu Val Val Phe Phe Gly
130 135 140

Leu Gly Phe Glu Thr Thr Met Pro Ala Thr Ala Leu Thr Leu Arg Gln
145 150 155 160

Ala Arg Glu Arg Asn Val Asp Asn Phe Tyr Phe Phe Cys Gln His Ile
165 170 175

Thr Leu Leu Pro Thr Leu Arg Ser Leu Leu Asp Gln Pro Glu Asn Gly
180 185 190

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Ile Asp Ala Phe Leu Ala Pro Gly His Val Ser Met Val Ile Gly Thr
195 200 205

Glu Ala Tyr Gly Phe Ile Ala Ser Asp Tyr His Arg Pro Leu Val Val
210 215 220

Ala Gly Phe Glu Pro Leu Asp Leu Leu Gln Gly Ala Val Met Leu Val
225 230 235 240

Glu Gln Thr Ile Ala Gln Arg Ser Asp Val Glu Asn Gln Tyr Arg Arg
245 250 255

Val Val Pro Asp Glu Gly Asn Pro Leu Ala Gln Ala Ala Met Ala Asp
260 265 270

Val Phe Arg Leu Asp Gly Asp Ser Glu Trp Arg Gly Leu Gly Val Ile
275 280 285

Ser Asp Ser Gly Val Gln Leu Thr Pro Ala Tyr Gln Arg Phe Asp Ala
290 295 300

Glu Ala His Phe Arg Pro Ala Pro Gln Arg Val Cys Asp Asp Pro Arg
305 310 315 320

Ala Arg Cys Gly Glu Val Leu Thr Gly Arg Cys Lys Pro His Gln Cys
325 330 335

Pro Leu Phe Ala Ser Thr Cys Asn Pro Gln Ser Ala Phe Gly Ala Leu
340 345 350

Met Val Ser Ser Glu Gly Ala Cys Ala Ala Trp Tyr Gln Tyr Arg Ser
355 360 365

Gln Glu Asn Glu Val
370

<210> 227

<211> 406

<212> PRT

<213> Klebsiella pneumoniae

<400> 227

Met Thr Phe Ser Val Glu Gln Val Arg Ala Asp Phe Pro Val Leu Asn
1 5 10 15

Arg Glu Val Asn Gly Gln Pro Leu Val Tyr Leu Asp Ser Ala Ala Ser
20 25 30

Ala Gln Lys Pro Glu Ala Val Ile Gly Ala Glu Ala Glu Phe Tyr Arg
35 40 45

His Gly Tyr Ala Ala Val His Arg Gly Ile His Thr Leu Ser Ala Glu
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50

55

60

Ala Thr Ala Arg Met Glu Ala Val Arg Gln Gln Ala Ala Thr Phe Leu
65 70 75 80

Asn Ala Gly Ser Ala Glu Glu Val Val Phe Val Arg Gly Thr Thr Glu
85 90 95

Gly Ile Asn Leu Val Ala Asn Ser Trp Gly Asn Ala Asn Val Gly Ala
100 105 110

Gly Asp Asn Ile Ile Ile Ser Glu Met Glu His His Ala Asn Ile Val
115 120 125

Pro Trp Gln Met Leu Cys Ala Arg Val Gly Ala Glu Leu Arg Val Ile
130 135 140

Pro Leu Asn Pro Asp Gly Thr Leu Gln Leu Asp Val Val Pro Gly Leu
145 150 155 160

Phe Asp Pro Arg Thr Arg Leu Leu Ala Ile Thr Glu Val Ser Asn Val
165 170 175

Leu Gly Thr Glu Asn Pro Leu Ala Ala Leu Ile Ala Leu Ala His Gln
180 185 190

His Gly Ala Lys Val Leu Val Asp Gly Ala Gln Ala Val Met His His
195 200 205

Pro Val Asp Val Gln Ala Leu Gly Cys Asp Phe Tyr Val Phe Ser Ala
210 215 220

His Lys Leu Tyr Gly Pro Thr Gly Ile Gly Val Leu Tyr Ala Arg Ser
225 230 235 240

Glu Leu Leu Gln Thr Met Ala Pro Trp Glu Gly Gly Gly Ser Met Ile
245 250 255

Ala Thr Val Ser Leu Thr Glu Gly Thr Thr Trp Asn Gln Ala Pro Trp
260 265 270

Arg Phe Glu Ala Gly Thr Pro Asn Thr Gly Gly Ile Ile Gly Leu Gly
275 280 285

Ala Ala Leu Thr Tyr Val Ser Gln Leu Gly Leu Thr Gln Ile Ala Glu
290 295 300

Tyr Glu Gln Thr Leu Met Arg Tyr Ala Leu Asp Ala Leu Arg Ala Val
305 310 315 320

Pro Asp Leu Ile Leu Tyr Gly Pro Ala Gln Arg Lys Gly Val Ile Ala
325 330 335

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Phe Asn Leu Gly Gln His His Ala Tyr Asp Val Gly Ser Phe Leu Asp
340 345 350

Asn Tyr Gly Ile Ala Val Arg Thr Gly His His Cys Ala Met Pro Leu
355 360 365

Met Ala Arg Tyr Gln Val Pro Ala Met Cys Arg Ala Ser Leu Ala Met
370 375 380

Tyr Asn Thr Thr Glu Glu Val Asp Arg Leu Val Ala Gly Leu Gln Arg
385 390 395 400

Ile Arg Lys Leu Leu Gly
405

<210> 228
<211> 337
<212> PRT
<213> Klebsiella pneumoniae

<400> 228

Met Ala Pro Ser Arg Thr Leu Leu Ala His Ser Ser Thr Thr Gly Arg
1 5 10 15

Met Pro Glu Val Leu Leu Val Pro Asp Met Lys Leu Phe Ala Gly Asn
20 25 30

Ala Thr Pro Glu Leu Ala Gln Arg Ile Ala Asn Arg Leu Tyr Thr Ser
35 40 45

Leu Gly Asp Ala Ala Val Gly Arg Phe Ser Asp Gly Glu Val Ser Val
50 55 60

Gln Ile Asn Glu Asn Val Arg Gly Gly Asp Ile Phe Ile Ile Gln Ser
65 70 75 80

Thr Cys Ala Pro Thr Asn Asp Asn Leu Met Glu Leu Val Val Met Val
85 90 95

Asp Ala Leu Arg Arg Ala Ser Ala Gly Arg Ile Thr Ala Val Ile Pro
100 105 110

Tyr Phe Gly Tyr Ala Arg Gln Asp Arg Arg Val Arg Ser Ala Arg Val
115 120 125

Pro Ile Thr Ala Lys Val Val Ala Asp Phe Leu Ser Ser Val Gly Val
130 135 140

Asp Arg Val Leu Thr Val Asp Leu His Ala Glu Gln Ile Gln Gly Phe
145 150 155 160

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Phe Asp Val Pro Val Asp Asn Val Phe Gly Ser Pro Ile Leu Leu Glu
165 170 175

Asp Met Leu Gln Leu Asn Leu Asp Asn Pro Ile Val Val Ser Pro Asp
180 185 190

Ile Gly Gly Val Val Arg Ala Arg Ala Ile Ala Lys Leu Leu Asn Asp
195 200 205

Thr Asp Met Ala Ile Ile Asp Lys Arg Arg Pro Arg Ala Asn Val Ser
210 215 220

Gln Val Met His Ile Ile Gly Asp Val Ala Gly Arg Asp Cys Val Met
225 230 235 240

Val Asp Asp Met Ile Asp Thr Gly Gly Thr Leu Cys Lys Ala Ala Glu
245 250 255

Ala Leu Lys Glu Arg Gly Ala Lys Arg Val Phe Ala Tyr Ala Thr His
260 265 270

Pro Ile Phe Ser Gly Asn Ala Ile Gln Asn Ile Lys Asn Ser Val Ile
275 280 285

Asp Glu Phe Val Val Cys Asp Thr Ile Pro Leu Ala Pro Glu Ile Lys
290 295 300

Ala Leu Asp Lys Val Arg Thr Leu Thr Leu Ser Gly Met Leu Ala Glu
305 310 315 320

Ala Ile Arg Arg Ile Ser Asn Glu Glu Ser Ile Ser Ala Met Phe Glu
325 330 335

His

<210> 229

<211> 248

<212> PRT

<213> Klebsiella pneumoniae

<400> 229

Met Ser Ala Met Thr Leu Asp Leu Pro Arg Arg Phe Pro Trp Pro Thr
1 5 10 15

Leu Leu Ser Val Ala Ile His Gly Ala Val Val Ala Gly Leu Leu Tyr
20 25 30

Thr Ser Val His Gln Val Ile Glu Gln Pro Ser Pro Thr Gln Pro Ile
35 40 45

Glu Ile Thr Met Val Ala Pro Ala Asp Leu Glu Pro Pro Pro Ala Ala
50 55 60

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Gln Pro Val Val Glu Pro Val Val Glu Pro Glu Pro Glu Pro Glu Pro
65 70 75 80

Glu Val Val Pro Glu Pro Pro Lys Glu Ala Pro Val Val Ile His Lys
85 90 95

Pro Glu Pro Lys Pro Lys Pro Lys Pro Lys Pro Lys Pro Lys Pro Glu
100 105 110

Lys Lys Val Glu Gln Pro Lys Arg Glu Val Lys Pro Ala Ala Glu Pro
115 120 125

Arg Pro Ala Ser Pro Phe Glu Asn Asn Asn Thr Ala Pro Ala Arg Thr
130 135 140

Ala Pro Ser Thr Ser Thr Ala Ala Ala Lys Pro Thr Val Thr Ala Pro
145 150 155 160

Ser Gly Pro Arg Ala Ile Ser Arg Val Gln Pro Ser Tyr Pro Pro Arg
165 170 175

Ala Gln Ala Leu Arg Ile Glu Gly Thr Val Arg Val Lys Phe Asp Val
180 185 190

Ser Pro Asp Gly Arg Ile Asp Asn Leu Gln Ile Leu Ser Ala Gln Pro
195 200 205

Ala Asn Met Phe Glu Arg Glu Val Lys Ser Ala Met Arg Arg Trp Arg
210 215 220

Tyr Glu Gln Gly Arg Pro Gly Thr Gly Val Thr Met Thr Ile Lys Phe
225 230 235 240

Arg Leu Asn Gly Val Glu Ile Asn
245

<210> 230
<211> 221
<212> PRT
<213> Klebsiella pneumoniae
<400> 230

Met Thr Gln Pro Glu Ala Val Phe Phe Asp Cys Asp Gly Thr Leu Val
1 5 10 15

Asp Ser Glu Val Ile Cys Ser Arg Ala Tyr Val His Met Phe Gln Glu
20 25 30

Phe Gly Ile Thr Leu Asp Leu Ala Glu Ile Phe Lys Arg Phe Lys Gly
35 40 45

Val Lys Leu Tyr Glu Ile Ile Asp Thr Ile Asn Ala Glu Tyr Gly Val
50 55 60

Asn Leu Gln Lys Ala Thr Leu Glu Pro Ile Tyr Arg Ala Glu Val Ala
65 70 75 80

Arg Leu Phe Asp Ser Glu Leu Glu Val Ile Pro Gly Ala Gln Ala Leu
85 90 95

Leu Asp Ala Val Ser Val Pro Met Cys Val Val Ser Asn Gly Pro Val
100 105 110

Ser Lys Met Gln His Ser Leu Gly Arg Thr Gly Leu Leu Arg His Phe
115 120 125

Thr Asp Arg Leu Tyr Ser Gly Tyr Asp Ile Gln Arg Trp Lys Pro Asp
130 135 140

Pro Ala Leu Met Phe His Ala Ala Glu Ala Met Gln Val Lys Ala Glu
145 150 155 160

Asn Cys Ile Leu Val Asp Asp Ser Ser Ala Gly Ala Gln Ser Gly Ile
165 170 175

Ala Ala Gly Met Glu Val Phe Tyr Phe Cys Ala Asp Pro His Asn Gln
180 185 190

Pro Ile Asp His Pro Lys Val Thr Thr Phe Thr Asp Leu Ala Glu Leu
195 200 205

Pro Ala Leu Trp Gln Ala Arg Gly Trp Asp Ile Thr Arg
210 215 220

<210> 231
<211> 380
<212> PRT
<213> Klebsiella pneumoniae

<400> 231

Val Arg Arg Leu Arg Glu Arg Gly Ala Glu Val Arg Val Ala Met Thr
1 5 10 15

Glu Ala Ala Lys Ala Phe Ile Thr Pro Leu Ser Leu Gln Ala Val Ser
20 25 30

Gly Tyr Pro Val Ser Asp Ser Leu Leu Asp Pro Ala Ala Glu Ala Ala
35 40 45

Met Gly His Ile Glu Leu Gly Lys Trp Ala Asp Leu Val Ile Leu Ala
50 55 60

Pro Ala Thr Ala Asp Leu Ile Ala Arg Val Ala Ala Gly Met Ala Asn
65 70 75 80

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Asp Leu Val Ser Thr Ile Cys Leu Ala Thr Pro Ser Pro Val Ala Val
 85 90 95
 Val Pro Ala Met Asn Gln Gln Met Tyr Arg Ala Gln Ala Thr Gln His
 100 105 110
 Asn Leu Gln Thr Leu Ala Thr Arg Gly Leu Leu Leu Trp Gly Pro Asp
 115 120 125
 Ser Gly Ser Gln Ala Cys Gly Asp Val Gly Pro Gly Arg Met Leu Asp
 130 135 140
 Pro Leu Thr Ile Val Asp Met Ala Ala Gln His Phe Ala Ser Pro Val
 145 150 155 160
 Lys Asp Leu Gln His Leu Asn Leu Met Ile Thr Ala Gly Pro Thr Arg
 165 170 175
 Glu Pro Leu Asp Pro Val Arg Tyr Ile Thr Asn His Ser Ser Gly Lys
 180 185 190
 Met Gly Phe Ala Ile Ala Ala Ala Ala Ala Gln Arg Gly Ala Asn Val
 195 200 205
 Thr Leu Ile Ser Gly Pro Val Ser Leu Pro Thr Pro Pro Phe Val Gln
 210 215 220
 Arg Ile Asp Val Thr Thr Ala Leu Glu Met Glu Ala Ala Val Gln Ala
 225 230 235 240
 Gly Ala Gln Gln Gln His Ile Phe Ile Gly Cys Ala Ala Val Ala Asp
 245 250 255
 Tyr Arg Ala Ala Val Ile Ala Glu Asp Lys Ile Lys Lys Gln Gly Asp
 260 265 270
 Glu Leu Thr Ile Lys Met Val Lys Asn Pro Asp Ile Val Ala Gly Val
 275 280 285
 Ala Ala Leu Lys Ser His Arg Pro Tyr Val Val Gly Phe Ala Ala Glu
 290 295 300
 Thr Asn Asn Val Glu Glu Tyr Ala Arg Gln Lys Arg Ala Arg Lys Asn
 305 310 315 320
 Leu Asp Leu Ile Cys Ala Asn Asp Val Ser Gln Pro Asn Gln Gly Phe
 325 330 335
 Asn Ser Asp Ser Asn Ala Leu His Leu Phe Trp Gln Asp Gly Glu Lys
 340 345 350

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Arg Leu Pro Leu Glu Arg Lys Glu Leu Leu Gly Gln Leu Leu Leu Asp
355 360 365

Glu Ile Val Thr Arg Tyr Asp Glu Lys Asn Arg Arg
370 375 380

<210> 232

<211> 454

<212> PRT

<213> Klebsiella pneumoniae

<400> 232

Met Phe Arg Leu Ser Phe Met Phe Ile Ala Leu Leu Thr Ala Gly Cys
1 5 10 15

Val Ser Leu Asp Pro His Tyr Asp Arg Pro Ala Ala Pro Val Pro Ala
20 25 30

Thr Leu Pro Gly Ala His Gly Glu Ser Thr Ala Val Val Gly Asp Trp
35 40 45

Gln Lys Val Val Asn Asp Ala Arg Leu Lys Lys Val Val Ser Ile Ala
50 55 60

Leu Asn Ser Asn Arg Asp Val Gln Lys Ala Leu Ala Asp Ile Glu Ala
65 70 75 80

Ala Arg Ala Gln Tyr Gly Glu Thr Arg Ala Ser Leu Phe Pro Thr Val
85 90 95

Asp Ala Glu Leu Ser His Thr Arg Ser Lys Thr Val Ala Ser Gly Leu
100 105 110

Ser Ser Ala Ser Gln Ala Asp Gly Ala Val Ser Ser Phe Glu Leu Asp
115 120 125

Leu Phe Gly Lys Asn Gln Ser Leu Ser Arg Ala Ala Arg Glu Thr Trp
130 135 140

Leu Ala Ser Glu Phe Thr Ala Gln Asn Thr Arg Leu Thr Met Ile Ala
145 150 155 160

Asp Leu Thr Thr Ala Trp Val Thr Leu Ala Thr Asp Asn Ser Asn Leu
165 170 175

Ala Leu Ala Gln Gln Thr Met Asp Ser Ala Ala Asn Ser Arg Asn Ile
180 185 190

Val Ala His Gln Met Ala Val Gly Thr Ala Ser Ala Gly Asp Leu Ser
195 200 205

Ser Ala Glu Ser Val Tyr Gln Gln Ala Arg Ala Ser Val Ala Ser Tyr

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220

210

215

Arg Thr Leu Val Ala Gln Asp Lys Asn Ala Ile Asn Leu Leu Ala Gly
225 230 235 240

Glu Thr Val Pro Glu Ser Leu Leu Pro Gly Thr Leu Glu Ser Leu Gly
245 250 255

Asp Asn Ser Ile Ala Leu Val Pro Ala Gly Val Ser Ser Ser Val Leu
260 265 270

Leu Arg Arg Pro Asp Ile Gln Glu Ala Glu His Asn Leu Lys Ser Ala
275 280 285

Asn Ala Asp Ile Gly Ala Ala Arg Ala Asn Phe Phe Pro Ser Ile Ser
290 295 300

Leu Thr Ala Ser Ala Gly Val Gly Ser Asp Ser Leu Ser Ser Leu Phe
305 310 315 320

Ser His Gly Met Gln Val Trp Ser Phe Ala Pro Ser Ile Ser Leu Pro
325 330 335

Leu Phe Thr Gly Gly Ser Asn Leu Ala Gln Leu Arg Tyr Ala Glu Ala
340 345 350

Glu Lys Lys Gly Leu Ile Ala Thr Tyr Glu Lys Ser Ile Gln Ser Ala
355 360 365

Phe Lys Asp Val Ala Asp Ala Leu Ala Arg Arg Glu Thr Leu Ser Glu
370 375 380

Glu Leu Asp Ala Gln Arg Gln Tyr Val Ala Ala Glu Gln Thr Ser Leu
385 390 395 400

Asp Ile Ala Met Lys Ser Tyr Gln Ala Gly Val Gly Asp Tyr Leu Ser
405 410 415

Val Leu Thr Ala Gln Arg Thr Leu Trp Ser Ala Lys Thr Thr Leu Leu
420 425 430

Ser Leu Gln Gln Thr Asp Leu Asn Asn Arg Ile Thr Leu Trp Gln Ser
435 440 445

Leu Gly Gly Gly Ala Ser
450

<210> 233

<211> 513

<212> PRT

<213> Klebsiella pneumoniae

<400> 233

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Met Gln Leu Asn Ser Thr Glu Ile Ser Glu Leu Ile Lys Gln Arg Ile
1 5 10 15

Ala Gln Phe Asn Val Val Ser Glu Ala His Asn Glu Gly Thr Ile Val
20 25 30

Ser Val Ser Asp Gly Val Ile Arg Ile His Gly Leu Ala Glu Cys Met
35 40 45

Gln Gly Glu Met Ile Ser Leu Pro Gly Asn Arg Tyr Ala Ile Ala Leu
50 55 60

Asn Leu Glu Arg Asp Ser Val Gly Ala Val Val Met Gly Pro Tyr Ala
65 70 75 80

Asp Leu Ala Glu Gly Met Lys Val Lys Cys Thr Gly Arg Ile Leu Glu
85 90 95

Val Pro Val Gly Arg Gly Leu Leu Gly Arg Val Val Asn Thr Leu Gly
100 105 110

Ala Pro Ile Asp Gly Lys Gly Pro Leu Glu Asn Asp Gly Phe Ser Ala
115 120 125

Val Glu Ala Ile Ala Pro Gly Val Ile Glu Arg Gln Ser Val Asp Gln
130 135 140

Pro Val Gln Thr Gly Tyr Lys Ser Val Asp Ala Met Ile Pro Ile Gly
145 150 155 160

Arg Gly Gln Arg Glu Leu Ile Ile Gly Asp Arg Gln Thr Gly Lys Thr
165 170 175

Ala Leu Ala Ile Asp Ala Ile Ile Asn Gln Arg Asp Ser Gly Ile Lys
180 185 190

Cys Val Tyr Val Ala Ile Gly Gln Lys Ala Ser Thr Ile Ser Asn Val
195 200 205

Val Arg Lys Leu Glu Glu His Gly Ala Leu Ala Asn Thr Ile Val Val
210 215 220

Val Ala Thr Ala Ser Glu Ser Ala Ala Leu Gln Tyr Leu Ala Pro Tyr
225 230 235 240

Ala Gly Cys Ala Met Gly Glu Tyr Phe Arg Asp Arg Gly Glu Asp Ala
245 250 255

Leu Ile Val Tyr Asp Asp Leu Ser Lys Gln Ala Val Ala Tyr Arg Gln
260 265 270

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Ile Ser Leu Leu Leu Arg Arg Pro Pro Gly Arg Glu Ala Phe Pro Gly
275 280 285

Asp Val Phe Tyr Leu His Ser Arg Leu Leu Glu Arg Ala Ala Arg Val
290 295 300

Asn Ala Glu Tyr Val Glu Ala Phe Thr Lys Gly Glu Val Lys Gly Lys
305 310 315 320

Thr Gly Ser Leu Thr Ala Leu Pro Ile Ile Glu Thr Gln Ala Gly Asp
325 330 335

Val Ser Ala Phe Val Pro Thr Asn Val Ile Ser Ile Thr Asp Gly Gln
340 345 350

Ile Phe Leu Glu Thr Asn Leu Phe Asn Ala Gly Ile Arg Pro Ala Val
355 360 365

Asn Pro Gly Ile Ser Val Ser Arg Val Gly Gly Ala Ala Gln Thr Lys
370 375 380

Ile Met Lys Lys Leu Ser Gly Gly Ile Arg Thr Ala Leu Ala Gln Tyr
385 390 395 400

Arg Glu Leu Ala Ala Phe Ser Gln Phe Ala Ser Asp Leu Asp Asp Ala
405 410 415

Thr Arg Lys Gln Leu Asp His Gly Gln Lys Val Thr Glu Leu Leu Lys
420 425 430

Gln Lys Gln Tyr Ala Pro Met Ser Val Ala Gln Gln Ser Leu Val Leu
435 440 445

Phe Ala Ala Glu Arg Gly Tyr Leu Ala Asp Val Glu Leu Ala Lys Ile
450 455 460

Gly Ser Phe Glu Ala Ala Leu Leu Ala Tyr Val Asp Arg Asp His Ala
465 470 475 480

Pro Leu Met Gln Glu Ile Asn Gln Ser Gly Gly Tyr Asn Asp Glu Ile
485 490 495

Glu Gly Lys Leu Lys Gly Ile Leu Asp Ser Phe Lys Ala Thr Gln Ser
500 505 510

Trp

<210> 234
<211> 823
<212> PRT
<213> Klebsiella pneumoniae

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<400> 234

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Met Glu His Ala His Pro Gln Val Asp Ala Asn Arg Val Ile Ala Ala
1      5      10      15

Asp Arg Arg Leu Phe Gly Phe Gln Leu Pro Ala Phe Pro Phe Leu Ile
20      25      30

Ala His Pro Val Arg Gly Lys Ala Phe Arg Arg Gly Leu Gln Gln Gln
35      40      45

Ala Gln Val Thr Val Ala Gln Ser Gly Pro Arg Arg Ala Lys Thr His
50      55      60

Lys Val Gly Gly Gln Leu Arg Arg Lys Ile Ala Gly Val Lys Pro Pro
65      70      75      80

Ala Ser Val Ile Gly Lys Thr Asp Phe Ser Arg Gln Gln His Arg Ala
85      90      95

Glu Ala Arg His Arg His Arg Leu Phe Ser Asp Asn Pro Arg Gln Gln
100     105     110

Gly Phe Thr Gly Leu Gly Val Leu Arg Leu Leu Pro Gln Ala Pro Arg
115     120     125

Leu Gln Gln Arg Pro Gly Tyr Pro Gln Ile Arg Val Gly Arg Arg Val
130     135     140

Ala Val Gln Gln Gly Pro Leu Leu Ile Val Leu Phe Ala Pro Gln Pro
145     150     155     160

Ala Arg Gln Met Leu Phe Gln Ile Ala Phe Arg Gln Val Val Leu Arg
165     170     175

Pro Gly Gln Gln Phe Val Glu Pro Cys Ala Ile Val Gly Arg Gln Gly
180     185     190

Glu Lys Gln Ala Ile Ala Leu Pro Phe Gly Gly Gly Asp Phe Ala Arg
195     200     205

Ile Ala Gly Val Asn His Pro Ser Leu Gly Ala Asp Val Arg Leu Phe
210     215     220

Lys Leu Leu Pro Gly Gly Pro Leu Ala Gly Gly Ala His Leu Ala Arg
225     230     235     240

Arg Gln Gln Gln Arg Arg Glu His Arg Ala Thr Lys Tyr Phe His His
245     250     255

Gly Leu Leu Ile Ile Gln Ala Lys Thr Ala Ala Ala Asp Asp Ala Gln
260     265     270

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His Ala Pro Gln His Pro Cys Gln Gln His Asn Ala Asp Gly Gly Glu
 275 280 285
 Asp Arg Gln Gln Tyr Arg Val Val Arg Glu Arg Glu Pro Asp Ala Leu
 290 300
 Glu Pro Gly Gln Met Thr His Val Val Asn Ile Pro His Pro Gln Thr
 305 310 315 320
 Val Asp Ala Gly Phe Ala Asp His Arg His Arg Ala Lys His Arg Cys
 325 330 335
 Pro Leu Thr Ala Val Val Glu Gly Val Gly Gln Gln Phe Ile Ser Ala
 340 345 350
 Arg Ala Val Gly Gln Gln Gly His His Ala Ala Leu Ile Val Ile Arg
 355 360 365
 Arg Leu Glu Ala Asn His Arg Arg His Arg Pro Gly Arg Gly Asn Val
 370 375 380
 Gly Ala Gly Ile Gly Arg Ala Gly Leu Ile Val Gly Ile Asn Ala Arg
 385 390 395 400
 Gln Val Ile Val Ala His Arg His Phe His Pro Ala Phe Gly Arg Leu
 405 410 415
 Asp Gln Gln Val Asp Phe Gly Val Val Leu Glu Arg Arg Arg Asp Arg
 420 425 430
 Ala Asp Gln Gln Gln Ile Arg Ile Phe Val Leu Asp Leu Val Ala Ile
 435 440 445
 Val Gly His Leu Gln Ile Asn Arg Arg Gln Thr Gly Leu Arg Thr Asp
 450 455 460
 Ala Pro Gln Arg Leu Gln Gln Arg Arg His Leu Ala Leu Gly Arg Arg
 465 470 475 480
 Leu Arg His His His Gln Arg Val Gly Lys Val Arg His Thr Ala Val
 485 490 495
 Arg Glu Ala Arg Ile Gly Glu Asp Ala Gln Val Arg Gln Gly Asp Lys
 500 505 510
 Val Ile Ile Leu Arg Glu Val Asp Gly Arg Ile Val Ala Asp His His
 515 520 525
 Val Val Leu His Arg Leu Glu Gly Asn Thr Val Val Asp Gly Ala Ala
 530 535 540

Gly His Arg Val His Ile Leu Glu Val Lys Ala Gln Leu Val Asp Arg
545 550 555 560

Pro Lys Thr Gln Arg Gly Asp Gly Asp Leu Arg Phe Ala Val Gln Gln
565 570 575

Pro Leu Gln His Arg Gln Ala Gln Asp Gln Phe Val His Val Leu Gly
580 585 590

Ala Val Lys Ala Glu Arg Leu Gln Glu Leu Val Val Glu Ala Asp Ile
595 600 605

His Pro Arg Ala Val Leu His Arg Arg His Gly Val Ala Val Phe Gln
610 615 620

Ile His Ile Asp Ala Val Gly Pro Gln Gln Ile Glu Ile Arg Arg Gln
625 630 635 640

Val Lys Arg His Gly Asp Gly Ile Arg His Gln Ala Ala Gly Leu Gln
645 650 655

Leu Leu Leu Ile Gly Phe Gln Leu Ser Lys Gly Asp Arg Thr Val Gly
660 665 670

Ala His Pro Val Arg Arg Val Val Arg Leu Thr Arg Leu Gln Gly Phe
675 680 685

Asp Ala Val His Gly Asp Ala Ala Ala Ala Glu Gln Asn Ile Ala Leu
690 695 700

Ser Asn Pro Leu Arg Arg Gln Gln Gln Val Val Ile Ile Ala Ala Glu
705 710 715 720

Asn His Gln Gln Leu Asp Val Gly Ile Val Arg Val Val Asp His Phe
725 730 735

Asp Gly Arg Arg Leu Asp Arg Arg Met Ile Ala Gln Glu Val Arg Thr
740 745 750

Leu Val Val Gly Gly Glu Asp Asn Gly Val Thr Ile Arg Gln Phe Ile
755 760 765

Glu Ile Asp Arg Glu Leu Leu Ala Ala Pro Ala Gly Leu Ala Ala Glu
770 775 780

Pro Gly Gly Asp Tyr Arg Arg Arg Leu Leu Leu Gly Asp Arg Trp Arg
785 790 795 800

Ala Arg Glu Asn His Arg Gln Leu Gln Arg Ala Val Ile Ala Arg Ile
805 810 815

Val Glu Arg His Arg Glu Val

<210> 235
 <211> 397
 <212> PRT
 <213> Klebsiella pneumoniae
 <400> 235

Val Glu Arg Phe Asp Ala Ile Val Val Gly Ala Gly Ala Ala Gly Met
 1 5 10 15

Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
 20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
 35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Thr Ala Tyr Leu Ser
 50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
 115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240

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Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 236
<211> 225
<212> PRT
<213> Klebsiella pneumoniae
<400> 236

Met Lys Gln Tyr Leu Ile Ala Pro Ser Ile Leu Ser Ala Asp Phe Ala
1 5 10 15

Arg Leu Gly Glu Asp Thr Ala Lys Ala Leu Ala Ala Gly Ala Asp Val
20 25 30

Val His Phe Asp Val Met Asp Asn His Tyr Val Pro Asn Leu Thr Ile
35 40 45

Gly Pro Met Val Leu Lys Ser Leu Arg Asn Tyr Gly Ile Thr Ala Pro
50 55 60

Ile Asp Val His Leu Met Val Lys Pro Val Asp Arg Ile Ile Pro Asp
65 70 75 80

Phe Ala Glu Ala Gly Ala Ser Ile Ile Thr Phe His Pro Glu Ala Ser
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90

85

95

Glu His Val Asp Arg Ser Leu Gln Leu Ile Lys Glu His Gly Cys Lys
100 105 110

Ala Gly Leu Val Phe Asn Pro Ala Thr Pro Leu Ser Tyr Leu Asp Tyr
115 120 125

Val Met Asp Lys Leu Asp Val Ile Leu Leu Met Ser Val Asn Pro Gly
130 135 140

Phe Gly Gly Gln Ser Phe Ile Pro Gln Thr Leu Asp Lys Leu Arg Glu
145 150 155 160

Val Arg Gln Arg Ile Asp Ala Ser Gly Tyr Asp Ile Arg Leu Glu Val
165 170 175

Asp Gly Gly Val Lys Ala Ser Asn Ile Gly Glu Ile Ala Ala Ala Gly
180 185 190

Ala Asp Met Phe Val Ala Gly Ser Ala Ile Phe Gly Gln Pro Asp Tyr
195 200 205

Lys Gln Val Ile Asp Gln Met Arg Ser Glu Leu Ala Lys Val Ser His
210 215 220

Gly
225

<210> 237
<211> 834
<212> PRT
<213> Klebsiella pneumoniae

<400> 237

Val Glu Asn Pro Ser Gln Pro Ala Gln Ser Gly Asn Ser Gly Glu Asn
1 5 10 15

Gly Ala Gly Gly Trp Asp Val Met Lys Arg Leu Thr Thr Leu Ala Leu
20 25 30

Leu Ala Gly Met Leu Ser Ala Pro Ala Leu His Ser Glu Glu Pro Gly
35 40 45

Ser Gly Ala Ala Ala Pro Leu Ser Phe Pro Gln Leu Asn Asp Ala Ala
50 55 60

Asp Ser Glu Pro Gly Asp Glu Pro Pro Ala Ala Ser Pro Glu Glu Gly
65 70 75 80

Ala Ser Pro Ala Ala Pro Ala Thr Ala Gly Asp Ala Ala Ala Thr Ala
85 90 95

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Pro Ala Pro Val Met Pro Asp Leu Pro Pro Pro Val Ser Gly Thr Ala
100 105 110

Ala Pro Glu Val Ile Pro Val Ala Pro Val Trp Gly Gly Asp Leu Asn
115 120 125

Leu Ala Gln Met Gly Met Pro Asp Gly Ile Ile Leu Ser Gly Gly Gln
130 135 140

Arg Gln Gly Gly Val Ser Phe Thr Leu Pro Ala Asp Gln Val Val Ile
145 150 155 160

His Ser Gln Leu Ser Leu Ala Val Arg Val Ser Pro Glu Met Ala Ser
165 170 175

Arg Asn Ala Thr Leu Gln Leu Met Leu Asn Gly Gln Pro Leu Gly Thr
180 185 190

Leu Pro Leu Gly Ala Asp Gly Glu Asp Val Ser His Tyr Gln Leu Asp
195 200 205

Ile Pro Pro Ala Leu Met Val Ser Ser Asn Asn Leu Ser Val Lys Ile
210 215 220

Asn Asp Gly Asp Thr Leu Gln Cys Gln Arg Asp Ile His Asp Thr Ser
225 230 235 240

Arg Val Thr Val Leu Pro Thr Ser His Phe Ser Trp Glu Ser Gln Gln
245 250 255

Leu Asn Ile Ser Asp Asp Leu Ser His Phe Pro Arg Pro Phe Phe Asp
260 265 270

Ser Met Gln Met Thr Pro Ala Asp Ile Ala Val Ala Tyr Gly Ala Lys
275 280 285

Pro Ser Ala Asp Val Phe Ser Ala Ala Ala Leu Ile Ser Ser Trp Leu
290 295 300

Gly Ile Gln Ala Asp Tyr Arg Gly Ile Ala Phe Ser Ala Leu Arg Asp
305 310 315 320

Arg Leu Pro Glu Arg His Gly Ile Val Ile Gly His Pro Gly Glu Gln
325 330 335

Val Gly Gly Met Met Leu Pro Glu Thr Asp Lys Pro Leu Leu Arg Ile
340 345 350

Ile Ala Asn Pro Ala Asn Pro Ala Tyr Lys Leu Leu Leu Ile Val Gly
355 360 365

Lys Asn Asp Thr Ala Leu Arg Met Ala Ala Trp Arg Leu Thr Arg Gly
370 375 380

Asn Phe Ala Pro Gln Thr Ala Thr Leu Asp Val Glu Pro Gln Thr Ile
385 390 395 400

Pro Val Gly Lys Ala Tyr Asp Ala Pro Arg Trp Ile Pro Thr Asp Arg
405 410 415

Pro Val Lys Leu Ser Glu Leu Leu Arg Lys Asp Gln Ser Pro Thr Val
420 425 430

Ser Gly Val Trp His Glu Pro Leu Arg Ile Ala Phe Arg Ala Ala Pro
435 440 445

Asp Leu Tyr Leu Trp Asp Gly Glu Thr Ile Pro Leu Gln Val Gly Tyr
450 455 460

Arg Phe Pro Ser Glu Ser Trp Ile Asn Glu Asp Lys Ser Leu Leu Ser
465 470 475 480

Val Thr Leu Asn Gly Thr Phe Leu Asn Asn Leu Pro Met Asn Lys Gln
485 490 495

Gly Pro Leu Glu Lys Val Trp Arg Tyr Leu Gly Gly Asp Ala Arg Gln
500 505 510

Glu Arg Phe Thr Ile Pro Leu Ala Pro Tyr Leu Ile Tyr Gly Asp Asn
515 520 525

Gln Leu Ser Met Tyr Phe Asn Val Val Pro Lys Asp Asp Val Pro Cys
530 535 540

Ser Val Leu Leu Asn Asn Asn Ile Lys Ser Arg Ile Thr Asp Asp Ser
545 550 555 560

Trp Ile Asp Leu Ser Lys Thr Arg His Phe Ser Leu Leu Pro Asn Leu
565 570 575

Ser Tyr Phe Val Gly Ala Ser Phe Pro Phe Ser Arg Leu Ala Asp Tyr
580 585 590

Ser Gln Thr Thr Leu Leu Leu Pro Ala Asp Pro Ser Glu Thr Gln Val
595 600 605

Ala Thr Leu Leu Asn Leu Ala Ala Arg Ser Gly Asn Ala Thr Gly Thr
610 615 620

Ala Leu Ala Asn Asn Arg Val Val Leu Gly Met Pro Thr Gly Gly Gly
625 630 635 640

Asp Leu Gln Ser Leu Arg Glu Arg Asp Val Leu Ala Val Thr Ala Leu

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650

645

655

Asp Gln Gln Ala Phe Asn Gln Ser Leu Leu Ala Asp Ser Pro Tyr Arg
660 665 670

Pro Val Asp Asn Val Leu Ser Val Arg Glu Pro Asp Leu Trp Gln Lys
675 680 685

Val Gln Arg Arg Leu Thr Gly Asp Trp Thr Ser Ala Ser Leu Asp Ala
690 695 700

Asp Arg Tyr Phe Ser Ser Ser Ala Trp Arg Gly Phe Ile Ser Tyr
705 710 715 720

Arg Ser Pro Trp Asn Ser Thr Arg Leu Val Val Val Ala Leu Ala Ser
725 730 735

Asn Asp Asp Gln Leu Ala Arg Leu Lys Thr Asp Leu Glu Ser Pro Arg
740 745 750

Ile Asn Ala Gly Ile Arg Gly Asp Thr Ala Val Ile Thr Ser Asp Asn
755 760 765

Gly Val Arg Ser Phe Gln Val Ser Thr Pro Phe Pro Ser Gly Gln Met
770 775 780

Pro Trp Tyr Met Met Ala Val Trp Tyr Ala Ser Gln His Ser Gly Phe
785 790 795 800

Leu Ala Val Leu Gly Leu Ile Ala Thr Ser Ile Met Gly Leu Ala Leu
805 810 815

Thr Ala Met Phe Lys Arg His Ala Arg Lys Arg Leu Gly Ser Gly Asp
820 825 830

Asn Gln

<210> 238

<211> 137

<212> PRT

<213> Klebsiella pneumoniae

<400> 238

Met Arg Pro Trp Cys Thr Ser Lys Ala Lys Ser Lys Thr Ala Tyr Arg
1 5 10 15

Arg Cys Arg Leu Thr Gly Asn Cys Ile Val Lys Lys Trp Pro Asp Arg
20 25 30

Ser Pro Thr Val Phe Thr Asn Val Arg Pro Lys Glu Ser Thr Met Leu
35 40 45

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Ile Asn Leu Gly Arg Leu Leu Met Leu Cys Val Trp Ala Phe Leu Leu
50 55 60

Leu Asn Leu Phe Gln Pro Phe Pro Lys Pro Leu Asn Ile Phe Val Asn
65 70 75 80

Val Ala Leu Ile Phe Met Ile Leu Met His Gly Leu Gln Leu Thr Leu
85 90 95

Leu Lys Ala Thr Gln Pro Lys Glu Ala Pro Pro Leu Ser Arg Phe Glu
100 105 110

Gln Ile Arg Ile Phe Ile Phe Gly Val Phe Glu Leu Val Ala Trp Gln
115 120 125

Lys Lys Leu Lys Ala Thr Leu Lys Lys
130 135

<210> 239

<211> 167

<212> PRT

<213> Klebsiella pneumoniae

<400> 239

Met Ala His Ile Glu Lys Gln Ala Gly Glu Leu Gln Glu Lys Leu Ile
1 5 10 15

Ala Val Asn Arg Val Ser Lys Thr Val Lys Gly Gly Arg Ile Phe Ser
20 25 30

Phe Thr Ala Leu Thr Val Val Gly Asp Gly Asn Gly Arg Val Gly Phe
35 40 45

Gly Tyr Gly Lys Ala Arg Glu Val Pro Ala Ala Ile Gln Lys Ala Met
50 55 60

Glu Lys Ala Arg Arg Asn Met Ile Asn Val Ala Leu Asn His Gly Thr
65 70 75 80

Leu Gln His Pro Val Lys Gly Thr His Thr Gly Ser Arg Val Phe Met
85 90 95

Gln Pro Ala Ser Glu Gly Thr Gly Ile Ile Ala Gly Gly Ala Met Arg
100 105 110

Ala Val Leu Glu Val Ala Gly Val Arg Asn Val Leu Ala Lys Ala Tyr
115 120 125

Gly Ser Thr Asn Pro Ile Asn Val Val Arg Ala Thr Ile Asp Gly Leu
130 135 140

Glu Asn Met Lys Ser Pro Asp Met Val Ala Ala Lys Arg Gly Lys Ser
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145						150						155						160
Val	Glu	Glu	Ile	Leu	Gly	Lys												
				165														
<210>	240																	
<211>	847																	
<212>	PRT																	
<213>	Klebsiella pneumoniae																	
<400>	240																	
Met	Ser	Lys	Val	Arg	Ile	Ala	Ile	Ile	Gly	Asn	Gly	Met	Val	Gly	His			
1				5											15			
Arg	Phe	Ile	Glu	Glu	Leu	Leu	Asp	Lys	Ala	Pro	Ala	Gly	Gln	Phe	Asp			
			20											30				
Ile	Thr	Val	Phe	Cys	Glu	Glu	Pro	Arg	Ile	Ala	Tyr	Asp	Arg	Val	His			
		35											45					
Leu	Ser	Ser	Tyr	Phe	Ser	His	His	Thr	Ala	Glu	Glu	Leu	Ser	Leu	Val			
		50											60					
Arg	Glu	Gly	Phe	Tyr	Glu	Lys	His	Gly	Val	Lys	Val	Leu	Val	Gly	Glu			
65					70											80		
Arg	Ala	Ile	Thr	Ile	Asn	Arg	Gln	Glu	Lys	Val	Ile	His	Ser	Ser	Ala			
			85											95				
Gly	Arg	Thr	Val	Phe	Tyr	Asp	Lys	Leu	Ile	Met	Ala	Thr	Gly	Ser	Tyr			
			100											110				
Pro	Trp	Ile	Pro	Pro	Ile	Lys	Gly	Ala	Glu	Thr	Gln	Asp	Cys	Phe	Val			
		115											125					
Tyr	Arg	Thr	Ile	Glu	Asp	Leu	Asn	Ala	Ile	Glu	Ser	Cys	Ala	Arg	Arg			
		130											140					
Ser	Lys	Arg	Gly	Ala	Val	Val	Gly	Gly	Gly	Leu	Leu	Gly	Leu	Glu	Ala			
145					150											160		
Ala	Gly	Ala	Leu	Lys	Asn	Leu	Gly	Val	Glu	Thr	His	Val	Ile	Glu	Phe			
			165											175				
Ala	Pro	Met	Leu	Met	Ala	Glu	Gln	Leu	Asp	Gln	Met	Gly	Gly	Glu	Gln			
			180											190				
Leu	Arg	Arg	Lys	Ile	Glu	Ser	Met	Gly	Val	Lys	Val	His	Thr	Ser	Lys			
		195											205					
Asn	Thr	Lys	Glu	Ile	Val	Gln	Gln	Gly	Thr	Glu	Ala	Arg	Lys	Thr	Met			
		210											220					

eo1f-seq1.app

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
 225 230 235 240
 Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
 245 250 255
 Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
 260 265 270
 Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
 275 280 285
 Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
 290 295 300
 Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
 305 310 315 320
 Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
 325 330 335
 His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
 340 345 350
 Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
 355 360 365
 Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
 370 375 380
 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400
 Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
 405 410 415
 Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
 435 440 445
 Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
 450 455 460
 Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
 465 470 475 480
 Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
 485 490 495

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Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
 500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
 530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
 545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
 565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
 580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
 610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
 645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
 660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
 675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
 690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
 705 710 715 720

Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
 725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
 740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
 755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala

770

775

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
835 840 845

<210> 241
<211> 1663
<212> PRT
<213> Klebsiella pneumoniae

<400> 241

Val Thr Asn Cys Ile Arg Leu Ile Gly Arg Gly Val Arg Arg Met Lys
1 5 10 15

Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
20 25 30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

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Val	Met	Ala	Gln	Ala	Trp	Thr	Ala	Asp	Asp	Phe	Gly	Ser	Ser	Glu
	1010					1015					1020			
Asp	Lys	Val	Val	Val	Ala	Ala	Pro	Val	Ile	Ala	Glu	Leu	Asn	Thr
	1025					1030					1035			
Pro	Arg	Phe	Leu	Ala	Ser	Gly	Asp	Thr	Thr	Arg	Leu	Ala	Leu	Asp
	1040					1045					1050			
Leu	Ser	Asn	Leu	Thr	Asp	Lys	Pro	Gln	Thr	Leu	Gln	Val	His	Leu
	1055					1060					1065			
Thr	Ala	Ser	Gly	Leu	Val	Thr	Leu	Thr	Glu	Gly	Gln	Leu	Pro	Pro
	1070					1075					1080			
Val	Gln	Leu	Ala	Pro	Gly	Ala	Arg	Ser	Thr	Leu	Phe	Ile	Pro	Val
	1085					1090					1095			
Ser	Ala	Leu	Ala	Gly	Phe	Gly	Asp	Gly	Gln	Val	Asn	Ala	Thr	Ile
	1100					1105					1110			
Ser	Gly	Leu	Ser	Leu	Pro	Gly	Glu	Thr	Phe	Ala	Pro	Leu	Gln	Lys
	1115					1120					1125			
Gln	Trp	Lys	Ile	Gly	Val	Arg	Pro	Ala	Tyr	Pro	Ala	Gln	Thr	Val
	1130					1135					1140			
Asn	Ser	Gly	Ala	Val	Leu	Gln	Pro	Gly	Glu	Ser	Trp	Gln	Pro	Pro
	1145					1150					1155			
Ala	Ala	Gln	Ser	Gln	Gly	Phe	Ala	Pro	Gln	Thr	Leu	Gln	Gly	Gln
	1160					1165					1170			
Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
	1175					1180					1185			
Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala
	1190					1195					1200			
Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
	1205					1210					1215			
Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala	Ala
	1220					1225					1230			
Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
	1235					1240					1245			
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
	1250					1255					1260			

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Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
	1265					1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
	1280					1285					1290			
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
	1295					1300					1305			
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
	1310					1315					1320			
Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu
	1325					1330					1335			
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
	1340					1345					1350			
Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
	1355					1360					1365			
Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro	Arg	Gln
	1370					1375					1380			
Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu	Arg	Asp
	1385					1390					1395			
Asn	Ala	Leu	Lys	Leu	Ala	Leu	Leu	Glu	Glu	Asn	Lys	Leu	Leu	Pro
	1400					1405					1410			
Glu	Val	Gln	Asn	Gln	Leu	Leu	Ser	Thr	Leu	Ser	Glu	Glu	Ala	Tyr
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Gly	Gln	Arg	Trp	Leu	Ser	Thr	Gln	Glu	Thr	Asn	Ala	Leu	Phe	Leu
	1430					1435					1440			
Ala	Gly	Arg	Thr	Leu	Ala	Asp	Leu	Pro	Gly	Ser	Trp	Gln	Ala	Lys
	1445					1450					1455			
Thr	Ser	Leu	Gln	Ala	Glu	Pro	Leu	Ala	Gly	Asp	Lys	Ala	Gln	Thr
	1460					1465					1470			
Arg	Asn	Leu	Asp	Gly	Asp	Arg	Leu	Ala	Ala	Leu	Gln	Val	Ser	Asn
	1475					1480					1485			
Thr	Gly	Ser	Gln	Pro	Leu	Trp	Leu	Arg	Leu	Asp	Ser	Ser	Gly	Tyr
	1490					1495					1500			
Pro	Gln	Ser	Ala	Pro	Gln	Pro	Gly	Gly	Asn	Val	Leu	Gly	Ile	Glu
	1505					1510					1515			

Arg Thr Ile Phe Asp Thr Gln Gly Gln Gln Lys Ser Leu Ser Ser
1520 1525 1530

Leu Arg Ser Gly Glu Leu Val Leu Val Lys Leu Glu Val Thr Ala
1535 1540 1545

Lys Arg Asn Val Pro Asp Ala Leu Val Val Asp Leu Leu Pro Ala
1550 1555 1560

Gly Leu Glu Leu Glu Asn Gln Asn Leu Ala Asn Ser Ser Ala Ser
1565 1570 1575

Leu Gln Glu Asn Gly Asp Ala Val Gln Asn Leu Leu Asn Gln Met
1580 1585 1590

Gln Gln Ala Asp Ile Gln His Ile Glu Phe Arg Asp Asp Arg Phe
1595 1600 1605

Val Ala Ala Val Ala Val Asn Glu Gly Gln Pro Val Thr Leu Val
1610 1615 1620

Tyr Leu Ala Arg Ala Val Thr Pro Gly Thr Tyr Gln Val Pro Gln
1625 1630 1635

Pro Gln Val Glu Ser Met Tyr Ala Pro Gln Trp Arg Ala Thr Gly
1640 1645 1650

Ala Ala Ser Gly Pro Leu Thr Val Thr Pro
1655 1660

<210> 242
<211> 245
<212> PRT
<213> Klebsiella pneumoniae

<400> 242

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

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Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 243
<211> 217
<212> PRT
<213> Klebsiella pneumoniae
<400> 243

Val Ile Asn Leu Asn Gly Asn Ser Ser Ser Arg Gln Val Thr Phe
1 5 10 15

Ile Thr His Pro Ser Ile Gln Ser Lys Ala Phe Ala Ser Tyr Leu Ser
20 25 30

Glu Thr Leu Met Ala Pro Val Val Leu Gln Asn Ile Asn Lys Pro Leu
35 40 45

Ala Gln Arg Leu Ala Lys Asp Ser Val Ile Leu Phe Asp Ile Ala Val
50 55 60

Ser Asn Lys Lys Leu Asn Gly Val Trp Arg Asp Ile Ile Arg Leu Gln
65 70 75 80

Ala Asp Asn Pro Arg Leu Leu Ile Ile Asn Ser Ala Gln Lys Tyr Glu
85 90 95

Leu Tyr Glu Met Ala Gln Trp Pro Ala Leu Tyr Gly Val Phe Arg His
100 105 110

Asp Asp Asp Glu Ser Arg Leu Ile Glu Gly Val Lys Ala Val Leu Asn
115 120 125

Gly Glu Gln Thr Ala Glu Leu Ser Val Met His Pro Ala Met Tyr Ala
130 135 140

Ala Asp His Ala Ser Thr Pro Val Glu Asn Ser Pro Leu Thr Glu Arg
145 150 155 160

Glu Cys Glu Ile Leu Asn Glu Leu Arg Cys Gly Ala Thr Asn Leu Asp
165 170 175

Ile Ala Arg Ala Leu Phe Ile Ser Glu Asn Thr Val Arg Thr His Leu
180 185 190

Tyr Asn Val Phe Arg Lys Leu Ser Val Lys Asn Arg Thr Gln Ala Val
195 200 205

Ser Trp Ala Asn Glu His Leu Arg His
210 215

<210> 244
<211> 384
<212> PRT
<213> Klebsiella pneumoniae
<400> 244

Met Ala Lys His Leu Phe Thr Ser Glu Ser Val Ser Glu Gly His Pro
1 5 10 15

Asp Lys Ile Ala Asp Gln Ile Ser Asp Ala Val Leu Asp Ala Ile Leu
20 25 30

Glu Gln Asp Pro Lys Ala Arg Val Ala Cys Glu Thr Tyr Val Lys Thr
35 40 45

Gly Met Val Leu Val Gly Gly Glu Ile Thr Thr Ser Ala Trp Val Asp
50 55 60

Ile Glu Glu Ile Thr Arg Asn Thr Val Arg Glu Ile Gly Tyr Val His
65 70 75 80

Ser Asp Met Gly Phe Asp Ala Asn Ser Cys Ala Val Leu Ser Ala Ile
85 90 95

Gly Lys Gln Ser Pro Asp Ile Asn Gln Gly Val Asp Arg Ala Asp Pro
100 105 110

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Leu Glu Gln Gly Ala Gly Asp Gln Gly Leu Met Phe Gly Tyr Ala Thr
 115 120 125
 Asn Glu Thr Asp Val Leu Met Pro Ala Pro Val Thr Tyr Ala His Arg
 130 135 140
 Leu Val Gln Arg Gln Ala Glu Val Arg Lys Asn Gly Thr Leu Pro Trp
 145 150 155 160
 Leu Arg Pro Asp Ala Lys Ser Gln Val Thr Phe Gln Tyr Asp Asp Gly
 165 170 175
 Lys Ile Val Gly Ile Asp Ala Val Val Leu Ser Thr Gln His Ala Glu
 180 185 190
 Asp Ile Asp Gln Lys Ser Leu Gln Glu Ala Val Met Glu Glu Ile Ile
 195 200 205
 Lys Pro Ile Leu Pro Thr Glu Trp Leu Asn Ala Ser Thr Lys Phe Phe
 210 215 220
 Ile Asn Pro Thr Gly Arg Phe Val Ile Gly Gly Pro Met Gly Asp Cys
 225 230 235 240
 Gly Leu Thr Gly Arg Lys Ile Ile Val Asp Thr Tyr Gly Gly Met Ala
 245 250 255
 Arg His Gly Gly Gly Ala Phe Ser Gly Lys Asp Pro Ser Lys Val Asp
 260 265 270
 Arg Ser Ala Ala Tyr Ala Ala Arg Tyr Val Ala Lys Asn Ile Val Ala
 275 280 285
 Ala Gly Leu Ala Asp Arg Cys Glu Ile Gln Val Ser Tyr Ala Ile Gly
 290 295 300
 Val Ala Glu Pro Thr Ser Ile Met Val Glu Thr Phe Gly Thr Glu Lys
 305 310 315 320
 Val Pro Ser Glu Gln Leu Thr Leu Leu Val Arg Glu Phe Phe Asp Leu
 325 330 335
 Arg Pro Tyr Gly Leu Ile Gln Met Leu Asp Leu Leu His Pro Ile Tyr
 340 345 350
 Lys Glu Thr Ala Ala Tyr Gly His Phe Gly Arg Glu His Phe Pro Trp
 355 360 365
 Glu Lys Thr Asp Lys Ala Ala Leu Leu Arg Glu Ala Ala Gly Leu Lys
 370 375 380

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<210> 245
 <211> 490
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 245

Met Pro Arg Lys Phe Cys Ser Gly Leu Ala Phe Ala Ile Ala Thr Ser
 1 5 10 15

Glu Ala Pro Ile Pro Lys Pro Ile Ser Lys Val Thr Gly Ala Ser Arg
 20 25 30

Pro Asn Arg Ala Ala Lys Ser Ser Gly Ala Ser Leu Asn Ser Thr Pro
 35 40 45

Ile Thr Gly Gln Met Leu Ser Ser Ala Cys Cys Cys Pro Phe Val Arg
 50 55 60

Arg Pro Trp Arg Arg Thr Lys Leu Arg Ile Arg Arg Ser Gly Arg Pro
 65 70 75 80

Phe Ser Ser Asn Ser Gly Glu Met Thr Ser Phe Phe Ile Lys Val Trp
 85 90 95

Ser Ala Cys Glu Cys Val Arg Lys Thr Gly Ile Ile Gln Ser Tyr Ser
 100 105 110

Ala Asp Ala Arg Val Tyr Ser His Ser Pro Leu Cys Cys Asn Leu Pro
 115 120 125

Pro Cys Asn Arg Asp Pro Gly Ala Val Ala Leu Thr Phe Leu Ala Thr
 130 135 140

Gln Phe Ser Ala Gln Val Leu Asp Trp Tyr Asp Lys Tyr Gly Arg Lys
 145 150 155 160

Thr Leu Pro Trp Gln Ile Ala Lys Thr Pro Tyr Lys Val Trp Leu Ser
 165 170 175

Glu Val Met Leu Gln Gln Thr Gln Val Thr Thr Val Ile Pro Tyr Phe
 180 185 190

Glu Arg Phe Met Ala Arg Phe Pro Thr Val Val Asp Leu Ala Asn Ala
 195 200 205

Pro Leu Asp Glu Val Leu His Leu Trp Thr Gly Leu Gly Tyr Tyr Ala
 210 215 220

Arg Ala Arg Asn Leu His Lys Ala Ala Gln Gln Val Ala Thr Leu His
 225 230 235 240

Gly Gly Glu Phe Pro Arg Thr Phe Asp Glu Val Ala Ala Leu Pro Gly
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250

245

255

Val Gly Arg Ser Thr Ala Gly Ala Ile Leu Ser Leu Ser Leu Gly Gln
260 265 270

His Tyr Pro Ile Leu Asp Gly Asn Val Lys Arg Val Leu Ala Arg Cys
275 280 285

Tyr Ala Val Ser Gly Trp Pro Gly Lys Lys Glu Val Glu Lys Arg Leu
290 295 300

Trp Asp Ile Ser Glu Glu Val Thr Pro Ala Glu Gly Val Glu Arg Phe
305 310 315 320

Asn Gln Ala Met Met Asp Leu Gly Ala Met Val Cys Thr Arg Ser Lys
325 330 335

Pro Lys Cys Glu Leu Cys Pro Leu Ser Asn Gly Cys Val Ala Tyr Ala
340 345 350

Asn His Ser Trp Ala Glu Tyr Pro Gly Lys Lys Pro Lys Gln Thr Leu
355 360 365

Pro Glu Arg Thr Gly Tyr Phe Leu Leu Met Gln His Gly Asp Glu Val
370 375 380

Phe Leu Ser Gln Arg Pro Pro Val Gly Leu Trp Gly Gly Leu Phe Cys
385 390 395 400

Phe Pro Gln Phe Ala Asp Glu Ala Glu Leu Arg Glu Trp Leu Ala Gln
405 410 415

Arg Gln Ile Lys Ala Asp Asn Leu Thr Gln Leu Thr Ala Phe Arg His
420 425 430

Thr Phe Ser His Phe His Leu Asp Ile Val Pro Met Trp Leu Thr Val
435 440 445

His Ser Ser Gly Ala Cys Met Asp Glu Gly Asn Ala Leu Trp Tyr Asn
450 455 460

Leu Ala Gln Pro Pro Ser Val Gly Leu Ala Ala Pro Val Glu Arg Leu
465 470 475 480

Leu Gln Gln Leu Lys Ala Gly Ala Pro Val
485 490

<210> 246

<211> 98

<212> PRT

<213> Klebsiella pneumoniae

<400> 246

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Val Thr Tyr Trp Ser Pro Val Ser Ala Trp Asp Val Trp Gly Leu Ala
1 5 10 15

Ile Arg Gln Arg Val Ser Ile Ala Gly Arg Trp Thr Lys Gln Pro Ala
20 25 30

Gly Thr Ser Ser Ala Thr Leu Trp Asn Arg Ala Ser Ile Phe Thr Ile
35 40 45

Pro Pro Ser Pro Ile Arg Thr Ala Pro Ala Asn Gly Thr Leu Ala Gly
50 55 60

Arg Cys Gly Arg Trp Gln Asn Ala Arg Arg Trp Cys Trp Pro Pro Ser
65 70 75 80

Phe Cys His Glu Pro Pro Arg Arg Leu Pro Arg Gly Ser Ala Glu Asn
85 90 95

Arg Leu

<210> 247
<211> 703
<212> PRT
<213> Klebsiella pneumoniae
<400> 247

Met Tyr Met Thr Cys Arg Leu Gly Tyr Ile Val His Thr Phe Phe Arg
1 5 10 15

Arg Ser Pro Lys Arg Ala Leu Val Lys Ser Leu Arg Ala Trp Pro Ser
20 25 30

Thr Val Arg Thr Gly Val Lys Met Ser Ser Arg Lys Glu Leu Ala Asn
35 40 45

Ala Ile Arg Ala Leu Ser Met Asp Ala Val Gln Lys Ala Lys Ser Gly
50 55 60

His Pro Gly Ala Pro Met Gly Met Ala Asp Ile Ala Glu Val Leu Trp
65 70 75 80

Arg Asp Phe Leu Asn His Asn Pro Asn Asn Pro Ala Trp Ala Asp Arg
85 90 95

Asp Arg Phe Val Leu Ser Asn Gly His Gly Ser Met Leu Ile Tyr Ser
100 105 110

Leu Leu His Leu Thr Gly Tyr Asp Leu Pro Ile Glu Glu Leu Lys Asn
115 120 125

Phe Arg Gln Leu His Ser Lys Thr Pro Gly His Pro Glu Val Gly Tyr

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140

130

135

Thr Ala Gly Val Glu Thr Thr Thr Gly Pro Leu Gly Gln Gly Ile Ala
145 150 155 160

Asn Ala Val Gly Met Ala Ile Ala Glu Lys Thr Leu Ala Ala Gln Phe
165 170 175

Asn Arg Pro Gly His Asp Ile Val Asp His Tyr Thr Tyr Ala Phe Met
180 185 190

Gly Asp Gly Cys Met Met Glu Gly Ile Ser His Glu Val Cys Ser Leu
195 200 205

Ala Gly Thr Leu Lys Leu Gly Lys Leu Val Ala Phe Tyr Asp Asp Asn
210 215 220

Gly Ile Ser Ile Asp Gly His Val Glu Gly Trp Phe Thr Asp Asp Thr
225 230 235 240

Ala Lys Arg Phe Glu Ala Tyr Gly Trp His Val Val Arg Gly Val Asp
245 250 255

Gly His Asp Ala Asp Ala Ile Lys Arg Ala Val Glu Glu Ala Arg Ala
260 265 270

Val Thr Asp Lys Pro Ser Leu Leu Met Cys Lys Thr Ile Ile Gly Phe
275 280 285

Gly Ser Pro Asn Lys Ala Gly Thr His Asp Ser His Gly Ala Pro Leu
290 295 300

Gly Asp Ala Glu Ile Ala Leu Thr Arg Glu Ala Leu Gly Trp Lys His
305 310 315 320

Ala Pro Phe Asp Ile Pro Ser Asp Ile Tyr Ala Gln Trp Asp Ala Lys
325 330 335

Glu Ala Gly Gln Ala Lys Glu Ala Ala Trp Asn Glu Lys Phe Ala Ala
340 345 350

Tyr Ala Lys Ala Phe Pro Gln Glu Ala Ala Glu Phe Thr Arg Arg Met
355 360 365

Lys Gly Glu Met Pro Ser Asp Phe Asp Ala Lys Ala Asn Glu Phe Ile
370 375 380

Ala Lys Leu Gln Ala Asn Pro Ala Lys Ile Ala Ser Arg Lys Ala Ser
385 390 395 400

Gln Asn Ala Ile Glu Ala Phe Gly Pro Leu Leu Pro Glu Phe Leu Gly
405 410 415

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Gly Ser Ala Asp Leu Ala Pro Ser Asn Leu Thr Leu Trp Ser Gly Ser
420 425 430

Lys Pro Ile Asn Glu Asp Ala Ala Gly Asn Tyr Ile His Tyr Gly Val
435 440 445

Arg Glu Phe Gly Met Thr Ala Ile Ala Asn Gly Ile Ala Leu His Gly
450 455 460

Gly Phe Leu Pro Tyr Thr Ser Thr Phe Leu Met Phe Val Glu Tyr Ala
465 470 475 480

Arg Asn Ala Val Arg Met Ala Ala Leu Met Lys Gln Arg Gln Val Met
485 490 495

Val Tyr Thr His Asp Ser Ile Gly Leu Gly Glu Asp Gly Pro Thr His
500 505 510

Gln Pro Val Glu Gln Val Ala Ser Leu Arg Val Thr Pro Asn Met Ser
515 520 525

Thr Trp Arg Pro Cys Asp Gln Val Glu Ser Ala Ile Ala Trp Lys Tyr
530 535 540

Gly Val Glu Arg Gln Asp Gly Pro Thr Ala Leu Ile Leu Ser Arg Gln
545 550 555 560

Asn Leu Ala Gln Gln Glu Arg Thr Ala Glu Gln Leu Ala Asn Val Ala
565 570 575

Arg Gly Gly Tyr Val Leu Lys Glu Cys Thr Gly Ser Gln Pro Glu Leu
580 585 590

Ile Phe Ile Ala Thr Gly Ser Glu Val Glu Leu Ala Val Ala Ala Trp
595 600 605

Asp Lys Leu Thr Ala Glu Gly Val Lys Ala Arg Val Val Ser Met Pro
610 615 620

Ser Thr Asp Ala Phe Asp Lys Gln Asp Ala Ala Tyr Arg Glu Ser Val
625 630 635 640

Leu Pro Lys Ala Val Thr Ala Arg Val Ala Val Glu Ala Gly Ile Ala
645 650 655

Asp Tyr Trp Phe Lys Tyr Val Gly Leu Asn Gly Ala Ile Val Gly Met
660 665 670

Thr Thr Phe Gly Glu Ser Ala Pro Ala Glu Gln Leu Phe Glu Glu Phe
675 680 685

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Gly Phe Thr Val Asp Asn Val Val Ala Lys Ala Lys Ala Leu Leu
690 695 700

<210> 248
<211> 253
<212> PRT
<213> Klebsiella pneumoniae

<400> 248

Met Pro Val Phe Arg Thr His Ser Gln Ala Asp Gln Thr Phe Met Lys
1 5 10 15

Asn Asp Val Ile Ser Pro Glu Phe Asp Glu Asn Gly Arg Pro Leu Arg
20 25 30

Arg Ile Arg Ser Phe Val Arg Arg Gln Gly Arg Leu Thr Lys Gly Gln
35 40 45

Gln His Ala Leu Asp Asn Ile Trp Pro Val Met Gly Val Glu Phe Asn
50 55 60

Asp Ala Pro Leu Asp Phe Ala Ala Leu Phe Gly Arg Asp Ala Pro Val
65 70 75 80

Thr Leu Glu Ile Gly Phe Gly Met Gly Ala Ser Leu Val Ala Met Ala
85 90 95

Lys Ala Lys Pro Glu Gln Asn Phe Leu Gly Ile Glu Val His Ser Pro
100 105 110

Gly Val Gly Ala Cys Leu Ala Ser Ala Glu Glu Glu Gly Val Gln Asn
115 120 125

Leu Arg Val Met Cys His Asp Ala Val Glu Val Leu His Thr Met Ile
130 135 140

Pro Asp Asn Ser Leu Asn Met Val Gln Leu Phe Phe Pro Asp Pro Trp
145 150 155 160

His Lys Ala Arg His Asn Lys Arg Arg Ile Val Gln Pro Pro Phe Ala
165 170 175

Glu Leu Val Lys Ser Lys Leu Lys Leu Gly Gly Val Phe His Met Ala
180 185 190

Thr Asp Trp Glu Ala Tyr Ala Val His Met Leu Glu Val Met Ser Ser
195 200 205

Leu Glu Gly Tyr Arg Asn Gln Ser Ala Ser Asn Asp Tyr Val Pro Arg
210 215 220

Pro Glu Ser Arg Pro Val Thr Lys Phe Glu Gln Arg Gly His Arg Leu
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eolf-seq1.app																		
225						230						235						240
Gly	His	Gly	Val	Trp	Asp	Leu	Met	Phe	Glu	Arg	Val	Lys						
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<210>	249																	
<211>	480																	
<212>	PRT																	
<213>	Klebsiella pneumoniae																	
<400>	249																	
Val	Ser	Gln	Ser	Val	Leu	Val	Leu	Gly	Ala	Ser	Gly	Tyr	Ile	Gly	Gln			
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His	Leu	Val	Arg	Glu	Leu	Ser	Ala	Arg	Gly	Tyr	Pro	Val	Leu	Ala	Ala			
			20				25				30							
Ala	Arg	His	Ile	Asp	Arg	Leu	Gln	Lys	Leu	Ala	Leu	Pro	Gly	Val	Thr			
		35			40			45			50			55				
Cys	Arg	Ser	Val	Asp	Leu	Asn	Gln	Pro	Gln	Asp	Leu	Pro	Ala	Leu	Leu			
		50			55			60			65			70				
Thr	Gly	Ile	Asp	Thr	Leu	Tyr	Tyr	Leu	Val	His	Gly	Met	Gly	Glu	Gly			
65				70				75				80						
Gly	Asp	Phe	Ile	Ala	His	Glu	Arg	Arg	Val	Ala	Thr	Tyr	Val	Arg	Asp			
				85				90				95						
Ala	Leu	Arg	Gln	Ser	Ser	Val	Arg	Gln	Val	Ile	Phe	Leu	Ser	Ser	Leu			
			100				105				110							
Gln	Ala	Pro	Ala	Gln	Glu	Gln	Ser	Asp	His	Leu	Arg	Ala	Arg	Gln	Ile			
		115			120			125			130			135				
Thr	Gly	Asp	Leu	Leu	Arg	Glu	Ser	Gly	Val	Pro	Val	Thr	Glu	Leu	Arg			
		130			135			140			145			150				
Ala	Gly	Ile	Ile	Val	Gly	Ala	Gly	Ser	Ala	Ala	Phe	Glu	Val	Met	Arg			
145				150				155				160						
Asp	Met	Val	Tyr	Asn	Leu	Pro	Val	Leu	Thr	Pro	Pro	Arg	Trp	Val	Arg			
				165				170				175						
Ser	Arg	Thr	Thr	Pro	Val	Ala	Leu	Glu	Asn	Leu	Leu	Val	Asp	Leu	Val			
			180				185				190							
Glu	Leu	Leu	Asn	His	Pro	Ser	Asp	Ala	His	Arg	Val	Phe	Glu	Ala	Ala			
		195			200			205			210			215				
Gly	Pro	Glu	Val	Leu	Ser	Tyr	Gln	Gln	Gln	Phe	Ile	Arg	Phe	Met	Ala			
		210			215			220			225			230				

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Val Ser Gly Lys His Arg Pro Leu Ile Pro Ile Pro Leu Pro Thr Arg
225 230 235 240

Trp Ile Ser Val Trp Phe Leu Asn Val Ile Thr Ser Val Pro Pro Thr
245 250 255

Ile Ala Lys Ala Leu Ile Gln Gly Leu Lys His Asp Leu Ile Ala Asp
260 265 270

Asp Arg Ala Leu Arg Ala Leu Ile Pro Gln Thr Leu Ile Pro Phe Asp
275 280 285

Gln Ala Val Arg Arg Thr Leu Lys Glu Glu Glu Gln Leu Val Asn Ser
290 295 300

Ser Asp Trp Gly Tyr Asp Ala Gln Ala Phe Ala Arg Trp Arg Pro Glu
305 310 315 320

Tyr Gly Tyr Tyr Pro Lys Gln Ala Gly Cys Thr Val Ala Thr Gln Ala
325 330 335

Ser Arg Gln Ala Leu Trp Gln Val Val Asn Gln Ile Gly Gly Glu Glu
340 345 350

Gly Tyr Phe Phe Gly Asn Leu Leu Trp Lys Thr Arg Gly Ala Met Asp
355 360 365

Leu Leu Val Gly His Arg Leu Ala Lys Gly Arg Pro Gln Arg Ala Tyr
370 375 380

Leu Gln Thr Gly Asp Thr Val Asp Ser Trp Lys Val Ile Ile Val Glu
385 390 395 400

Glu Glu Lys Gln Leu Thr Leu Leu Phe Gly Met Lys Ala Pro Gly Leu
405 410 415

Gly Arg Leu Ser Phe Thr Ile Asn Asp Lys Gly Asp Arg Arg Glu Leu
420 425 430

Asp Val Arg Ala Trp Trp His Pro His Gly Met Pro Gly Leu Ile Tyr
435 440 445

Trp Leu Leu Met Ile Pro Ala His Leu Phe Ile Phe Arg Gly Met Ala
450 455 460

Gln Arg Ile Ala Arg Leu Ala Glu Gln Ile Ser Gly Arg Val Glu Gly
465 470 475 480

<210> 250
<211> 381
<212> PRT
<213> Klebsiella pneumoniae

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<400> 250

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Met Ser Leu Asn Met Phe Trp Phe Leu Pro Thr His Gly Asp Gly Arg
 1      5      10      15
Tyr Leu Gly Thr Glu Glu Gly Ala Arg Pro Val Asp Tyr Gly Tyr Leu
      20      25      30
Gln Gln Ile Ala Gln Thr Ala Asp Arg Leu Gly Phe Thr Gly Val Leu
      35      40      45
Ile Pro Thr Gly Arg Ser Cys Glu Asp Ala Trp Leu Val Ala Ala Ser
      50      55      60
Met Ile Pro Val Thr Gln Arg Leu Lys Phe Leu Val Ala Leu Arg Pro
65      70      75      80
Ser Val Val Ser Pro Thr Val Ala Ala Arg Gln Ala Ala Thr Leu Asp
      85      90      95
Arg Leu Ser Asn Gly Arg Ala Leu Phe Asn Leu Val Thr Gly Ser Asp
      100      105      110
Pro Ala Glu Leu Ala Gly Asp Gly Val Phe Leu Asp His Thr Glu Arg
      115      120      125
Tyr Glu Ala Ser Ala Glu Phe Thr His Ile Trp Arg Lys Leu Met Glu
      130      135      140
Gly Glu Thr Val Thr Phe Asn Gly Lys His Gln Arg Val Arg Asp Ala
145      150      155      160
Lys Leu Leu Phe Pro Pro Leu Gln Gln Pro Arg Pro Pro Leu Tyr Phe
      165      170      175
Gly Gly Ser Ser Glu Val Ala Gln Glu Leu Ala Ala Glu Gln Val Asp
      180      185      190
Leu Tyr Leu Thr Trp Gly Glu Pro Pro Ala Gln Val Ala Glu Lys Ile
      195      200      205
Ala Gln Val Arg Glu Lys Ala Ala Arg His Gly Arg Gln Val Arg Phe
      210      215      220
Gly Ile Arg Leu His Val Ile Val Arg Glu Thr Asn Glu Glu Ala Trp
225      230      235      240
Gln Ala Ala Asp Ser Leu Ile Ser His Leu Asp Asp Glu Thr Ile Ala
      245      250      255
Arg Ala Gln Ala Ala Phe Ala Arg Thr Asp Ser Val Gly Gln Gln Arg
      260      265      270

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Met Ala Ala Leu His Asn Gly Arg Arg Asp Lys Leu Glu Ile Ser Pro
275 280 285

Asn Leu Trp Ala Gly Val Gly Leu Ala Arg Gly Gly Ala Gly Thr Ala
290 295 300

Leu Val Gly Asp Ala Ala Thr Val Ala Glu Arg Ile Asn Glu Tyr Ala
305 310 315 320

Ala Leu Gly Ile Asp Ser Phe Ile Phe Ser Gly Tyr Pro His Leu Glu
325 330 335

Glu Ala Tyr Arg Val Gly Glu Leu Leu Phe Pro Leu Leu Asp Val Ala
340 345 350

Val Pro Ser Ile Pro Gln Pro Gln Asn Leu Arg Leu Gln Gly Glu Ala
355 360 365

Val Ala Asn Glu Phe Ile Pro Arg Lys Val Ala Gln Ser
370 375 380

<210> 251
<211> 182
<212> PRT
<213> Klebsiella pneumoniae
<400> 251

Val Ala Phe Ala Gly Arg Ser Asn Ala Gly Lys Ser Ser Ala Leu Asn
1 5 10 15

Thr Leu Thr Asn Gln Lys Asn Leu Ala Arg Thr Ser Lys Thr Pro Gly
20 25 30

Arg Thr Gln Leu Ile Asn Leu Phe Glu Val Ala Glu Gly Lys Arg Leu
35 40 45

Val Asp Leu Pro Gly Tyr Gly Tyr Ala Gln Val Pro Glu Glu Met Lys
50 55 60

Ile Lys Trp Gln Arg Ala Leu Gly Glu Tyr Leu Glu Lys Arg Leu Cys
65 70 75 80

Leu Lys Gly Leu Val Val Leu Met Asp Ile Arg His Pro Leu Lys Asp
85 90 95

Leu Asp Gln Gln Met Ile Glu Trp Ala Val Glu Ser Asp Ile Gln Val
100 105 110

Leu Val Leu Leu Thr Lys Ala Asp Lys Leu Ala Ser Gly Ala Arg Lys
115 120 125

Ala Gln Val Asn Met Val Arg Glu Ala Val Leu Ala Phe Asn Gly Asp
130 135 140

Val Gln Val Glu Pro Phe Ser Ser Leu Lys Lys Ser Gly Val Asp Lys
145 150 155 160

Leu Arg Gln Lys Leu Asp Ser Trp Phe Asn Glu Ile Pro Pro Gln Glu
165 170 175

Ala Val Glu Asp Ala Glu
180

<210> 252
<211> 328
<212> PRT
<213> Klebsiella pneumoniae

<400> 252

Met Lys Thr Lys Thr Ser Leu Ile Leu Thr Val Ala Ala Leu Ala Leu
1 5 10 15

Ser Gly Ser Ala Leu Ala Glu Val Lys Ile Ala Leu Val Ala Lys Ser
20 25 30

Leu Gly Asn Gly Phe Phe Glu Ala Ala Asn Val Gly Ala Gln Gln Ala
35 40 45

Ala Lys Glu Leu Gly Asp Val Lys Val Ile Tyr Thr Gly Pro Thr Thr
50 55 60

Thr Thr Ala Glu Ala Gln Ile Asp Val Leu Asn Gly Leu Ile Ala Gln
65 70 75 80

Gly Val Asp Ala Ile Ala Ile Ser Ala Asn Asp Pro Asp Ala Val Val
85 90 95

Pro Val Leu Lys Lys Ala Met Gln Arg Gly Ile Lys Val Val Ser Trp
100 105 110

Asp Ser Gly Val Ala Pro Ala Gly Arg Gln Ile His Leu Asn Pro Ser
115 120 125

Asn Asn Ala Leu Ile Gly Glu Thr Asn Val Lys Leu Ala Ala Asp Ala
130 135 140

Leu Gln Ala Leu Asn Val Glu Lys Gly Glu Val Ala Val Leu Ser Ala
145 150 155 160

Thr Pro Thr Ser Thr Asn Gln Asn Ile Trp Ile Glu Glu Met Lys Lys
165 170 175

Val Leu Pro Gln Tyr Pro Ser Val Gln Leu Val Thr Val Ala Tyr Gly
180 185 190

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Asp Asp Leu Ser Asp Lys Ser Tyr Arg Glu Ala Val Gly Leu Leu Lys
195 200 205

Ser Tyr Pro Asp Leu Lys Val Ile Val Ser Pro Ser Ser Val Gly Ile
210 215 220

Val Ala Ala Ala Gln Ala Val Lys Asp Gln Gly Lys Ile Gly Lys Val
225 230 235 240

Tyr Val Thr Gly Leu Gly Leu Pro Ser Glu Met Ala Gly Ala Ile Lys
245 250 255

Ser Gly Ala Ser Lys Ser Phe Ala Ile Trp Asn Pro Ile Asp Leu Gly
260 265 270

Tyr Ala Ala Thr Tyr Leu Ala Asp Asp Leu Val Lys Gly Thr Ala Thr
275 280 285

Lys Thr Glu Ala Ser Met Gly Lys Leu Gly Lys Val Asn Leu Asp Ala
290 295 300

Glu Gly Asn Gly Ala Met Ala Lys Pro Phe Val Tyr Asp Ala Ser Asn
305 310 315 320

Ile Asp Lys Phe Ser Lys Ile Phe
325

<210> 253
<211> 146
<212> PRT
<213> Klebsiella pneumoniae

<400> 253

Met Leu Gly Trp Val Ile Thr Cys His Asp Glu Leu Ala Gln Glu Met
1 5 10 15

Leu Asp Arg Leu Glu Gln Lys Phe Gly Pro Leu Ala Gln Cys Arg Ala
20 25 30

Val Asn Tyr Trp Arg Asn Leu Ser Ser Asn Met Leu Ser Arg Met Met
35 40 45

Cys Asp Ala Leu His Ala Thr Asp Ser Gly Asp Gly Val Ile Phe Leu
50 55 60

Thr Asp Lys Thr Gly Ala Ala Pro Tyr Arg Ala Ala Ala Leu Met Ser
65 70 75 80

His Lys His Thr His Cys Glu Val Ile Ser Gly Val Ser Tyr Pro Leu
85 90 95

Leu Glu Arg Met Tyr Leu Leu Arg Gly Thr Leu Ser Ser Val Ala Phe
100 105 110

Arg Gln Ala Ile Val Ser Ala Gly Gly Pro Met Val Ser Ser Leu Trp
115 120 125

His Gln Gln Gln Lys Asn Pro Pro Phe Arg Leu Arg His Asp Ala Trp
130 135 140

Gly Asn
145

<210> 254
<211> 221
<212> PRT
<213> Klebsiella pneumoniae

<400> 254

Val Pro Val Gln Cys Lys Gly Phe Leu Phe Asp Leu Asp Gly Thr Leu
1 5 10 15

Val Asp Ser Leu Pro Val Val Glu Arg Ser Trp Cys Lys Trp Gly Asp
20 25 30

Arg Phe Ala Ile Asp His Asp Glu Ile Leu Ser Phe Ile His Gly Lys
35 40 45

Gln Ala Ile Thr Ser Ile Arg His Phe Met Pro Gly Arg Ser Glu Glu
50 55 60

Asp Ile Gln Ala Glu Phe Arg Tyr Leu Glu Gln Ile Glu Ala Thr Asp
65 70 75 80

Ile Glu Gly Ile Val Ala Leu Pro Gly Ala Leu Ala Leu Leu Asn Thr
85 90 95

Leu Asn Glu Ala Gly Ile Pro Trp Ala Ile Val Thr Ser Gly Ser Ile
100 105 110

Pro Val Ala His Ala Arg His Arg Ala Ala Gly Leu Pro Met Pro Glu
115 120 125

Val Phe Val Thr Ala Glu Gln Val Lys His Gly Lys Pro Ala Pro Asp
130 135 140

Ala Tyr Leu Leu Gly Ala Glu Arg Leu Gly Leu Pro Ala Gly Glu Cys
145 150 155 160

Ala Val Val Glu Asp Ala Pro Ala Gly Leu Leu Ser Gly Leu Ala Ala
165 170 175

Gly Cys Arg Thr Ile Ala Val Asn Val Pro Ala Asp Ala Pro Arg Leu
180 185 190

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Asp Glu Ala Asp Leu Val Leu Ser Ser Leu Glu Asp Leu Val Val Glu
195 200 205

Arg Gln Thr Asp Gly Val Val Asn Val Arg Leu Lys Ala
210 215 220

<210> 255
<211> 229
<212> PRT
<213> Klebsiella pneumoniae

<400> 255

Val Ala Ser Lys Phe Gln Asn Arg Leu Val Gly Thr Ile Val Leu Val
1 5 10 15

Ala Leu Gly Val Ile Ile Leu Pro Gly Leu Leu Asp Gly Gln Lys Lys
20 25 30

His Tyr Gln Asp Glu Phe Ala Ala Ile Pro Leu Val Pro Lys Pro Gly
35 40 45

Asp Arg Asp Glu Pro Asp Met Leu Pro Ala Ala Thr Gln Ala Leu Pro
50 55 60

Ser Gln Pro Pro Glu Gly Ala Ala Glu Glu Val Arg Ala Gly Asp Ala
65 70 75 80

Ala Ala Pro Ser Leu Asp Pro Ser Arg Ile Pro Val Asn Ser Asn Ser
85 90 95

Phe Asp Asp Val Gln Glu Pro Val Val Ala Ala Lys Pro Gln Pro Lys
100 105 110

Pro Gln Pro Lys Pro Gln Pro Gln Gln Gln Ala Ser Thr Pro Thr Pro
115 120 125

Pro Pro Ala Lys Pro Gln Gln Gln Gln Pro Pro Gln Gln Gln Ala Ala
130 135 140

Leu Pro Ala Pro Thr Gly Lys Ala Tyr Val Val Gln Leu Gly Ala Leu
145 150 155 160

Lys Asn Ala Asp Lys Val Asn Glu Ile Val Gly Lys Leu Arg Ala Ser
165 170 175

Gly Phe Lys Val Tyr Thr Ser Pro Ser Thr Pro Val Gln Gly Lys Ile
180 185 190

Thr Arg Ile Leu Val Gly Pro Asp Ala Ser Lys Asp Lys Leu Lys Gly
195 200 205

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Gln Leu Gly Asp Leu Gln Gln Ile Ser Gly Leu Ser Gly Val Val Met
 210 215 220

Gly Phe Thr Pro Asn
 225

<210> 256
 <211> 257
 <212> PRT
 <213> Klebsiella pneumoniae
 <400> 256

Val Ala Ile Leu Phe Tyr Gln Gly Thr Ser Ser Met Arg Lys Ile Ala
 1 5 10 15

Leu Phe Ile Ala Met Leu Leu Leu Pro Cys Val Ser Phe Ala Gly Leu
 20 25 30

Leu Ser Ser Asn Ser Pro Thr Thr Pro Val Ser Lys Glu Tyr Lys Gln
 35 40 45

Gln Leu Met Gly Ser Pro Val Tyr Ile Glu Ile Phe Lys Glu Glu Arg
 50 55 60

Met Leu Asp Leu Tyr Val Lys Met Gly Glu Thr Tyr Gln Leu Leu Asp
 65 70 75 80

Ser Tyr Arg Ile Cys Asn Tyr Ser Gly Gly Leu Gly Pro Lys Gln Arg
 85 90 95

Gln Gly Asp Phe Lys Ser Pro Glu Gly Phe Tyr Asn Val Thr Arg Ser
 100 105 110

Gln Leu Lys Pro Asp Ser Arg Phe Tyr Lys Ala Ile Asn Ile Gly Phe
 115 120 125

Pro Asn Ala Tyr Asp Arg Ala His Gly Tyr Glu Gly Lys Tyr Leu Met
 130 135 140

Ile His Gly Asp Cys Val Ser Val Gly Cys Tyr Ala Met Thr Asp Ser
 145 150 155 160

Gly Ile Asp Glu Ile Phe Gln Phe Val Thr Gly Ala Leu Val Phe Gly
 165 170 175

Gln Pro Ser Val Gln Val Ser Ile Tyr Pro Phe Arg Met Thr Asn Ala
 180 185 190

Asn Met Glu Arg His Lys Tyr Ser Tyr Tyr Ala Asp Phe Trp Lys Gln
 195 200 205

Leu Lys Pro Gly Tyr Asp Tyr Phe Gln Gln Thr His Lys Pro Pro Val
 210 215 220

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Val Ser Val Thr Asp Gly Arg Tyr Val Val Ser Lys Pro Leu Ser His
225 230 235 240

Glu Val Val Gln Pro Gln Leu Ala Ser Asn Tyr Thr Leu Pro Glu Thr
245 250 255

Lys

<210> 257
<211> 455
<212> PRT
<213> Klebsiella pneumoniae
<400> 257

Met Lys Ala Arg Ala Ile Leu Leu Ala Ser Val Leu Leu Val Gly Cys
1 5 10 15

Gln Ala Ser Lys His Asp Gly Thr Val Glu Gln Arg Ala Gln Ser Leu
20 25 30

Ser Ala Ala Gly Gln Gly Glu Ala Gly Lys Phe Thr Ser Gln Ala Arg
35 40 45

Trp Leu Asp Asp Gly Thr Phe Tyr Ala Gln Asp Gln Asp Leu Trp Thr
50 55 60

Ser Ile Gly Asp Glu Leu Lys Met Gly Ile Pro Asp Asn Pro Arg Ile
65 70 75 80

Arg Glu Gln Lys Gln Lys Tyr Leu Arg Asn Lys Ser Tyr Leu His Asp
85 90 95

Val Thr Leu Arg Ala Glu Pro Tyr Met Tyr Trp Ile Ala Gly Gln Val
100 105 110

Lys Lys Arg Asn Met Pro Met Glu Leu Val Leu Leu Pro Ile Val Glu
115 120 125

Ser Ala Phe Asp Pro His Ala Thr Ser Gly Ala Asn Ala Ala Gly Ile
130 135 140

Trp Gln Ile Ile Pro Ser Thr Gly Arg Asn Tyr Gly Leu Lys Gln Thr
145 150 155 160

Arg Ser Tyr Asp Ala Arg Arg Asp Val Val Ala Ser Thr Thr Ala Ala
165 170 175

Leu Asp Met Met Gln Arg Leu Asn Lys Met Phe Asp Gly Asp Trp Leu
180 185 190

Leu Thr Val Ala Ala Tyr Asn Ser Gly Glu Gly Arg Val Met Lys Ala
195 200 205

Val Lys Ala Asn Arg Ser Arg Gly Lys Pro Thr Asp Phe Trp Ser Leu
210 215 220

Ser Leu Pro His Glu Thr Lys Ile Tyr Val Pro Lys Met Leu Ala Leu
225 230 235 240

Ser Asp Ile Leu Lys Asn Ser Lys Arg Tyr Gly Val Lys Leu Pro Thr
245 250 255

Ala Asp Glu Ser Arg Ala Leu Ala Arg Val Arg Leu Asp Ser Pro Val
260 265 270

Asp Ile Ser Gln Leu Ala Asp Met Ala Gly Met Pro Val Ser Lys Leu
275 280 285

Lys Thr Phe Asn Ala Gly Val Lys Gly Ser Thr Leu Gly Ala Ser Gly
290 295 300

Pro Lys Tyr Val Met Val Pro Gln Lys His Ala Ala Gln Leu Arg Glu
305 310 315 320

Ser Leu Ala Ser Gly Asp Ile Ala Ala Val Gln Pro Thr Gln Leu Ala
325 330 335

Asp Asn Thr Pro Leu Thr Ser Arg Ser Tyr Lys Val Arg Ser Gly Asp
340 345 350

Thr Ile Ser Gly Ile Ala Ser Arg Leu Gly Val Thr Thr Arg Asp Leu
355 360 365

Gln Gln Trp Asn Asn Leu Arg Gly Ser Gly Leu Lys Val Gly Gln Asn
370 375 380

Leu Val Ile Gly Ala Gly Ser Ser Ala Gln Arg Leu Ala Asn Asn Ser
385 390 395 400

Asp Ser Ile Thr Tyr Arg Val Arg Lys Gly Asp Ser Leu Ser Ser Ile
405 410 415

Ala Lys Arg His Gly Val Asn Ile Arg Asp Val Met Arg Trp Asn Ser
420 425 430

Asp Thr Asp Asn Leu Arg Pro Gly Asp Gln Leu Thr Leu Phe Val Lys
435 440 445

Asn Asn Asp Arg Pro Glu Ser
450 455

<210> 258

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<211> 402

<212> PRT

<213> Klebsiella pneumoniae

<400> 258

Phe Ser Asp Thr Gln Thr His Leu Arg Phe Gly Ala His Asp Phe Thr
1 5 10 15

Ala Gln Arg Val Gly Val Tyr Ile Asp Asp Phe Asp Ile Asp Lys Leu
20 25 30

Thr Asp Glu Val Arg Gly Thr Phe Glu Val Asp His Pro Val Ile Leu
35 40 45

Arg Thr Ser Gly Lys Leu His Asp Val Leu Thr Arg Gly Ala Phe His
50 55 60

Gln Asp Ala Leu Tyr Arg Ala Glu His Ala Thr Ala Pro Gly His Arg
65 70 75 80

Leu Leu Val Asn Ala Phe Leu Gln Asp Ile Gln Thr Leu Phe Phe Val
85 90 95

Arg Leu Arg His Val Val Asp His Ile Gly Arg Arg Gly Ala Arg Ala
100 105 110

Ser Gly Glu Asp Lys Ala Val Ala His Ile Glu Ile Asp Val Gly Asp
115 120 125

Glu Leu His Gly Leu Phe Glu Ile Phe Arg Gly Phe Ala Gly Glu Ala
130 135 140

Asp Asp Lys Val Gly Ala Tyr Leu Asn Ile Arg Ala Arg Phe Thr Gln
145 150 155 160

Leu Ala Asn Asn Arg Phe Ile Leu Gln Arg Gly Met Gly Ala Ser His
165 170 175

Gln Val Gln His Thr Val Gly Ala Thr Leu His Arg Gln Val Gln Glu
180 185 190

Ala His Gln Leu Arg Arg Ile Ala Ile Asn Val Asp Asp Ile Val Gly
195 200 205

Lys Phe Asp Arg Val Ala Gly Gly Glu Ala Asn Ala Val Asp Ala Val
210 215 220

Asp Gly Gly Asp Gln Ala Gln Gln Val Gly Lys Ala Ala Gly Gly Ala
225 230 235 240

Val Val Ile Leu Thr Ala Pro Gly Val Asn Val Leu Pro Gln Gln Ile
245 250 255

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Asp Leu Thr His Thr Leu Arg Arg Gln Leu Gly Asp Phe Lys Gln Asp
260 265 270

Ile Val Ala Arg Thr Ala Asn Phe Phe Ser Ala Gly Ile Arg His His
275 280 285

Ala Val Gly Ala Val Phe Ile Ala Thr Phe His Asn Arg Asp Lys Gly
290 295 300

Gly Arg Pro Phe Gly Ala Arg Leu Trp Gln Ala Ile Glu Phe Phe Asn
305 310 315 320

Phe Arg Glu Ala Asp Ile Asn Tyr Arg Thr Ala Val Ala Ala His Gly
325 330 335

Val Asn His Leu Arg Gln Ala Val Gln Gly Leu Arg Pro Glu Asn Asn
340 345 350

Ile Asp Ile Val Arg Ala Leu Ala Asn Met Val Ala Phe Leu Gly Ser
355 360 365

His Ala Ala Ala Asp Ala Asn Asn Gln Val Arg Val Leu Leu Phe Gln
370 375 380

Gln Leu Pro Ala Ala Lys Leu Met Glu Asn Phe Phe Leu Gly Leu Leu
385 390 395 400

Thr Asn

<210> 259
<211> 512
<212> PRT
<213> Klebsiella pneumoniae
<400> 259

Met Val Phe Ala Ser Leu Leu Glu Arg Gln Arg Val Arg Leu Leu Leu
1 5 10 15

Ala Leu Leu Phe Gly Ala Ser Gly Thr Leu Ala Phe Ser Pro Tyr Asp
20 25 30

Phe Trp Pro Ala Ala Ile Val Ser Leu Ile Gly Leu Gln Ala Leu Thr
35 40 45

Leu Asn Arg Arg Pro Leu Gln Ser Ala Gly Ile Gly Tyr Phe Trp Gly
50 55 60

Leu Gly Leu Phe Gly Thr Gly Ile Asn Trp Val Tyr Val Ser Ile Ala
65 70 75 80

Gln Phe Gly Gly Met Pro Gly Pro Val Asn Val Phe Leu Val Val Leu

Leu Ala Ala Tyr Leu Ser Leu Tyr Thr Gly Leu Phe Ala Gly Leu Leu
100 105 110

Ala Arg Leu Trp Pro Lys Thr Asn Trp Ile Arg Met Ala Ile Ala Ala
115 120 125

Pro Val Val Trp Gln Ile Thr Glu Phe Leu Arg Gly Trp Val Leu Thr
130 135 140

Gly Phe Pro Trp Leu Gln Phe Gly Tyr Ser Gln Ile Asp Gly Pro Leu
145 150 155 160

Lys Gly Leu Ala Pro Val Met Gly Val Glu Ala Ile Asn Phe Leu Leu
165 170 175

Met Val Val Ser Gly Leu Leu Ala Leu Ala Leu Val Gln Arg Asn Trp
180 185 190

Lys Pro Leu Ala Ile Ala Ala Leu Leu Phe Ala Leu Pro Phe Pro Leu
195 200 205

Arg Tyr Ile Gln Trp Tyr Gln Leu Leu Pro Ala Arg Ala Thr Gln Val
210 215 220

Ser Leu Val Gln Gly Asp Ile Pro Gln Ala Met Lys Trp Asp Glu Lys
225 230 235 240

Gln Leu Val Asn Thr Leu Lys Thr Tyr Leu Ala Leu Thr Gln Pro His
245 250 255

Ile Gly His Ser Gln Leu Ile Ile Trp Pro Glu Ser Ala Ile Pro Asp
260 265 270

Leu Glu Ile Asn Gln Gln Gln Phe Leu Ser Met Met Asp Asp Leu Leu
275 280 285

Arg Ala Lys Asp Ser Ser Leu Ile Thr Gly Ile Val Asp Ala Arg Leu
290 295 300

Asn Lys Gln Asn Arg Tyr Asp Thr Tyr Asn Thr Ile Ile Thr Leu Gly
305 310 315 320

Lys Asp Asn Pro Tyr Arg Tyr Asp Ser Thr Asn Arg Tyr Asn Lys Asn
325 330 335

His Leu Val Pro Phe Gly Glu Phe Val Pro Leu Glu Ser Ile Leu Arg
340 345 350

Pro Leu Ala Pro Phe Phe Asp Leu Pro Met Ser Ser Phe Ser Arg Gly
355 360 365

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Pro Tyr Val Gln Pro Gln Leu Met Ala His Asn Leu Lys Leu Thr Ala
370 375 380

Ala Ile Cys Tyr Glu Ile Ile Leu Gly Glu Gln Val Arg Asp Asn Phe
385 390 395 400

Arg Pro Asp Thr Asp Phe Leu Leu Thr Ile Ser Asn Asp Ala Trp Phe
405 410 415

Gly Lys Ser Ile Gly Pro Trp Gln His Phe Gln Met Ala Arg Met Arg
420 425 430

Ala Leu Glu Leu Ala Arg Pro Leu Leu Arg Ser Thr Asn Asn Gly Ile
435 440 445

Thr Ala Val Ile Gly Pro Arg Gly Glu Ile Gln Lys Met Ile Pro Gln
450 455 460

Phe Thr Arg Glu Val Leu Thr Thr Thr Val Thr Pro Ala Ser Gly Leu
465 470 475 480

Thr Pro Tyr Ala Arg Thr Gly Asn Trp Pro Leu Trp Ala Leu Thr Ala
485 490 495

Leu Phe Gly Phe Ala Ala Leu Leu Met Ser Leu Arg Gln Arg Arg Arg
500 505 510

<210> 260
<211> 310
<212> PRT
<213> Klebsiella pneumoniae

<400> 260

Met Leu Lys Phe Ile Arg Ala Gly Met Tyr Thr Ser Val Gln Asp Gly
1 5 10 15

Gly Arg Glu Gly Gln Arg Gln Trp Gly Ile Ser Arg Cys Gly Ala Leu
20 25 30

Asp Lys Pro Ala Met Thr Ile Ala Asn Leu Leu Val Gly Asn Ala Pro
35 40 45

Glu Ala Ala Ala Leu Glu Ile Thr Leu Gly Gln Val Asp Val Gln Phe
50 55 60

Thr Arg His Cys Trp Phe Ala Leu Thr Gly Ala Ala Cys Glu Ala Thr
65 70 75 80

Leu Asp Gly Ala Pro Val Trp Leu Gly Trp Arg Met Glu Ala Lys Ala
85 90 95

Gly Gln Arg Leu Val Leu Lys Asn Pro Gln His Gly Ile Arg Ser Tyr
100 105 110

Leu Ala Val Ala Gly Gly Ile Asp Val Pro Glu Val Leu Gly Ser Arg
115 120 125

Ser Thr Asp Leu Lys Val Gly Ile Gly Gly Ile Glu Gly Arg Arg Leu
130 135 140

Gln Asp Gly Asp Gln Val Lys Ile Gly Lys Ser Ser Arg Arg Phe Ser
145 150 155 160

Ser Ser Arg Gly Val Lys Gln Leu Pro Ile Gly Asn Ile Ile Arg Ala
165 170 175

Leu Pro Gly Pro Glu Tyr His Glu Phe Asp Ser Val Ser Gln Glu Ser
180 185 190

Phe Trp Arg Ser Pro Trp Lys Leu Ser Pro Gln Ser Asn Arg Met Ala
195 200 205

Tyr Arg Leu Gln Gly Gln Pro Leu Arg Arg Thr Thr Asp Arg Glu Met
210 215 220

Leu Ser His Gly Leu Leu Pro Gly Val Val Gln Val Pro His Asn Gly
225 230 235 240

Gln Pro Ile Val Leu Met Asn Asp Ala Gln Thr Thr Gly Gly Tyr Pro
245 250 255

Arg Ile Ala Cys Ile Ile Glu Ala Asp Ile Tyr Gln Leu Ala Gln Ile
260 265 270

Pro Leu Gly Gln Pro Ile His Phe Val Pro Cys Ser Leu Glu Glu Ala
275 280 285

Leu Lys Ala Arg Ala Asp Gln Gln Arg Tyr Leu Glu Gln Leu Ala Trp
290 295 300

Arg Leu Ser Asp Glu Asn
305 310

<210> 261
<211> 760
<212> PRT
<213> Klebsiella pneumoniae

<400> 261

Met Arg Ala Ala Phe Pro Glu Ser Ser Ser Leu Pro Phe Arg Gln Arg
1 5 10 15

Leu Leu Tyr Leu Pro Val Tyr Val Ala Thr Glu Val Pro Met Pro Trp
20 25 30

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Ile Leu Leu Leu Leu Ala Ala Leu Phe Thr Ala Pro Leu Ser Ala Ala
35 40 45

Thr Leu Pro Gly Val Pro Thr Ala Asn Thr Asp Lys Asn Ser Ala Ser
50 55 60

Glu Pro Asp Val Glu Gln Lys Arg Ala Ala Tyr Ala Ala Leu Ala Asp
65 70 75 80

Val Leu Ala Asn Asp Ser Ala Arg Gln Glu Leu Ile Asp Gln Leu Arg
85 90 95

Lys Ala Ala Ala Thr Pro Pro Pro Asp Ser Thr Pro Thr Leu Thr Pro
100 105 110

Pro Ala Val Lys Glu Glu Thr Thr Val Leu Glu Asn Val Thr Gln Ile
115 120 125

Ser Arg Glu Tyr Gly Glu Gln Leu Ser Ser Arg Phe Ser Gln Leu Trp
130 135 140

Arg Asn Ile Thr Gly Ser Pro His Lys Pro Phe Asn Pro Gln Thr Phe
145 150 155 160

Thr Ser Ala Ala Trp His Phe Leu Leu Leu Ala Gly Leu Val Phe Ala
165 170 175

Phe Trp Trp Leu Val Arg Leu Ala Ala Leu Pro Leu Tyr Arg Lys Met
180 185 190

Gly Glu Trp Gly Arg His Lys Asn Arg Asp Arg Gly Asn Trp Leu Gln
195 200 205

Leu Pro Leu Thr Ile Ala Gly Ala Phe Ile Ile Asp Leu Leu Leu Leu
210 215 220

Ala Leu Thr Leu Phe Val Gly Gln Leu Leu Ser Asp Arg Leu Asn Gly
225 230 235 240

Asn Asn Pro Thr Ile Ala Phe Gln Gln Ser Leu Phe Leu Asn Ala Phe
245 250 255

Ala Leu Ile Glu Phe Phe Lys Ala Ile Leu Arg Leu Ile Phe Cys Pro
260 265 270

Arg Ile Pro Ala Leu Arg Pro Phe Asn Leu Ser Asp Glu Ala Ala Ser
275 280 285

Tyr Trp Ser Leu Arg Leu Ser Ala Leu Ser Ser Leu Ile Gly Tyr Gly
290 295 300

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Leu Ile Val Ala Val Pro Ile Ile Ser Asn Gln Val Asn Val Gln Val
 305 310 315 320
 Gly Ala Leu Ala Asn Val Val Ile Met Leu Cys Ile Thr Leu Trp Ala
 325 330 335
 Leu Tyr Leu Ile Phe His Asn Lys Ala Val Ile Thr Gln Gly Leu Ile
 340 345 350
 His Leu Ala Asp His Ser Leu Ala Phe Phe Ser Leu Phe Ile Arg Ala
 355 360 365
 Phe Ala Leu Val Trp His Trp Leu Ala Cys Ala Tyr Phe Val Val Leu
 370 375 380
 Phe Phe Phe Ser Leu Phe Asp Pro Gly Asn Ser Leu Lys Phe Met Met
 385 390 395 400
 Gly Ala Thr Leu Gln Ser Leu Ala Ile Ile Gly Gly Ala Ala Leu Val
 405 410 415
 Ser Gly Ile Leu Ser Arg Trp Ile Ala Lys Thr Ile Thr Leu Ser Pro
 420 425 430
 Ala Thr Gln Arg Asn Tyr Pro Glu Leu Gln Lys Arg Leu Asn Gly Trp
 435 440 445
 Ile Ser Ala Ser Leu Lys Ala Ala Arg Ile Leu Thr Val Cys Val Ala
 450 455 460
 Ile Met Leu Leu Leu Ser Ala Trp Gly Leu Phe Asp Phe Arg Glu Trp
 465 470 475 480
 Leu His Asn Asp Ala Gly Gln Lys Thr Val Asp Val Leu Ile Arg Ile
 485 490 495
 Ala Leu Ile Leu Phe Phe Ser Ala Ile Gly Trp Thr Val Leu Ala Ser
 500 505 510
 Leu Ile Glu Asn Arg Leu Ala Ser Asp Ile His Gly Arg Pro Leu Pro
 515 520 525
 Ser Ala Arg Ala Arg Thr Leu Leu Thr Leu Phe Arg Asn Ala Leu Ala
 530 535 540
 Val Val Ile Ser Thr Ile Thr Val Met Ile Leu Leu Ser Glu Ile Gly
 545 550 555 560
 Val Asn Ile Ala Pro Leu Leu Ala Gly Ala Gly Ala Leu Gly Leu Ala
 565 570 575

Ile Ser Phe Gly Ala Gln Thr Leu Val Lys Asp Ile Ile Thr Gly Ile
580 585 590

Phe Ile Gln Phe Glu Asn Gly Met Asn Thr Gly Asp Leu Val Thr Ile
595 600 605

Gly Pro Leu Thr Gly Thr Val Glu Arg Met Ser Ile Arg Ser Val Gly
610 615 620

Val Arg Gln Asp Thr Gly Ala Tyr His Ile Ile Pro Trp Ser Ser Ile
625 630 635 640

Thr Thr Phe Ala Asn Phe Val Arg Gly Ile Gly Ser Val Val Ala Asn
645 650 655

Tyr Asp Val Asp Arg His Glu Asp Leu Asp Lys Ala Ser Gln Ala Leu
660 665 670

Lys Ala Ala Val Asp Asp Leu Leu Ala Gln Glu Glu Ile Arg Gly Leu
675 680 685

Ile Ile Gly Glu Pro Ser Phe Ala Gly Leu Val Gly Leu Ser Asn Thr
690 695 700

Ala Phe Thr Leu Arg Val Ser Phe Thr Thr Leu Pro Leu Lys Gln Trp
705 710 715 720

Thr Val Arg Phe Ala Leu Asp Thr Gln Val Lys Lys His Phe Asp Arg
725 730 735

Ala Gly Val Arg Ala Pro Val Gln Thr Trp Gln Gln Leu Pro Met Pro
740 745 750

Gly Ala Asp Ser Pro Ala Ala Glu
755 760

<210> 262
<211> 769
<212> PRT
<213> Klebsiella pneumoniae

<400> 262

Met Lys Lys Gln His Asn Tyr Thr Val Met His Trp Gly Thr Trp Gln
1 5 10 15

Val Glu Ser Arg Glu Gly Glu Ile Val Ala Val Lys Pro Val Pro Trp
20 25 30

Asp Lys Asn Pro Ser Arg Ile Gly Gln Ser Leu Pro Asp Ala Val Thr
35 40 45

Ser Gln Thr Arg Ile Arg Arg Pro Ala Val Arg Ala Gly Tyr Leu Gln
50 55 60

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His Gly Pro Ala Ser Arg Glu Gly Arg Gly Lys Glu Pro Phe Val Glu
 65 70 75 80
 Val Ser Trp Glu Val Ala Leu Asp Leu Leu Ala Arg Glu Leu Arg Ser
 85 90 95
 Val Lys Ala Arg Cys Gly Asn Glu Ala Ile Tyr Gly Gly Ser Tyr Gly
 100 105 110
 Trp Ala Ser Ala Gly Arg Phe His His Ala Gln Ser Gln Leu His Arg
 115 120 125
 Phe Leu Lys Gly Phe Gly Gly Tyr Thr Ala Ser Thr Asn Thr Tyr Ser
 130 135 140
 Ser Ala Ala Gly Glu Arg Ile Leu Pro His Ile Leu Gly Pro Leu Ser
 145 150 155 160
 Pro Leu His Arg Gln His Thr His Phe Ser Glu Leu Ala Arg Glu Cys
 165 170 175
 Gln Leu Phe Val Ala Ile Gly Gly Leu Pro Leu Arg Asn Ala Gln Val
 180 185 190
 Asn Gly Gly Gly Ala Asn Asp His Met Leu Gln Tyr Trp Leu Asp Lys
 195 200 205
 Met Gln Ala Asn Gly Thr Arg Phe Ile Asn Ile Ser Pro Val Arg Asn
 210 215 220
 Asp Leu Ser Ala Val Pro Asp Ala Glu Trp Leu Ala Ile Arg Pro Gly
 225 230 235 240
 Thr Asp Ile Ala Leu Leu Leu Ala Leu Ser Tyr Val Leu Ile Ala Glu
 245 250 255
 Ser Leu Tyr Asp Gln Ala Phe Val Ala Ser His Thr Val Gly Phe Ala
 260 265 270
 Pro Tyr Arg Ala Tyr Leu Leu Gly Glu His Asp Gly Val Ala Lys Thr
 275 280 285
 Pro Ala Trp Ala Ala Ala Ile Thr Gly Leu Asp Ala Gln Arg Ile Ala
 290 295 300
 Asp Leu Ala Arg Glu Met Ala Arg His Arg Thr Met Val Asn Ile Ser
 305 310 315 320
 Trp Ser Ile Gln Arg Ala Arg Gln Gly Glu Gln Ala Tyr Trp Ala Thr
 325 330 335

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Val Ala Leu Thr Ala Leu Leu Gly Gln Leu Gly Thr Pro Gly Gly Gly
340 345 350

Leu Gly Phe Gly Tyr Ala Cys Thr Asn Leu Ala Gly Ala Val Arg Lys
355 360 365

Ala Phe Ser Gly Pro Arg Leu Pro Ala Gly Glu Asn Ala Val Asp Ser
370 375 380

Val Ile Pro Val Ala Arg Leu Ser Asp Met Leu Leu His Pro Gly Glu
385 390 395 400

Thr Tyr Glu Phe Asp Gly Gln Gln Arg Arg Tyr Pro Asp Ile Arg Leu
405 410 415

Val Tyr Trp Ala Gly Gly Asn Ala Phe His His His Gln Asp Ile Asn
420 425 430

Arg Leu Cys Glu Ala Trp Arg Arg Pro Glu Thr Val Val Val His Glu
435 440 445

Gln Tyr Trp Thr Ala Gln Ala Lys Phe Ser Asp Ile Val Leu Pro Ala
450 455 460

Thr Thr Ser Leu Glu Arg Glu Asp Ile Gly Ser Gly Gly His Asp Gly
465 470 475 480

Phe Met Ile Ala Met Ser Ala Gln Ile Pro Pro Val Gly Glu Ala Arg
485 490 495

Asp Asp Tyr Ala Ile Phe Cys Asp Leu Ala Gly Arg Leu Gly Phe Gly
500 505 510

Glu Ala Phe Ser Glu Gly Arg Asp Ala Gly Gln Trp Leu Arg His Leu
515 520 525

Tyr Glu Glu Ser Arg Pro Arg Ala Gln Glu Glu Gly Ile Ala Leu Pro
530 535 540

Ser Phe Asp Asp Phe Trp Gln Gln Gly Val Leu Glu Tyr Ser Ala Pro
545 550 555 560

Glu Arg Pro Gln Ile Phe Leu Ala Asp Phe Arg Ala Asp Pro Gln Arg
565 570 575

Tyr Pro Leu Ser Thr Pro Ser Gly Lys Ile Glu Leu Phe Ser Ala Thr
580 585 590

Val Ala Gly Phe Gly Tyr Arg Glu Cys Pro Gly His Pro Trp Trp Asp
595 600 605

Glu Gln Glu Ala Ala Arg Gln Arg Gln Glu Ala Ala Arg Trp Pro Leu
610 615 620

His Leu Leu Ser Ser Gln Pro Arg Ala Arg Leu His Ser Gln Tyr Asp
625 630 635 640

His Gly Ser Val Ser Arg Ala Thr Lys Val Gln Gly Arg Glu Pro Leu
645 650 655

Trp Met His Pro Ser Asp Ala Gln Ala Arg Asp Ile Arg Glu Gly Ser
660 665 670

Val Val Lys Val Tyr Asn Asp Arg Gly Ala Ile Leu Ala Gly Val His
675 680 685

Leu Ser Glu Gln Ile Leu Pro Gly Val Val Gln Met Ser Thr Gly Ala
690 695 700

Trp Tyr Asp Pro Leu Asp Pro Lys Glu Glu Arg Ser Leu Asp Lys His
705 710 715 720

Gly Asn Pro Asn Val Leu Thr Glu Asp Arg Gly Ser Ser Arg Leu Gly
725 730 735

Gln Gly Cys Ser Ala Gln Ser Cys Trp Val Glu Ile Ala Pro Trp Arg
740 745 750

Glu Glu Leu Pro Pro Ile Thr Ala Phe Asp Pro Pro Lys Phe Ile Glu
755 760 765

Val

<210> 263
<211> 248
<212> PRT
<213> Klebsiella pneumoniae

<400> 263

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

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Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 264

<211> 421

<212> PRT

<213> Klebsiella pneumoniae

<400> 264

Met Ala Ala Leu Pro Thr His Glu Thr Leu Pro Ala Asp His Lys Ala
1 5 10 15

Ala Ile Arg Gln Met Lys Gln Ala Leu Arg Ala Gln Ile Gly Asp Val
20 25 30

Gln Ala Val Phe Asp Lys Leu Ser Ala Arg Ile Ser Glu Arg Leu Gln
35 40 45

Glu Ile Glu Thr Leu Lys Ala Ala Gly Gln Glu Val Trp Pro Thr Val
50 55 60

Pro Phe Arg Asp Ile Ala Glu Gly Thr Val Ser Asp Glu Gln Arg Ala
65 70 75 80

Ala Ile Lys Arg Arg Gly Cys Ala Val Ile Lys Gly His Phe Pro Arg
85 90 95

Glu Gln Ala Leu Ala Trp Asp Thr Ala Met Leu Glu Tyr Leu Asp Arg
100 105 110

Asn His Phe Asp Asp Val Tyr Lys Gly Pro Gly Asp Ser Phe Phe Gly
115 120 125

Ser Leu Glu Ala Ser Arg Pro Glu Ile Tyr Pro Ile Tyr Trp Ser Pro
130 135 140

Ser Gln Met Gln Ala Arg Gln Ser Asp Glu Met Ala Ala Val Gln Ser
145 150 155 160

Phe Leu Asn Arg Leu Trp Arg Phe Glu Gln Asn Gly Lys Arg Trp Phe
165 170 175

Asp Pro Asp Val Ser Val Ile Tyr Pro Asp Arg Ile Arg Arg Arg Pro
180 185 190

Pro Gly Thr Thr Ser Lys Gly Leu Gly Ala His Thr Asp Ser Gly Ala
195 200 205

Leu Glu Arg Trp Leu Leu Pro Ala Tyr Gln Gln Val Phe Ala Asn Val
210 215 220

Phe Asn Gly Asn Ile Asp Ala Tyr Asp Pro Trp Asp Ala Ala His Arg
225 230 235 240

Thr Glu Val Glu Glu Tyr Thr Val Asp Asn Thr Thr Lys Cys Ser Val
245 250 255

Phe Arg Thr Phe Gln Gly Trp Thr Ala Leu Ser Asp Met Ile Pro Gly
260 265 270

Gln Gly Leu Leu His Val Val Pro Ile Pro Glu Ala Met Ala Tyr Val
275 280 285

Leu Leu Arg Pro Leu Leu Asp Asp Val Pro Glu Asp Glu Leu Cys Gly
290 295 300

Val Ala Pro Gly Arg Val Leu Pro Ile Ser Glu Gln Trp His Pro Leu
305 310 315 320

Leu Ile Lys Ala Leu Ser Ser Ile Pro Ala Leu Asn Ala Gly Asp Ser
325 330 335

Val Trp Trp His Cys Asp Ile Ile His Ser Val Ala Pro Val Glu Asn

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340

345

350

Gln Gln Gly Trp Gly Asn Val Met Tyr Ile Pro Ala Ala Pro Met Cys
355 360 365

Glu Lys Asn Leu Ala Tyr Ala Gln Lys Val Lys Ile Ala Leu Glu Lys
370 375 380

Gly Ala Ser Pro Gly Asp Phe Pro Arg Glu Asp Tyr Glu Ala Ser Trp
385 390 395 400

Gln Gly Arg Phe Thr Leu Glu Asp Leu Asn Ile His Gly Lys Arg Ala
405 410 415

Leu Gly Met Pro Val
420

<210> 265
<211> 323
<212> PRT
<213> Klebsiella pneumoniae

<400> 265

Met Ala Asp Phe Pro Pro Val Ala Ser Leu Arg Ser Phe Glu Ala Val
1 5 10 15

Ala Arg Leu Gly Ser Val Thr Gln Ala Ala His Glu Met Ser Val Thr
20 25 30

His Ser Ala Val Ser Gln His Ile Lys Gln Leu Glu Ala Leu Val Gly
35 40 45

Val Thr Leu Phe Ile Arg His Gly Arg Gly Val Arg Ile Thr Glu Glu
50 55 60

Gly Arg Leu Tyr Ala Leu Gln Ile Arg Glu Ala Leu Gln His Ile Ala
65 70 75 80

Asp Ala Thr Arg Met Val Gln Ile Lys Pro Arg Thr Leu Glu Val Thr
85 90 95

Leu Ala Thr Ile Pro Ser Phe Gly Cys His Trp Leu Leu Pro Arg Leu
100 105 110

Ala Arg Phe Gln Ala Arg His Pro Gln Ile Ala Val Arg Leu Leu Thr
115 120 125

Ser Leu Ala Val Val Asn Leu Gln Gln Glu Gly Ile Asp Leu Ala Ile
130 135 140

Arg Met Gly Gln Gly Asp Trp Glu Gly Met Glu Ser Arg His Leu Phe
145 150 155 160

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Ala Asp Glu Gln Leu Val Val Ala Ala Pro Gly Tyr Arg Gly Gly Asn
165 170 175

Leu Pro Thr Thr Pro Gln Ala Ile Ala Ala Ser Asp Ile Ile Phe Ser
180 185 190

Met Glu Ser Trp His Ala Trp Cys Ser Gln Ala Gly Leu Glu Lys Pro
195 200 205

Ile Val Pro Ala Gly Leu Arg Leu Asn Asp Ser Asn Leu Val Leu Glu
210 215 220

Ala Val Arg Leu Gly Ala Gly Val Ala Leu Glu Arg Arg Ser Leu Val
225 230 235 240

Ala Gly Ala Ile Ala Arg Gly Glu Leu Val Gln Leu Thr Ala Val Thr
245 250 255

Val Pro Tyr Pro Trp His Tyr Trp Leu Thr Val Ser Pro Gln Ala Glu
260 265 270

Asn Arg Pro Glu Val Ala Arg Phe Ile Ala Trp Leu Glu Glu Glu Ile
275 280 285

Ala Leu Trp Arg Gln Gln Ile Ser Ala Tyr Leu Arg Arg Arg Arg Gln
290 295 300

Ala Val Arg Ala Ala Cys Ser Trp Glu Arg Arg Gln Lys Ser Cys Pro
305 310 315 320

Ala Gly Tyr

<210> 266
<211> 221
<212> PRT
<213> Klebsiella pneumoniae

<400> 266

Met Arg Asn Gln Pro Leu Gly Asn Leu Ala Ala Gly Ala Val Asp His
1 5 10 15

Val Asn His Pro Ile Arg Asp Thr His Arg Phe Cys Gln Leu Arg His
20 25 30

Ala Gln Gln Arg Gln Arg Arg Ile Phe Ala Arg Leu Glu Asp Asp Gly
35 40 45

Ala Ala Ala Asp Gln Gly Arg Arg Gln Leu Pro Asp Gly Asn His Asp
50 55 60

Gly Glu Val Pro Arg His Asp Ala Asn His His Pro Gln Arg Leu Ala
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Ala Pro Phe Asn Phe Met Asn Asn Gly Gln Ala Asp Gly Phe Asn Lys
100 105 110

Asp Met Leu Glu Glu Leu Arg Lys Tyr Ala Lys Phe His Val Asp Gln
115 120 125

Ser Ile Leu Pro Trp Thr Gly Leu Leu Ala Ala Val Ser Thr Gly Gln
130 135 140

Tyr Asp Met Ala Leu Thr Gly Ala Val Ile Thr Asp Glu Arg Leu Lys
145 150 155 160

Val Phe Asp Phe Thr Pro Pro Trp Ala Ser Ala Gln His Tyr Phe Val
165 170 175

Lys Arg Ala Gly Asp Thr Ser Leu Asn Thr Ile Ala Asp Leu Ser Gly
180 185 190

Lys Lys Val Gly Val Gln Ala Gly Ser Ala Leu Leu Ala Arg Leu Pro
195 200 205

Glu Leu Lys Ala Met Leu Glu Lys Thr Gly Gly Lys Leu Gly Pro Val
210 215 220

Val Glu Tyr Pro Ser Tyr Pro Glu Ala Tyr Ala Asp Leu Ala Asn Lys
225 230 235 240

Arg Leu Asp Tyr Val Ile Asn Val Val Ile Ser Val Asn Asp Leu Ala
245 250 255

Lys Ala Lys Pro Lys Val Phe Ala Lys Gly Leu Ala Val Ser Gly Pro
260 265 270

Gly Tyr Met Ala Trp Pro Ile Pro Lys Asn Ser Pro Gln Leu Leu Ala
275 280 285

Tyr Met Thr Arg Phe Met Asn His Met Lys Glu Thr Gly Lys Leu Ala
290 295 300

Glu Leu Gln Lys Lys Trp Phe Gly Glu Thr Tyr Asp Asn Leu Pro Thr
305 310 315 320

Glu Ala Ile Thr Ser Pro Glu Gln Phe His Lys Leu Ala Gly Leu
325 330 335

<210> 268

<211> 633

<212> PRT

<213> Klebsiella pneumoniae

<400> 268

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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1	5	10	15
Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr	20	25	30
Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp	35	40	45
Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile	50	55	60
Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala	65	70	75
Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp	85	90	95
Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr	100	105	110
Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg	115	120	125
Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala	130	135	140
Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly	145	150	155
Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile	165	170	175
Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys	180	185	190
Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu	195	200	205
Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr	210	215	220
Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys	225	230	235
Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu	245	250	255
Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala	260	265	270
Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser	275	280	285

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Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525
 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540
 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560

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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 269
<211> 742
<212> PRT
<213> Klebsiella pneumoniae

<400> 269

Met Asn Asn Arg Ile Lys Ser Leu Ala Leu Leu Val Asn Leu Gly Ile
1 5 10 15

Tyr Gly Val Ala Phe Pro Leu Ser Ala Ala Glu Thr Ala Thr Asp Asp
20 25 30

Lys Asn Ser Ala Ala Glu Glu Thr Met Val Val Thr Ala Ala Glu Gln
35 40 45

Asn Leu Gln Ala Pro Gly Val Ser Thr Ile Thr Ala Asp Glu Ile Arg
50 55 60

Lys Arg Pro Pro Ala Arg Asp Val Ser Glu Ile Ile Arg Thr Met Pro
65 70 75 80

Gly Val Asn Leu Thr Gly Asn Ser Thr Ser Gly Gln Arg Gly Asn Asn
85 90 95

Arg Gln Ile Asp Ile Arg Gly Met Gly Pro Glu Asn Thr Leu Ile Leu
100 105 110

Ile Asp Gly Lys Pro Val Thr Ser Arg Asn Ser Val Arg Leu Gly Trp
115 120 125

Arg Gly Glu Arg Asp Thr Arg Gly Asp Thr Ser Trp Val Pro Pro Glu
130 135 140

Met Ile Glu Arg Ile Glu Val Ile Arg Gly Pro Ala Ala Ala Arg Tyr
145 150 155 160

Gly Asn Gly Ala Ala Gly Gly Val Val Asn Ile Ile Thr Lys Lys Thr
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165

170

175

Gly Asp Glu Trp His Gly Ser Trp Asn Thr Tyr Met Asn Ala Pro Glu
180 185 190

His Lys Asp Glu Gly Ser Thr Lys Arg Thr Asn Phe Ser Leu Ser Gly
195 200 205

Pro Leu Gly Gly Asp Phe Ser Phe Arg Leu Phe Gly Asn Leu Asp Lys
210 215 220

Thr Gln Ala Asp Ala Trp Asp Ile Asn Gln Gly His Gln Ser Glu Arg
225 230 235 240

Thr Gly Ile Tyr Ala Asp Thr Leu Pro Ala Gly Arg Glu Gly Val Lys
245 250 255

Asn Lys Asn Ile Asp Gly Leu Val Arg Trp Glu Phe Ala Pro Met Gln
260 265 270

Ser Leu Glu Phe Glu Ala Gly Tyr Ser Arg Gln Gly Asn Leu Tyr Ala
275 280 285

Gly Asp Thr Gln Asn Thr Asn Ser Asn Asp Leu Val Lys Glu Asn Tyr
290 295 300

Gly Lys Glu Thr Asn Arg Leu Tyr Arg Asn Thr Tyr Ser Val Thr Trp
305 310 315 320

Asn Gly Ala Trp Asp Asn Gly Val Thr Thr Ser Asn Trp Ala Gln Tyr
325 330 335

Glu Arg Thr Arg Asn Ser Arg Lys Gly Glu Gly Leu Ala Gly Gly Thr
340 345 350

Glu Gly Ile Phe Asn Ser Asn Gln Phe Thr Asp Ile Asp Leu Ala Asp
355 360 365

Val Met Leu His Ser Glu Val Ser Ile Pro Phe Asp Tyr Leu Val Asn
370 375 380

Gln Asn Leu Thr Leu Gly Ser Glu Trp Asn Gln Gln Arg Met Lys Asp
385 390 395 400

Asn Ala Ser Asn Thr Gln Ala Leu Ser Gly Gly Glu Ile Pro Gly Tyr
405 410 415

Asp Ser Thr Gly Arg Ser Pro Tyr Ser Gln Ala Glu Ile Phe Ser Leu
420 425 430

Phe Ala Glu Asn Asn Met Glu Leu Thr Asp Thr Thr Met Leu Thr Pro
435 440 445

eo1f-seq1.app

Ala Leu Arg Phe Asp His His Ser Ile Val Gly Asn Asn Trp Ser Pro
450 455 460

Ser Leu Asn Leu Ser Gln Gly Leu Trp Asp Asp Phe Thr Leu Lys Met
465 470 475 480

Gly Ile Ala Arg Ala Tyr Lys Ala Pro Ser Leu Tyr Gln Thr Asn Pro
485 490 495

Asn Tyr Ile Leu Tyr Ser Lys Gly Gln Gly Cys Tyr Ala Ser Lys Asp
500 505 510

Gly Cys Tyr Leu Gln Gly Asn Asp Asp Leu Lys Ala Glu Thr Ser Ile
515 520 525

Asn Lys Glu Ile Gly Leu Glu Phe Lys Arg Asp Gly Trp Leu Ala Gly
530 535 540

Val Thr Trp Phe Arg Asn Asp Tyr Arg Asn Lys Ile Glu Ala Gly Tyr
545 550 555 560

Ala Pro Val Tyr Gln Asn Asn Lys Gly Thr Asp Leu Tyr Gln Trp Glu
565 570 575

Asn Val Pro Lys Ala Val Val Glu Gly Leu Glu Gly Thr Leu Asn Val
580 585 590

Pro Val Ser Glu Thr Val Asn Trp Thr Asn Asn Ile Thr Tyr Met Leu
595 600 605

Gln Ser Lys Asn Lys Glu Thr Gly Asp Arg Leu Ser Ile Ile Pro Glu
610 615 620

Tyr Thr Leu Asn Ser Thr Leu Ser Trp Gln Val Arg Asp Asp Val Ser
625 630 635 640

Leu Gln Ser Thr Phe Thr Trp Tyr Gly Lys Gln Glu Pro Lys Lys Tyr
645 650 655

Asn Tyr Lys Gly Gln Pro Val Thr Gly Ser Glu Lys Asn Glu Val Ser
660 665 670

Pro Tyr Ser Ile Leu Gly Leu Ser Ala Thr Trp Asp Val Thr Lys Tyr
675 680 685

Val Ser Leu Thr Gly Gly Val Asp Asn Val Phe Asp Lys Arg His Trp
690 695 700

Arg Ala Gly Asn Ala Gln Thr Thr Gly Gly Ala Thr Gly Thr Met Tyr
705 710 715 720

eo1f-seq1.app

Gly Ala Gly Ala Glu Thr Tyr Asn Glu Ser Gly Arg Thr Trp Tyr Leu
725 730 735

Ser Val Asn Thr His Phe
740

<210> 270
<211> 203
<212> PRT
<213> Klebsiella pneumoniae

<400> 270

Thr Gln Val Ala Lys Arg Val Pro Gln Phe Thr Ala Val Ile Leu His
1 5 10 15

His Leu Gln Arg Thr Thr Asp Val Asp Cys Ala Gly Phe Ile Arg Ile
20 25 30

Val Ile Gly Arg Glu Arg Thr Gln Ala Val Leu Tyr Cys Pro Leu Thr
35 40 45

Leu Glu Lys Gly Gln His Leu Pro Pro Gly Ala Asp Lys Arg Phe Gly
50 55 60

Lys Ile Phe Ser Val Leu Ala Leu Ala Asp Asn Gly Ser Gln Val Gly
65 70 75 80

Phe His Arg Leu Gly Ala Thr Ala Phe Ala Leu Gly Ala Arg Leu Val
85 90 95

Gly Ile Val Gln Pro His Gly Ala Ala Gly Asp Gly Arg Gly Ala Ala
100 105 110

Glu Leu Ala Gly Phe Leu Gln His Gln His Arg Gln Pro Phe Thr Ala
115 120 125

Gly Gly Asp Arg Gly Gly Lys Thr Gly Arg Ala Ala Ala Asp Asp Asp
130 135 140

His Ile Pro Ala Leu His Ala Ala Ala Pro Cys Ala Cys Gly Met Ala
145 150 155 160

Pro Ile Asn Trp Pro Ile Ser Leu Ile Cys Ala Ser Ala Ile Ser Gly
165 170 175

Pro Val Cys Thr Leu Gln Pro Arg Ala Ala Ala Lys Val Ser Asn Gly
180 185 190

Val Ile Thr Gly Ala Val Thr Thr Ser Ala Thr
195 200

<210> 271

eo1f-seq1.app

<211> 313

<212> PRT

<213> Klebsiella pneumoniae

<400> 271

Met Arg Gly Val Ile Gln Gln Thr Leu Cys Gln Gln Met Thr His Phe
1 5 10 15

Ser Arg Pro Ala Val Asn Ser Thr Ala Ala Leu Val Leu Arg Ser Leu
20 25 30

Ser Asp Glu Pro Glu Thr Arg Ala Gln Thr Val Ile Leu Tyr Val Phe
35 40 45

Ile Arg Ser Pro Met Thr Ser Ser Leu Ser Arg His Pro Ala Phe Leu
50 55 60

Ser Leu Gln Gly Gly Ile Asn Phe Arg Asp Leu Gly Gly Gln Leu Ala
65 70 75 80

Ala Asp Gly Arg Arg Val Arg Ser Gly Lys Leu Leu Arg Ser Gly Ala
85 90 95

Leu Asn Arg Leu Thr Ala Glu Asp Leu Asn His Leu Asp Thr Leu Pro
100 105 110

Leu Ser Arg Val Leu Asp Tyr Arg Asp Pro Gly Glu Val Ala Arg Thr
115 120 125

Pro Asp Lys Leu Ser Pro Leu Thr His Tyr Leu Asn Ala Pro Ala Asn
130 135 140

Pro Pro Val Ser Glu Val Asn Ala Lys Val Thr Glu Leu Asn Ala Ala
145 150 155 160

Thr Leu Asn Ala Leu Asn Gly Glu Gln Phe Met Leu Gln Leu Tyr Arg
165 170 175

Gln Leu Pro Phe Asn Asn Pro Ala Tyr Arg Gln Leu Ala Ala Trp Leu
180 185 190

Thr Thr Pro Phe Glu Gly Ala Leu Leu Gln His Cys Ala Val Gly Lys
195 200 205

Asp Arg Thr Gly Val Gly Cys Ala Leu Thr Leu Phe Ala Val Gly Cys
210 215 220

Asp Ser Glu Thr Val Met Glu Glu Tyr Leu Leu Thr His Gly Met Leu
225 230 235 240

Thr Gln Val Glu Ala Trp Met Leu Glu Leu Leu Gly Asn Asp Leu Thr
245 250 255

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Ala Gln Gly Arg Gln Ser Leu Ala Asp Ile Leu Thr Val Lys Glu Ser
260 265 270

Tyr Leu Ala Ala Ala Leu Ser Ala Ile His Gln Arg Tyr Gly Thr Val
275 280 285

Asp Ala Trp Leu Ala Ala Glu Tyr Gln Leu Thr Ala Pro Val Arg Ala
290 295 300

Ala Leu Gln Ala Arg Leu Leu Glu Glu
305 310

<210> 272

<211> 473

<212> PRT

<213> Klebsiella pneumoniae

<400> 272

Met Ile Ser Ala Arg Trp Arg Cys Ser Gly Trp Val Pro Val Trp Val
1 5 10 15

Pro Arg Tyr Ser Val Leu Pro Leu Pro Pro Ser Ser Pro Gly Ala Met
20 25 30

Pro Ser Asn Gly Arg Pro Arg Ser Pro His Asn Arg Leu Thr Asn Lys
35 40 45

Glu Glu Asp Met Met Pro Ala Arg His Gln Gly Leu Leu Arg Leu Phe
50 55 60

Ile Ala Cys Ala Leu Pro Leu Leu Ala Leu Gln Ser Ala Ala Ala Ala
65 70 75 80

Asp Trp Gln Leu Glu Lys Val Val Glu Leu Ser Arg His Gly Ile Arg
85 90 95

Pro Pro Thr Ala Gly Asn Arg Glu Ala Ile Glu Ala Ala Thr Gly Arg
100 105 110

Pro Trp Thr Glu Trp Thr Thr His Asp Gly Glu Leu Thr Gly His Gly
115 120 125

Tyr Ala Ala Val Val Asn Lys Gly Arg Ala Glu Gly Gln His Tyr Arg
130 135 140

Gln Leu Gly Leu Leu Gln Ala Gly Cys Pro Thr Ala Glu Ser Ile Tyr
145 150 155 160

Val Arg Ala Ser Pro Leu Gln Arg Thr Arg Ala Thr Ala Gln Ala Leu
165 170 175

Val Asp Gly Ala Phe Pro Gly Cys Gly Val Ala Ile His Tyr Val Ser
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180

185

190

Gly Asp Ala Asp Pro Leu Phe Gln Thr Asp Lys Phe Ala Ala Thr Gln
195 200 205

Thr Asp Pro Ala Arg Gln Leu Ala Ala Val Lys Glu Lys Ala Gly Asp
210 215 220

Leu Ala Gln Arg Arg Gln Ala Leu Ala Pro Thr Ile Gln Leu Leu Lys
225 230 235 240

Gln Ala Val Cys Gln Ala Asp Lys Ser Cys Pro Ile Phe Asp Thr Pro
245 250 255

Trp Gln Val Glu Gln Ser Lys Ser Gly Lys Thr Thr Ile Ser Gly Leu
260 265 270

Ser Val Met Ala Asn Met Val Glu Thr Leu Arg Leu Gly Trp Ser Glu
275 280 285

Asn Leu Pro Leu Ser Gln Leu Ala Trp Gly Lys Ile Thr Gln Ala Arg
290 295 300

Gln Ile Thr Ala Leu Leu Pro Leu Leu Thr Glu Asn Tyr Asp Leu Ser
305 310 315 320

Asn Asp Val Leu Tyr Thr Ala Gln Lys Arg Gly Ser Val Leu Leu Asn
325 330 335

Ala Met Leu Asp Gly Val Lys Pro Glu Ala Asn Pro Asn Val Arg Trp
340 345 350

Leu Leu Leu Val Ala His Asp Thr Asn Ile Ala Met Val Arg Thr Leu
355 360 365

Met Asn Phe Ser Trp Gln Leu Pro Gly Tyr Ser Arg Gly Asn Ile Pro
370 375 380

Pro Gly Ser Ser Leu Val Leu Glu Arg Trp Arg Asn Ala Lys Ser Gly
385 390 395 400

Glu Arg Tyr Leu Arg Val Tyr Phe Gln Ala Gln Gly Leu Asp Asp Leu
405 410 415

Arg Arg Leu Gln Thr Pro Asp Ala Gln His Pro Met Leu Arg Gln Glu
420 425 430

Trp His Gln Pro Gly Cys Arg Gln Thr Asp Val Gly Thr Leu Cys Pro
435 440 445

Phe Gln Ala Ala Ile Thr Ala Leu Gly Gln Arg Ile Asp Arg Ser Ser
450 455 460

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Ala Pro Ala Val Ala Met Val Leu Pro
465 470

<210> 273
<211> 1030
<212> PRT
<213> Klebsiella pneumoniae
<400> 273

Met Leu Thr Phe Phe Ile Arg Arg Pro Arg Phe Ala Met Val Ile Ala
1 5 10 15

Leu Leu Leu Thr Phe Val Gly Ala Val Ser Leu Lys Leu Ile Pro Val
20 25 30

Glu Gln Tyr Pro Ala Ile Thr Pro Pro Val Val Asn Val Ser Ala Ser
35 40 45

Trp Pro Gly Ala Ser Ala Ser Asp Val Ala Glu Ala Ile Ala Ala Pro
50 55 60

Leu Glu Thr Gln Leu Asn Gly Val Asp His Met Leu Tyr Met Glu Ser
65 70 75 80

Thr Ser Ser Asp Glu Gly Thr Tyr Arg Leu Ser Ile Thr Phe Ala Ala
85 90 95

Gly Thr Asp Ala Asp Leu Ala Ala Ile Asp Val Gln Asn Arg Val Ala
100 105 110

Gln Ala Leu Ala Gln Leu Pro Ala Glu Val Gln Gln Asn Gly Val Gln
115 120 125

Val Arg Lys Arg Ala Ser Asn Leu Leu Met Gly Val Ser Leu Tyr Ser
130 135 140

Pro Leu Gly Thr Leu Ser Pro Leu Phe Val Ser Asn Tyr Ala Ser Thr
145 150 155 160

Gln Val Arg Glu Ala Leu Ala Arg Leu Pro Gly Val Gly Glu Val Gln
165 170 175

Met Phe Gly Ala Arg Asp Tyr Ser Met Arg Ile Trp Leu Arg Pro Asp
180 185 190

Arg Met Asn Ala Leu Asn Ile Thr Thr Asp Asp Val Ala Gln Ala Leu
195 200 205

Arg Glu Gln Asn Val Gln Gly Ala Ala Gly Gln Val Gly Thr Pro Pro
210 215 220

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Val Phe Asn Gly Gln Gln Gln Thr Leu Thr Ile Asn Gly Leu Gly Arg
225 230 235 240

Leu Asn Glu Ala Ala Ser Phe Gly Glu Ile Ile Ile Arg Arg Gly Ala
245 250 255

Gln Gly Gln Leu Val Arg Leu Ala Asp Val Ala Thr Ile Glu Leu Gly
260 265 270

Ala Arg Ser Tyr Ser Ser Gly Ala Gln Leu Asn Gly Lys Ala Ser Ala
275 280 285

Tyr Leu Gly Ile Tyr Pro Thr Pro Thr Ala Asn Ala Leu Gln Val Ala
290 295 300

Ser Ala Val Arg Ala Glu Leu Asn Arg Leu His Thr Arg Phe Pro Ala
305 310 315 320

Asp Leu Thr Trp Glu Val Lys Phe Asp Thr Thr Arg Phe Val Ala Ala
325 330 335

Thr Ile Lys Glu Ile Gly Val Ser Leu Ala Leu Thr Leu Leu Ala Val
340 345 350

Val Val Val Val Ser Leu Phe Leu Gln Ser Trp Arg Ala Thr Leu Ile
355 360 365

Val Val Leu Ala Ile Pro Val Ser Leu Ile Gly Thr Phe Ala Val Leu
370 375 380

Tyr Leu Leu Gly Tyr Ser Ala Asn Thr Leu Ser Leu Phe Ala Ile Ile
385 390 395 400

Leu Ala Leu Thr Met Val Val Asp Asp Ala Ile Val Val Val Glu Asn
405 410 415

Val Glu Thr Lys Met Ala Glu Gly Leu Asp Arg Leu Gln Ala Thr Ala
420 425 430

Gln Ala Leu Arg Gln Ile Ala Gly Pro Val Ile Ala Thr Thr Leu Val
435 440 445

Leu Leu Ala Val Phe Val Pro Val Ala Leu Leu Pro Gly Ile Val Gly
450 455 460

Glu Leu Tyr Arg Gln Phe Ala Val Thr Leu Ser Thr Ala Val Ala Leu
465 470 475 480

Ser Ser Leu Val Ala Leu Thr Leu Thr Pro Ala Leu Cys Ala Leu Leu
485 490 495

Leu Arg Pro Arg Pro Ala Arg Pro Ala Ala Val Trp Arg Ala Phe Asn
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500

505

510

Arg Leu Leu Asp Gly Thr Arg Asp Gly Tyr Gly Arg Leu Val Gly Trp
515 520 525

Met Asn Arg Arg Pro Trp Leu Ala Leu Ala Ala Thr Val Ala Ala Gly
530 535 540

Ala Leu Val Ala Phe Ser Phe Thr Ser Met Pro Lys Gly Phe Leu Pro
545 550 555 560

Gln Glu Asp Gln Gly Tyr Leu Phe Ala Ser Val Gln Leu Pro Glu Ala
565 570 575

Ala Ser Leu Glu Arg Thr Glu Ala Val Met Ala Gln Ala Arg Lys Leu
580 585 590

Leu Met Ala Asn Pro Ala Val Glu Asp Val Ile Gln Val Ser Gly Phe
595 600 605

Asn Ile Leu Asn Gly Thr Ser Ala Ser Asn Gly Gly Phe Ile Ser Val
610 615 620

Met Leu Lys Asp Trp His Gln Arg Pro Pro Leu Asp Ala Val Met Ala
625 630 635 640

Asp Ile Gln Arg Gln Leu Leu Ser Leu Pro Glu Ala Thr Ile Met Thr
645 650 655

Phe Ala Pro Pro Thr Leu Pro Gly Leu Gly Asn Ala Ser Gly Phe Asp
660 665 670

Leu Arg Ile Leu Ala Gln Ala Gly Gln Ser Ser Ala Glu Leu Glu Gln
675 680 685

Val Thr Arg Glu Ile Leu Gln Leu Ala Asn Gln Tyr Pro Gln Leu Ser
690 695 700

Arg Val Phe Thr Thr Trp Ser Ser Asn Val Pro Gln Leu Thr Leu Thr
705 710 715 720

Val His Arg Asp Arg Ala Ala Leu Leu Asp Val Pro Val Ala Gln Ile
725 730 735

Phe Ser Ser Leu Gln Thr Ala Phe Gly Gly Thr Arg Ala Gly Asp Phe
740 745 750

Ser Arg Asn Asn Arg Val Tyr His Val Val Met Gln Asn Glu Met Gln
755 760 765

Trp Arg Glu Arg Ala Glu Gln Ile Ser Glu Leu Tyr Val Arg Ser Arg
770 775 780

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Asp Gly Glu Arg Val Arg Leu Ser Asn Leu Val Thr Ile Thr Pro Thr
785                               790                               795                               800

Val Gly Ala Pro Phe Ile Gln Gln Tyr Asn Gln Phe Pro Ser Val Ser
                               805                               810                               815

Val Ser Gly Ser Ala Ala Glu Gly Val Ser Ser Arg Thr Ala Met Ala
                               820                               825                               830

Ala Met Glu Gln Ile Leu Gln Ala His Leu Pro Pro Gly Tyr Asp Tyr
                               835                               840                               845

Ala Trp Ser Gly Ile Ser Trp Gln Glu Gln Gln Thr Gly Asn Gln Ala
850                               855                               860

Val Trp Ile Val Leu Ala Ala Val Ala Met Ala Trp Leu Phe Leu Val
865                               870                               875                               880

Ala Gln Tyr Glu Ser Trp Thr Leu Pro Ala Ser Val Met Leu Ser Val
                               885                               890                               895

Leu Phe Ala Ile Gly Gly Ala Leu Leu Trp Leu Trp Thr Ala Gly Tyr
                               900                               905                               910

Ala Asn Asp Val Tyr Val Gln Ile Gly Leu Val Leu Leu Ile Ala Leu
                               915                               920                               925

Ala Ala Lys Asn Ala Ile Leu Ile Val Glu Phe Ala Arg Ser Arg Arg
930                               935                               940

Glu Glu Gly Leu Ser Ile Val Asp Ala Ala Arg Glu Gly Ala Thr Arg
945                               950                               955                               960

Arg Phe Arg Ala Val Met Met Thr Ala Val Ser Phe Ile Ile Gly Ile
                               965                               970                               975

Met Pro Met Met Leu Ala Thr Gly Ala Gly Ala Gln Ser Arg Arg Ile
                               980                               985                               990

Ile Gly Thr Thr Val Phe Ser Gly Met Leu Val Ala Thr Met Val Gly
995                               1000                               1005

Ile Leu Phe Ile Pro Ser Leu Tyr Val Leu Phe Gln Arg Met Arg
1010                               1015                               1020

Glu Trp Ala His Arg Arg Gly
1025                               1030

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<210> 274
 <211> 311
 <212> PRT

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<213> Klebsiella pneumoniae

<400> 274

Val Arg Arg Ala Ala Ala Gly Ala Gly Arg Leu Arg Arg Pro Thr Ala
1 5 10 15

Val Tyr Ala Val Ala Ala Ala Gly Trp Arg Val Asn Arg Gln Pro Arg
20 25 30

Arg Tyr Leu Pro Tyr Cys Ile Val Asp Ser Gly Val Pro Gln Lys Met
35 40 45

Ser Ala Val Pro Ser Arg Leu Arg Gly Glu Gln Leu Thr Leu Ala Tyr
50 55 60

Gly Asn Lys Thr Ile Ala Glu Ser Leu Asn Val Thr Ile Pro Asp Gly
65 70 75 80

His Phe Thr Ala Ile Ile Gly Pro Asn Gly Cys Gly Lys Ser Thr Leu
85 90 95

Leu Arg Thr Leu Ser Arg Leu Met Thr Pro Ala Ser Gly His Val Trp
100 105 110

Leu Asp Gly Ala Gln Ile Gln Gln Tyr Ala Ser Lys Glu Val Ala Arg
115 120 125

Arg Ile Gly Leu Leu Ala Gln Asn Ala Thr Thr Pro Gly Asp Ile Thr
130 135 140

Val Gln Glu Leu Val Ala Arg Gly Arg Tyr Pro His Gln Pro Leu Phe
145 150 155 160

Thr Arg Trp Arg Lys Glu Asp Glu Glu Ala Val Asn Lys Ala Met Arg
165 170 175

Ala Thr Gly Ile Ser Asp Leu Ala Leu Gln Ser Val Asp Thr Leu Ser
180 185 190

Gly Gly Gln Arg Gln Arg Ala Trp Ile Ala Met Val Leu Ala Gln Glu
195 200 205

Thr Ala Ile Met Leu Leu Asp Glu Pro Thr Thr Trp Leu Asp Ile Ser
210 215 220

His Gln Ile Asp Leu Leu Glu Leu Leu Ser Glu Leu Asn Arg Glu Lys
225 230 235 240

Gly Tyr Thr Leu Ala Ala Val Leu His Asp Leu Asn Gln Ala Cys Arg
245 250 255

Tyr Ala Thr His Leu Ile Ala Leu Arg Asp Gly Arg Ile Val Ala Glu
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260

265

270

Gly Ala Pro Lys Glu Ile Val Thr Ala Asp Leu Ile Glu Arg Ile Tyr
275 280 285

Gly Leu Arg Cys Thr Ile Ile Glu Asp Pro Val Ala His Thr Pro Leu
290 295 300

Val Val Pro Leu Gly Arg Arg
305 310

<210> 275
<211> 818
<212> PRT
<213> Klebsiella pneumoniae

<400> 275

Val Trp Asn Thr Ser Pro Tyr Thr Gly Leu His Ile Asn Asp Asp Ala
1 5 10 15

Val Glu Cys Gly Val Val Gly Tyr Leu Ala Asp Phe Lys Leu Arg Glu
20 25 30

Ser Ser Met Asn Pro Glu Arg Ser Glu Arg Ile Glu Ile Pro Val Leu
35 40 45

Pro Leu Arg Asp Val Val Val Tyr Pro His Met Val Ile Pro Leu Phe
50 55 60

Val Gly Arg Glu Lys Ser Ile Arg Cys Leu Glu Ala Ala Met Asp His
65 70 75 80

Asp Lys Lys Ile Met Leu Val Ala Gln Lys Glu Ala Ser Thr Asp Glu
85 90 95

Pro Gly Val Asn Asp Leu Phe Thr Val Gly Thr Val Ala Ser Ile Leu
100 105 110

Gln Met Leu Lys Leu Pro Asp Gly Thr Val Lys Val Leu Val Glu Gly
115 120 125

Leu Gln Arg Ala Arg Ile Ser Ala Leu Ser Asp Asn Gly Glu His Phe
130 135 140

Ser Ala Lys Ala Glu Tyr Leu Asp Ser Pro Ala Ile Asp Glu Arg Glu
145 150 155 160

Gln Glu Val Leu Val Arg Thr Ala Ile Ser Gln Phe Glu Gly Tyr Ile
165 170 175

Lys Leu Asn Lys Lys Ile Pro Pro Glu Val Leu Thr Ser Leu Asn Ser
180 185 190

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Ile Asp Asp Pro Ala Arg Leu Ala Asp Thr Ile Ala Ala His Met Pro
195 200 205

Leu Lys Leu Ala Asp Lys Gln Ser Val Leu Glu Met Ser Asp Val Asn
210 215 220

Glu Arg Leu Glu Tyr Leu Met Ala Met Met Glu Ser Glu Ile Asp Leu
225 230 235 240

Leu Gln Val Glu Lys Arg Ile Arg Asn Arg Val Lys Lys Gln Met Glu
245 250 255

Lys Ser Gln Arg Glu Tyr Tyr Leu Asn Glu Gln Met Lys Ala Ile Gln
260 265 270

Lys Glu Leu Gly Glu Met Asp Asp Ala Pro Asp Glu Asn Glu Ala Leu
275 280 285

Lys Arg Lys Ile Asp Ala Ala Lys Met Pro Lys Glu Ala Lys Glu Lys
290 295 300

Thr Glu Ala Glu Leu Gln Lys Leu Lys Met Met Ser Pro Met Ser Ala
305 310 315 320

Glu Ala Thr Val Val Arg Gly Tyr Ile Asp Trp Met Val Gln Val Pro
325 330 335

Trp Asn Ala Arg Ser Lys Val Lys Lys Asp Leu Arg Gln Ala Gln Glu
340 345 350

Ile Leu Asp Thr Asp His Tyr Gly Leu Glu Arg Val Lys Asp Arg Ile
355 360 365

Leu Glu Tyr Leu Ala Val Gln Ser Arg Val Asn Lys Ile Lys Gly Pro
370 375 380

Ile Leu Cys Leu Val Gly Pro Pro Gly Val Gly Lys Thr Ser Leu Gly
385 390 395 400

Gln Ser Ile Ala Lys Ala Thr Gly Arg Lys Tyr Val Arg Met Ala Leu
405 410 415

Gly Gly Val Arg Asp Glu Ala Glu Ile Arg Gly His Arg Arg Thr Tyr
420 425 430

Ile Gly Ser Met Pro Gly Lys Leu Ile Gln Lys Met Ala Lys Val Gly
435 440 445

Val Lys Asn Pro Leu Phe Leu Leu Asp Glu Ile Asp Lys Met Ser Ser
450 455 460

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Asp Met Arg Gly Asp Pro Ala Ser Ala Leu Leu Glu Val Leu Asp Pro
465 470 475 480

Glu Gln Asn Val Ala Phe Asn Asp His Tyr Leu Glu Val Asp Tyr Asp
485 490 495

Leu Ser Asp Val Met Phe Val Ala Thr Ser Asn Ser Met Asn Ile Pro
500 505 510

Ala Pro Leu Leu Asp Arg Met Glu Val Ile Arg Leu Ser Gly Tyr Thr
515 520 525

Glu Asp Glu Lys Leu Asn Ile Ala Lys Arg His Leu Leu Pro Lys Gln
530 535 540

Ile Glu Arg Asn Ala Leu Lys Lys Gly Glu Leu Thr Val Asp Asp Ser
545 550 555 560

Ala Ile Ile Gly Ile Ile Arg Tyr Tyr Thr Arg Glu Ala Gly Val Arg
565 570 575

Ser Leu Glu Arg Glu Ile Ser Lys Leu Cys Arg Lys Ala Val Lys Gln
580 585 590

Leu Leu Leu Asp Lys Ser Leu Lys His Ile Glu Ile Asn Gly Glu Asn
595 600 605

Leu His Asp Tyr Leu Gly Val Gln Arg Phe Asp Tyr Gly Arg Ala Asp
610 615 620

Ser Glu Asn Arg Val Gly Gln Val Thr Gly Leu Ala Trp Thr Glu Val
625 630 635 640

Gly Gly Asp Leu Leu Thr Ile Glu Thr Ala Cys Val Pro Gly Lys Gly
645 650 655

Lys Leu Thr Tyr Thr Gly Ser Leu Gly Glu Val Met Gln Glu Ser Ile
660 665 670

Gln Ala Ala Leu Thr Val Val Arg Ser Arg Ala Asp Lys Leu Gly Ile
675 680 685

Asn Ala Asp Phe Tyr Glu Lys Arg Asp Ile His Val His Val Pro Glu
690 695 700

Gly Ala Thr Pro Lys Asp Gly Pro Ser Ala Gly Ile Ala Met Cys Thr
705 710 715 720

Ala Leu Val Ser Cys Leu Thr Gly Asn Pro Val Arg Ala Asp Val Ala
725 730 735

Met Thr Gly Glu Ile Thr Leu Arg Gly Gln Val Leu Pro Ile Gly Gly
Page 249

Leu Lys Glu Lys Leu Leu Ala Ala His Arg Gly Gly Ile Lys Thr Val
755 760 765

Leu Ile Pro Asp Glu Asn Lys Arg Asp Leu Glu Glu Ile Pro Asp Asn
770 775 780

Val Ile Ala Asp Leu Asp Ile His Pro Val Lys Arg Ile Glu Glu Val
785 790 800

Leu Thr Leu Ala Leu Gln Asn Glu Pro Phe Gly Met Gln Val Val Thr
805 810 815

Ala Lys

<210> 276
<211> 310
<212> PRT
<213> Klebsiella pneumoniae

<400> 276

Met Gln Leu Gln Lys Leu Val Asn Met Phe Gly Gly Asp Leu Met Arg
1 5 10 15

Arg Tyr Gly Glu Lys Val His Lys Leu Thr Leu His Gly Gly Phe Ser
20 25 30

Cys Pro Asn Arg Asp Gly Thr Leu Gly Arg Gly Gly Cys Thr Phe Cys
35 40 45

Asn Val Ala Ser Phe Ala Asp Glu Ala Gln Gln His Arg Ser Ile Ala
50 55 60

Glu Gln Leu Ala His Gln Ala Gln Leu Val Asn Arg Ala Lys Arg Tyr
65 70 75 80

Leu Ala Tyr Phe Gln Ala Tyr Thr Ser Thr Phe Ala Glu Val Gln Val
85 90 95

Leu Arg Ser Met Tyr Arg Gln Ala Val Ser Ala Ala Asn Ile Val Gly
100 105 110

Leu Cys Val Gly Thr Arg Pro Asp Cys Val Pro Gln Ala Val Leu Asp
115 120 125

Leu Leu Ser Glu Tyr His Gln Gln Gly Tyr Glu Val Trp Leu Glu Leu
130 135 140

Gly Leu Gln Thr Ala His Asp Lys Thr Leu His Arg Ile Asn Arg Gly
145 150 155 160

eo1f-seq1.app

His Asp Phe Ala Cys Tyr Gln Arg Thr Ala Arg Leu Ala Arg Glu Arg
165 170 175

Gly Leu Lys Val Cys Thr His Leu Ile Val Gly Leu Pro Gly Glu Ser
180 185 190

Gln Gly His Cys Leu Gln Thr Leu Glu Gln Val Val Ala Thr Gly Val
195 200 205

Asp Gly Ile Lys Leu His Pro Leu His Ile Val Lys Gly Ser Ile Met
210 215 220

Ala Lys Ala Trp Gln Ala Gly Arg Leu Asp Gly Ile Glu Leu Glu Ala
225 230 235 240

Tyr Thr Val Thr Ala Gly Glu Met Ile Arg His Thr Pro Pro Glu Val
245 250 255

Ile Tyr His Arg Ile Ser Ala Ser Ala Arg Arg Pro Thr Leu Leu Ala
260 265 270

Pro Leu Trp Cys Glu Asn Arg Trp Thr Gly Met Val Glu Leu Asp Arg
275 280 285

Tyr Leu Asn Gln Gln Gly Ala Gln Gly Ser Ala Leu Gly Arg Ser Trp
290 295 300

Val Ala Pro Gln Ala Glu
305 310

<210> 277
<211> 307
<212> PRT
<213> Klebsiella pneumoniae

<400> 277

Met Asn Lys Ile Ile Glu Asn Asp Phe Ser Arg Ile Asp Leu Asn Leu
1 5 10 15

Leu Thr Val Leu Met Val Leu Tyr Arg Glu Gly Ser Val Thr Arg Thr
20 25 30

Ala Glu Val Leu His Leu Gly Gln Pro Ala Ile Ser Gly Ala Leu Lys
35 40 45

Arg Leu Arg Glu Met Phe Asp Asp Pro Leu Phe Val Arg Ser Ala Arg
50 55 60

Gly Met Leu Pro Thr Pro Arg Ala Gln Ala Leu Met Thr Asp Leu Gln
65 70 75 80

Pro Leu Met Glu Asn Leu His Ser Ala Met Phe Gly Ala Gly Glu Phe
Page 251

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90

85

95

Val Pro Ala Arg Ala Gln Gln Leu Phe Arg Ile Gly Leu Ser Asp Trp
100 105 110

Ser Glu His Trp Leu Met Pro Pro Leu Leu Pro Gly Leu Met Gln Glu
115 120 125

Ala Pro Gly Val Ser Leu Gln Ser Ile Ala Ala Asp Pro Phe Gln Val
130 135 140

Arg Gln Leu Leu Glu Glu Glu Arg Ile Asp Val Ala Val Ser Val Asn
145 150 155 160

Lys Gln Ser Arg Gly Glu Val Val Ser Glu Pro Val Met Thr Met Gly
165 170 175

Val Thr Thr Leu Trp Ser Pro Gln Gln Ile Pro Cys Arg Gly Pro Leu
180 185 190

Ser Val Ser Asp Phe Val Ala Trp Glu His Val Met Val Ala Tyr Arg
195 200 205

Glu Thr Gly His Gly Glu Ile Asp Arg Gln Leu Ala Ser Gln Gly Leu
210 215 220

Ala Arg Arg Val Arg Phe Ala Thr Gln Asn Phe Ser Thr Phe Pro Leu
225 230 235 240

Leu Leu Thr Thr Leu Pro Leu Phe Ala Thr Val Pro Gln Gly Leu Ala
245 250 255

Gln Arg Trp Gln Ala Gln Tyr Ala Leu Arg Ala Asp Ala Pro Pro Val
260 265 270

Ala Tyr Pro Glu Phe Thr Leu Cys Ile Leu Arg His Lys Arg Arg Ala
275 280 285

Gln Asp Pro Ala Leu Asn Trp Leu Val Thr Lys Leu Lys Gln Ala Met
290 295 300

Arg Gly Gln
305

<210> 278
<211> 810
<212> PRT
<213> Klebsiella pneumoniae

<400> 278

Met Leu Ile Asp Arg Asp Gly Ile Arg Leu Met Gly Glu Arg Lys Gly
1 5 10 15

eo1f-seq1.app

Gln Gln Ala Thr Ser Gln Ala Arg Gln Leu Arg Val Glu Ala Phe Arg
 20 25 30
 Arg Ala Leu Pro Val Thr Gln Lys Val Pro Gln His Arg Leu Gly Ala
 35 40 45
 Val Gln Arg Ile Gln Gln Pro Glu Gln Arg Asp Ile Gly Tyr Gly Lys
 50 55 60
 Ile Ser His Pro Phe Ile Ala Phe Ala Thr His Gly His Gln Ala Arg
 65 70 75 80
 Gln Thr Ser Pro Glu Leu Asp Glu Gln Leu Phe Lys Leu Pro Arg Gln
 85 90 95
 Pro Ala Ala Ala Leu Asp Leu Gln Gln Arg Arg Glu Lys Arg Leu Val
 100 105 110
 Asp Lys Pro Gly Pro Leu Arg Val Pro Leu Gln Ala Asn Lys Arg Thr
 115 120 125
 Gly Gln Val Ile Ala Val Val Leu Val Gly Glu Ala Glu Asp Gln Leu
 130 135 140
 Arg Leu Tyr Asp Gly Asn Leu Pro Gly Ile Ile Pro Lys Leu Val Thr
 145 150 155 160
 Asp Ile Ala Pro Ala Leu Pro Glu Ala His Arg Pro Phe Gly His Leu
 165 170 175
 Leu Arg Leu Gln Thr Val Ala Ala Ile Arg Leu His Gln Gly Gln Arg
 180 185 190
 Gln His Asp His Arg Leu Ala Gly Arg Ala Val Gln Arg Gln Arg Gly
 195 200 205
 Arg Gln Arg Ile Gly Ile Val Arg Ile Asn His Arg Ala Ile Leu Glu
 210 215 220
 Pro Asp Leu Gln Pro Val Ser Leu Gln Ala Ala Gln Phe Glu His Leu
 225 230 235 240
 Trp Phe Glu Gly Arg Leu Asn His Ser Pro Gly Val Val Lys Thr His
 245 250 255
 Pro Gly Asn His Phe Arg Ser Pro Gly Cys Ile Arg Ser Leu Leu Leu
 260 265 270
 Lys Met Leu Arg Arg His His Asn Ala Pro Ala Pro Gln Arg Thr Phe
 275 280 285

eo1f-seq1.app

Arg Phe His His Arg Pro Asn Leu Arg Leu Arg Leu Trp His Leu Ala
 290 295 300

Asn Gln Arg Gln Ile Asp Val His Pro Leu Asp Leu Glu Val Arg His
 305 310 315 320

Arg Val Gln Leu His Ala Glu Glu Ala Arg Val Ile Leu Asp Ile Phe
 325 330 335

His His His Ala Gly Ile Ala Gln Arg Met Gly Gly Leu Gln Leu Val
 340 345 350

Ala Gly Val Gly His Phe Gly His Gln Ala Pro His Pro Gly Val Gln
 355 360 365

Leu Gln Leu Gln Gln Thr Pro Val Leu Gly Gly Ala Asp Ile Phe Ala
 370 375 380

Leu Asp His Leu Gln Val Val Arg Asp Ala Arg Gln Gln Glu Asp Val
 385 390 395 400

Arg Gln Thr Arg Val Asp Thr Ala Val Gly Gly Gly Val Gly Gly Ile
 405 410 415

Val Gln Arg Arg Phe Leu Arg Gly Val Gly Arg Glu Glu Ala Gly Val
 420 425 430

Ile Ala Ile Phe Val Val Arg Gln Arg Asp Lys Ala Gln Ala Gly Glu
 435 440 445

Leu Lys Leu Pro Arg Phe Arg Asp His His Leu Gly Arg Asp Leu His
 450 455 460

Leu Val Ala Gly Ala Gln Ile Val Gln Met Asp Arg Gln Ile Phe His
 465 470 475 480

Arg Ala Ala Arg Leu Arg Thr Ala Asn Leu His Ala Pro Ala Val Val
 485 490 495

Asn Lys Ala Leu His His Ile Arg Cys Glu Gly Glu Arg Arg Ala Gly
 500 505 510

Pro Glu Ile Phe Phe Val Ile Arg Ala Leu His Leu Leu Asp Ile Val
 515 520 525

Glu Ala Ala His Arg His Gly Val Arg Thr Val Arg Gln Thr Thr Gln
 530 535 540

His Ala Arg His His Gln Ala Asp Val Ala Gly Ile Val Ser Phe Ala
 545 550 555 560

Lys Arg Leu Pro Ala Asp Ile Phe Arg Thr Ile Glu Val Val Ala Asp

eo1f-seq1.app
570

565

575

Ile Leu Asn Gly Ser His Leu Phe His Gly Leu Phe Gln Glu Glu Gly
580 585 590

Arg Ala Asp Gly Ala Asp Lys Arg His Met Gly Gly Arg Arg Asp Ala
595 600 605

Gly Asp Ile Ala Gln Gln Arg His Ile Leu Arg Ala Gly Val Glu Leu
610 615 620

Ile Gly Arg Asp His Arg Ala Asp Arg Leu Ala Ala Gly Ser Val Ile
625 630 635 640

Leu Arg Gly Ile Gly Val Pro Val Gln Ala Ala Leu Asp Lys Leu Arg
645 650 655

Arg Val Leu Lys Val Leu Ala Gln Ile Val Phe Gly Asp Val Glu Asp
660 665 670

Leu Arg Phe Asp Val Leu Pro Ile Val Gly Val Val His Gln Leu Phe
675 680 685

Glu Ala Ala Pro Gln Gly Phe Asp Leu Leu Lys Leu Leu Met Val His
690 695 700

His Arg Val Gln Leu Thr Ala Tyr Leu Glu Ile Gln Leu Gly Asp Met
705 710 715 720

Val Val Asp Gln Arg Phe Val Glu Leu Phe His Pro Leu Ala Gly Leu
725 730 735

Thr Asp Ala Phe His Lys His Leu His Arg Arg Gly Glu Thr Leu Arg
740 745 750

Arg Arg Arg Leu Gly Glu Arg Gly Ile Val Gln Lys Val Val Asp Ile
755 760 765

Pro Glu Ala Arg Arg Arg Gly Glu Ile Asn Phe Phe Lys Gln Arg Gly
770 775 780

Val Asn Ala Leu Ala Arg Ala Val Phe Leu Gln Arg Gly Leu Pro Leu
785 790 795 800

Asn Arg Gly Val Phe Cys Gly Asn Arg His
805 810

<210> 279

<211> 559

<212> PRT

<213> Klebsiella pneumoniae

<400> 279

eo1f-seq1.app

Met Asp Lys Pro Leu Arg Leu Lys Leu Lys Lys Cys Tyr His Leu Ala
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Arg Pro Ala His Val Val Asn Ala Cys Phe Ile Ala Val Leu Phe Phe
20 25 30

Ser Thr Leu Leu Ile Trp Arg Glu Ile Asn Val Leu Glu Glu Ala Tyr
35 40 45

Val Ala Asn Gln Arg Asn Asn Leu Ala Asn Val Ala His Glu Met Asp
50 55 60

Gly Leu Leu Gln Phe Asn Ile Asp Arg Met Met Phe Phe Arg His Gly
65 70 75 80

Met Gln Ala Ala Leu Glu Gln Pro Leu Asp Ile Asp Val Leu Arg Lys
85 90 95

Ala Ser Gln Arg Tyr Leu Ser Gln Arg His Gln Gln Ala Trp Arg Val
100 105 110

Ala Leu Pro Asn Arg Arg Thr Leu Pro Val Phe Gly Ile Ser Gly Ser
115 120 125

Val Ala Gly Asp Asn Pro Ile Leu Leu Val Asp Asp Pro Leu Ala Ala
130 135 140

Asp Glu Leu Met Ala Thr Leu Glu Leu Gly Tyr Leu Leu Asn Leu Thr
145 150 155 160

Gln His Asp Arg Asp Phe Ala Glu Arg Met Gln Tyr Ile Ser Arg Ser
165 170 175

Gly Phe Phe Thr Ser Thr Leu Pro Leu Arg Asp Glu Ser Gln Val Ile
180 185 190

Thr His Tyr Ser Gln Ala Leu Gly Ala Pro Trp Phe Thr Arg Gln Thr
195 200 205

Gln Arg Asn Asn Pro Gly Arg Gly Val Ile Trp Gln Thr Phe Pro Asp
210 215 220

Asp Asp Pro Gln Leu Glu Glu Gln Val Val Thr Ala Ser Ile Pro Leu
225 230 235 240

Asp Phe Ala Gly Tyr Trp Arg Gly Val Leu Ala Met Asp Phe Ser Val
245 250 255

Ser Glu Ile Lys Ala Phe Leu Val Ser Ala Met Gln Gly Gly Gln Glu
260 265 270

Gly Glu Tyr Gln Leu Tyr Asp Ser His Leu Asn Leu Leu Ala Ser Ser
275 280 285

Ala Pro Gly Asn Val Leu Thr Leu Leu Ser Pro Arg Glu Gln Glu Leu
290 295 300

Leu Ser Arg Ala Phe Val His Asp Asn Gln Gly Gly Leu Arg Leu Leu
305 310 315 320

Thr Arg Tyr Ile Ser Trp Ala Lys Leu Arg Asn Phe Asp Gly Val Leu
325 330 335

Leu Arg Ile His Thr Leu Arg Glu Gly Val Arg Gly Asn Phe Gly Thr
340 345 350

Ile Thr Ile Ala Leu Thr Leu Met Trp Val Leu Phe Thr Leu Met Leu
355 360 365

Leu Leu Ser Trp Leu Val Ile Arg Arg Met Val Arg Asn Met Ser Val
370 375 380

Leu Gln Thr Ser Leu Glu Trp Gln Ala Trp His Asp Ala Leu Thr Arg
385 390 395 400

Leu Leu Asn Arg Gly Ala Leu Phe Glu Gln Ala Met Ala Val Ala Ser
405 410 415

Asp Cys Gln Arg Ser Gly Arg Pro Leu Ala Val Ile Gln Leu Asp Leu
420 425 430

Asp His Phe Lys His Ile Asn Asp Arg Tyr Gly His Gln Ala Gly Asp
435 440 445

Arg Val Leu Ser Met Val Ala Ser Thr Leu Ser Ser Ala Val Arg Gln
450 455 460

Gly Asp Leu Leu Gly Arg Val Gly Gly Glu Glu Phe Cys Ile Val Met
465 470 475 480

Pro Asn Thr Thr Leu Gln Glu Ala Ala Ala Val Ala Glu Arg Leu Arg
485 490 495

Gln Arg Ile Gln Gly Arg Glu Val Phe Leu His Asn Asn Val Thr Leu
500 505 510

Arg Val Ser Ala Ser Leu Gly Val Ser Ala Ser Glu Glu Arg Gly Glu
515 520 525

Tyr Gln Phe Glu Ala Leu Gln Ser Val Ala Asp Gly Arg Leu Tyr Leu
530 535 540

Ala Lys Gln Asn Gly Arg Asn Gln Val Cys Phe Arg Ser Ala Ala
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545 550 555

<210> 280
<211> 311
<212> PRT
<213> Klebsiella pneumoniae

<400> 280

Met Pro Arg Ala Val Ser Leu Val Asp Pro Ser Gly Leu Gly His Ile
1 5 10 15

Ala Ala Glu Val Ala Leu Gln Leu Ser Thr Val Gln Thr Gln Val Gly
20 25 30

Arg Phe Ala His Ala Asp Val Leu Pro Arg Arg Ser Phe Phe Lys Gly
35 40 45

Glu Leu Pro Gly Pro Gln Met Arg Leu Gly Val Gly Val Glu Val Lys
50 55 60

Thr Leu Arg Leu Asp Leu Ile Asp Gly Val Arg Arg Arg Gly Phe Asn
65 70 75 80

Pro Val His Leu Leu Arg Gln Gln Arg Arg Gly Thr Gly Val Gly Leu
85 90 95

Arg Gln Gly Asp Gln His His Phe Ile His Pro Gly Asn Ala Ile Phe
100 105 110

Val Pro Val Val Gly Val Phe Ile Glu Asp Gln Leu Leu Thr Arg His
115 120 125

Gln Leu Leu Gln Phe Glu Arg Ala Ala Thr His Arg Val Gly Gly Glu
130 135 140

Gly Gly Pro Arg Leu Phe Ala Ala Arg Gly Ala Ile Ser His Ala Gly
145 150 155 160

Arg His Arg Val Ile Leu Leu Leu Pro Arg Arg Arg Arg Asp Asp Lys
165 170 175

Gln Val Gly Asp Val Val Arg Gln Gln Arg Ile Arg Phe Arg Gly Gly
180 185 190

Gln Arg His Gly Val Val Val Asn Phe Leu Cys Ala Gly Glu Gly Arg
195 200 205

His Ala Arg Gln Gly Val Ala Asp Leu Thr Arg Gly Val Leu Arg Arg
210 215 220

Arg Phe Ile Gln Tyr Leu Ile His Val Pro Asp Asp Gly Val Gly Val
225 230 235 240

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His Leu Arg Pro Ile Met Lys Leu His Pro Arg Thr Gln Gly Glu Asn
245 250 255

Pro Ala Ala Gly Ile Leu Arg Ile Asp Val Pro Leu Gly Arg Gln Pro
260 265 270

Arg His Gln Thr Ala Gly Leu Phe Thr Leu Arg Gln Ile Pro Leu His
275 280 285

Gln Arg Val Val Gln Arg Asp Ala Gly Lys Ala Val Ala Leu Ile Ala
290 295 300

Leu Ile Arg Leu Ala Lys Gly
305 310

<210> 281
<211> 429
<212> PRT
<213> Klebsiella pneumoniae

<400> 281

Met Met Ile Thr Leu Arg Lys Leu Pro Leu Ala Val Ala Val Ala Ala
1 5 10 15

Gly Val Met Ser Ala Gln Ala Leu Ala Val Asp Phe His Gly Tyr Ala
20 25 30

Arg Ser Gly Ile Gly Trp Thr Gly Ser Gly Gly Glu Gln Gln Cys Phe
35 40 45

Lys Ala Thr Gly Ala Gln Ser Lys Tyr Arg Leu Gly Asn Glu Cys Glu
50 55 60

Thr Tyr Ala Glu Leu Lys Leu Gly Gln Glu Leu Trp Lys Glu Gly Asp
65 70 75 80

Lys Ser Phe Tyr Phe Asp Thr Asn Val Ala Tyr Ser Val Asn Gln Glu
85 90 95

Asp Asp Trp Glu Ser Thr Ser Pro Ala Phe Arg Glu Ala Asn Ile Gln
100 105 110

Gly Lys Asn Leu Ile Asp Trp Leu Pro Gly Ser Thr Leu Trp Ala Gly
115 120 125

Lys Arg Phe Tyr Gln Arg His Asp Val His Met Ile Asp Phe Tyr Tyr
130 135 140

Trp Asp Ile Ser Gly Pro Gly Ala Gly Leu Glu Asn Val Asp Leu Gly
145 150 155 160

Phe Gly Lys Leu Ser Leu Ala Ala Thr Arg Asn Ser Glu Ser Gly Gly
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165

170

175

Ser Tyr Thr Phe Ser Ser Asp Asp Thr Lys Lys Tyr Ala Ala Lys Thr
180 185 190

Ala Asn Asp Val Phe Asp Ile Arg Leu Ala Gly Leu Glu Thr Asn Pro
195 200 205

Gly Gly Val Leu Glu Leu Gly Val Asp Tyr Gly Arg Ala Asn Pro Gln
210 215 220

Asp Asp Tyr Arg Leu Glu Asp Gly Ala Ser Lys Asp Gly Trp Met Trp
225 230 235 240

Thr Gly Glu His Thr Gln Ser Ile Trp Gly Gly Phe Asn Lys Phe Val
245 250 255

Val Gln Tyr Ala Thr Asp Ala Met Thr Ser Trp Asn Ser Gly His Ser
260 265 270

Gln Gly Thr Ser Ile Asp Asn Asn Gly Ser Met Ile Arg Val Leu Asp
275 280 285

His Gly Ala Met Asp Phe Asn Asp Asp Trp Gly Leu Met Tyr Val Ala
290 295 300

Met Tyr Gln Asp Val Asp Leu Asp Ser Lys Asn Gly Ser Thr Trp Tyr
305 310 315 320

Thr Val Gly Val Arg Pro Met Tyr Lys Trp Thr Pro Ile Met Ser Thr
325 330 335

Gln Leu Glu Ile Gly Tyr Asp Asn Val Lys Ser Gln Arg Thr Ser Glu
340 345 350

Asn Asn Asn Gln Tyr Lys Ile Thr Leu Ala Gln Gln Trp Gln Ala Gly
355 360 365

Asn Ser Val Trp Ser Arg Pro Ala Ile Arg Ile Phe Ala Thr Tyr Ala
370 375 380

Lys Trp Asp Glu Asn Trp Gly Tyr Ser Asn Thr Ser Gly Leu Gln Thr
385 390 395 400

Lys Asp Ser Ser Gly Ser Gly Ala Phe Thr Ser Ser Arg Gly Asp Asp
405 410 415

Ser Glu Val Thr Phe Gly Ala Gln Met Glu Val Trp Trp
420 425

<210> 282
<211> 384

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<212> PRT

<213> Klebsiella pneumoniae

<400> 282

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Met Gly Tyr Lys Arg Val Pro Glu Pro Pro Ala Arg Thr Ile Pro Phe
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Ile Phe Thr Ser Leu Leu Val Ile Gln Thr Lys Ala Leu Thr Gly Ile
      20      25      30

Gly Ala Val Gln His Ala Leu Pro Pro Gly Leu Ile Val Gln Val Pro
      35      40      45

Val His Gly Phe Leu Asn Pro Ala Leu Glu Arg Leu Leu Arg His Pro
      50      55      60

Ala Gln Ile Ala Leu Asn Phe Arg Gly Ile Asn Gly Ile Thr Gln Val
65      70      75      80

Val Ser Arg Thr Val Gly Asp Lys Ser Asp Gln Val Ser Lys Val Gly
      85      90      95

Asp Val Ala Arg Leu Leu Arg His His Phe Val Glu Asn Gly Ala Asp
      100      105      110

Gly Ala His His Ile Asp Ile Phe Thr Leu Val Met Thr Ala Asp Ile
      115      120      125

Val Gly Leu Ala Ala Leu Ala Phe Gly Arg His Phe Val Gln Arg Thr
      130      135      140

Gly Met Val Leu Asn Ile Gln Pro Val Thr Asp Leu Leu Pro Val Ala
145      150      155      160

Ile Tyr Arg Gln Arg Phe Thr Arg Gln Gly Val Glu Asn Gly Gln Arg
      165      170      175

Asp Gln Phe Leu Arg Glu Val Ile Arg Thr Ile Val Val Gly Ala Val
      180      185      190

Gly His His His Arg Gln Ala Val Gly Ala Val Pro Gly Ala Asn Gln
      195      200      205

Met Val Ala Ala Arg Phe Gly Gly Arg Val Arg Ala Ala Arg Ser Val
      210      215      220

Arg Gly Phe Phe Gly Glu Gln Val Ile Gly Ala Val Gln Val Ala Val
225      230      235      240

His Leu Ile Gly Gly Asp Val Val Glu Ala Glu Gly Leu Leu Leu His
      245      250      255

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Val Pro Lys Ser Gly Pro Val Val Thr Gly Arg Leu Gln His Ser Lys
260 265 270

Ser Ala Asp His Val Gly Leu Asp Glu Gly Cys Arg Thr Ile Asn Gly
275 280 285

Thr Val His Met Ala Phe Cys Arg Gln Val His His Asp Ile Arg Ala
290 295 300

Glu Leu Ala Glu Leu Gly Arg His Gly Ser Ser Ile Gly Asp Ile Ser
305 310 315 320

Leu Gly Lys Arg Val Ala Phe Ala Pro Gly His Arg Arg Gln Gly Phe
325 330 335

Glu Val Ala Gly Val Gly Gln Ala Val His His Ala Asp Phe Ile Pro
340 345 350

Gly Ile Phe Asn Asp Met Thr Asn His Gly Arg Ala Asp Lys Ala Cys
355 360 365

Thr Ala Gly Asp Lys Asn Leu His Thr Phe Ser Arg Phe Ser Met Thr
370 375 380

<210> 283
<211> 474
<212> PRT
<213> Klebsiella pneumoniae
<400> 283

Met Pro Asp Ile Ser Thr Pro Asn Leu Asp Tyr Asn Asp Met Val Glu
1 5 10 15

Ala Trp Asp Ile Asn Asp Ala Leu Met Gly Gly Thr Leu Glu Met Arg
20 25 30

Arg Gln Gly Lys Lys Tyr Leu Pro Lys Trp Pro Asn Glu Asp Pro Glu
35 40 45

Ser Tyr Lys Glu Arg Leu Ala Ser Ala Thr Leu Leu Pro Ala Tyr Glu
50 55 60

Glu Ala Ile Lys Gln Asn Ile Gly Arg Val Phe Ala Glu Pro Thr Val
65 70 75 80

Leu Ser Glu Asp Ser Pro Glu Gln Ile Arg Glu Leu Ser Pro Asp Ile
85 90 95

Asp Met Glu Gly Asn Arg Leu Asp Val Trp Ala Gln Gln Phe Phe Asn
100 105 110

Ile Gly Phe Gln Tyr Gly Leu Val His Ala Leu Val Asp Phe Pro Lys
115 120 125

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Ile Asp Arg Glu Ala Val Lys Thr Lys Ala Asp Glu Lys Ala Ala Gly
130 135 140

Ser Arg Pro Tyr Ala Thr Met Leu Asn Pro Arg Gln Val Ile Gly Trp
145 150 155 160

Lys Ser Lys Val Val Lys Gly Lys Val Val Leu Thr Asp Leu Arg Ile
165 170 175

Arg Glu Val Ile Ile Val Asp Gly Asp Asp Tyr Gly Gln Thr Lys Val
180 185 190

Glu Gln Ile Arg His Ile Met Pro Gly Lys Val Glu Ile Tyr Arg Arg
195 200 205

Asn Lys Gly Asp Asn Gly Glu Ser Gln Trp Gln Ile His Asp Glu Trp
210 215 220

Glu Thr Ser Arg Asp Asp Ile Pro Leu Val Thr Leu Tyr Thr Lys Arg
225 230 235 240

Thr Gly Phe Met Arg Gly Ser Pro Pro Leu Leu Asn Leu Ala Leu Leu
245 250 255

Asn Ile Lys His Trp Gln Ser Gln Ser Glu Gln Asp Asn Ile Leu His
260 265 270

Val Ala Arg Val Pro Leu Leu Val Ala Tyr Gly Leu Ala Asp Gly Glu
275 280 285

Thr Leu Thr Ile Gly Ser Ser Ser Ala Thr Arg Phe Asp Asp Arg Gln
290 295 300

Arg Gln Gly Leu Glu Tyr Val Glu His Thr Gly Ala Ala Ile Glu Ala
305 310 315 320

Gly Lys Ile Ser Leu Glu Asp Leu Glu Asn Gln Met Arg Gln Ala Gly
325 330 335

Ala Lys Leu Leu Arg Ala Glu Asn Thr Ser Thr Lys Ser Leu Asp Gln
340 345 350

Thr His Glu Glu Arg Met Gln Glu Asn Ser Pro Leu Tyr Thr Met Ala
355 360 365

Ser Ser Leu Glu Asp Ala Leu Asp Asn Ile Leu Gln Ile Met Ala Glu
370 375 380

Trp Leu Gly Glu Lys Glu Gly Gly Asn Val Asp Val Arg Thr Glu Leu
385 390 395 400

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Asp Val Ser Ala Gln Thr Phe Asp Ala Ala Ala Thr Ala Val Gln
405 410 415

Ser Leu Arg Gln Gly Gly Asp Ile Arg Gln Val Asp Ala Val Arg Val
420 425 430

Leu Gln Ala Leu Lys Phe Ile Asp Pro Asp Ala Lys Pro Glu Glu Val
435 440 445

Ile Asp Glu Leu Arg Asn Gln Gln Val Thr Leu Ala Gly Gly Leu Ser
450 455 460

Asn Pro Gly Gly Ala Asn Gly Asn Gly Glu
465 470

<210> 284
<211> 675
<212> PRT
<213> Klebsiella pneumoniae

<400> 284

Met Asn Glu Phe Thr Gly Ser Ala Ala Ser Gln Ala Asp Phe Ile Trp
1 5 10 15

Lys Asn Ala Glu Asp Leu Trp Gly Asp Phe Lys His Thr Asp Phe Gly
20 25 30

Lys Ile Ile Leu Pro Phe Thr Leu Leu Arg Arg Leu Glu Cys Ala Leu
35 40 45

Glu Pro Thr Arg Glu Ala Val Arg Glu Ala His Asp Ala Phe Lys Asp
50 55 60

Ala Asp Val Glu Leu Asp Thr Ile Leu Arg Ser Thr Ala Glu Tyr Pro
65 70 75 80

Phe Tyr Asn Thr Ser Glu Tyr Ser Leu Gly Thr Leu Gly Ser Thr Lys
85 90 95

Thr Arg Arg Asn Leu Glu Asp Tyr Ile Ala Leu Phe Ser Asp Asn Ala
100 105 110

Arg Ala Ile Phe Glu Glu Phe Glu Phe Gly Asn Thr Val Ile Arg Leu
115 120 125

Glu Lys Ala Gly Leu Leu Tyr Lys Ile Cys Gln Asn Phe Ala Lys Ile
130 135 140

Asp Leu His Pro Asp Val Val Pro Asp Arg Val Met Ser Asn Ile Tyr
145 150 155 160

Glu His Leu Ile Arg Arg Phe Gly Ala Glu Val Asn Glu Gly Ala Glu

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170

165

175

Asp Phe Met Thr Pro Arg Asp Ile Val His Leu Ala Thr Ala Leu Leu
180 185 190

Leu Asp Pro Asp Asp Ala Leu Phe Glu Ala Ser Pro Gly Leu Ile Arg
195 200 205

Thr Leu Tyr Asp Pro Thr Cys Gly Thr Gly Gly Phe Leu Thr Asp Ala
210 215 220

Met Asn His Val Gly Asp Tyr Gly Asn Arg Asp Lys Ile Pro Pro Val
225 230 235 240

Leu Val Pro His Gly Gln Glu Leu Glu Pro Glu Thr His Ala Val Cys
245 250 255

Val Ala Gly Met Leu Ile Arg Arg Leu Glu Ser Asp Pro Gly Arg Asp
260 265 270

Leu Ser Lys Asn Ile Arg Gln Gly Ser Thr Leu Ser Asn Asp Gln Phe
275 280 285

Ala Gly Glu Arg Phe His Tyr Cys Leu Ser Asn Pro Pro Phe Gly Lys
290 295 300

Lys Trp Glu Lys Asp Lys Thr Ala Val Glu Ala Glu His Lys Lys Gly
305 310 315 320

Glu Leu Gly Arg Phe Gly Pro Gly Leu Pro Lys Ile Ser Asp Gly Ser
325 330 335

Met Leu Phe Leu Met His Leu Ala Ser Lys Leu Glu Leu Pro Ile Asn
340 345 350

Gly Gly Gly Arg Ala Ala Ile Val Leu Ser Gly Ser Pro Leu Phe Asn
355 360 365

Gly Gly Ala Ala Ser Gly Glu Ser Glu Ile Arg Arg Trp Leu Leu Glu
370 375 380

Asp Asp Leu Ile Glu Ala Ile Val Ala Leu Pro Thr Asp Leu Phe Phe
385 390 395 400

Arg Thr Asn Ile Ala Thr Tyr Leu Trp Ile Leu Ser Asn Lys Lys Pro
405 410 415

Gln Glu Arg Lys Gly Lys Val Gln Leu Ile Asn Ala Thr Asp Leu Trp
420 425 430

Thr Ser Ile Arg Asn Glu Gly Asn Lys Arg Arg Ile Val Ser Asp Glu
435 440 445

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Gln Arg Arg Gln Ile Leu Asp Ile Tyr Ala Ala Gly Glu Thr Gly Ala
450 455 460

Leu Ser Arg Met Leu Asp Tyr Arg Thr Phe Gly Tyr Arg Arg Ile Arg
465 470 475 480

Val Leu Arg Pro Leu Arg Met Thr Leu Glu Leu Asp Lys Val Gly Met
485 490 495

Glu Arg Leu Glu Ala Glu Ala Ala Trp Glu Lys Leu Ser Asp Ala His
500 505 510

Gln Thr Phe Trp Arg Glu Ala Leu Lys Pro Leu Ile Gly Gln Thr Gln
515 520 525

Pro Tyr Ser Trp Ala Glu Thr Phe Val Ser Asn Ser Ile Lys Ser Asp
530 535 540

Glu Ala Lys Gln Leu Lys Val Lys Ser Asn Lys Thr Leu Ile Thr Ala
545 550 555 560

Leu Ile Asn Ala Phe Gly His Lys Asp Pro Lys Ala Glu Pro Val Thr
565 570 575

Asp Ser Asn Gly Glu Leu Val Pro Asp Thr Asp Leu Thr Asp Tyr Glu
580 585 590

Asn Val Pro Tyr Leu Glu Asp Ile Asp Asp Tyr Phe Ala Arg Glu Val
595 600 605

Leu Pro His Val Pro Asp Ala Trp Leu Asp Glu Ser Phe Thr Asp Ala
610 615 620

Arg Asp Gly Gln Leu Gly Arg Val Gly Tyr Glu Ile Asn Phe Asn Arg
625 630 635 640

Phe Phe Tyr Gln Tyr Gln Pro Pro Arg Lys Leu His Asp Ile Asp Glu
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Asp Leu Lys Gln Val Glu Ala Glu Ile Ala Ala Leu Leu Ala Glu Val
660 665 670

Ala Ser Glu
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<210> 285
<211> 632
<212> PRT
<213> Klebsiella pneumoniae
<400> 285

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Ile Thr Glu Ile Leu Val Lys Val Gly Asp Lys Val Glu Ala Glu Gln
20 25 30

Ser Leu Ile Thr Val Glu Gly Asp Lys Ala Ser Met Glu Val Pro Ser
35 40 45

Pro Gln Ala Gly Val Val Lys Glu Ile Lys Val Ser Val Gly Asp Lys
50 55 60

Thr Glu Thr Gly Lys Leu Ile Met Ile Phe Asp Ser Ala Glu Gly Ala
65 70 75 80

Ala Ala Ala Ala Pro Ala Gln Glu Glu Lys Lys Glu Ala Ala Pro Ala
85 90 95

Ala Ala Ala Pro Ala Ala Ala Ala Ala Lys Glu Val His Val Pro
100 105 110

Asp Ile Gly Gly Asp Glu Val Glu Val Thr Glu Ile Met Val Lys Val
115 120 125

Gly Asp Thr Ile Ala Ala Glu Gln Ser Leu Ile Thr Val Glu Gly Asp
130 135 140

Lys Ala Ser Met Glu Val Pro Ala Pro Phe Ala Gly Thr Val Lys Glu
145 150 155 160

Ile Lys Ile Asn Thr Gly Asp Lys Val Ser Thr Gly Ser Leu Ile Met
165 170 175

Ile Phe Glu Val Ala Gly Ala Ala Pro Ala Ala Ala Pro Ala Gln Ala
180 185 190

Ala Ala Pro Ala Ala Ala Ala Pro Ala Ala Ala Ala Gly Val Lys Asp
195 200 205

Val Asn Val Pro Asp Ile Gly Gly Asp Glu Val Glu Val Thr Glu Val
210 215 220

Met Val Lys Val Gly Asp Lys Val Ala Ala Glu Gln Ser Leu Ile Thr
225 230 235 240

Val Glu Gly Asp Lys Ala Ser Met Glu Val Pro Ala Pro Phe Ala Gly
245 250 255

Thr Val Lys Glu Ile Lys Ile Ser Thr Gly Asp Lys Val Lys Thr Gly
260 265 270

Ser Leu Ile Met Val Phe Glu Val Glu Gly Ala Ala Pro Ala Ala Ala
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275

280

285

Pro Ala Gln Ala Ala Ala Pro Ala Pro Ala Ala Ala Pro Ala Gln Ala
 290 295 300

Ala Lys Pro Ala Ala Ala Pro Ala Ala Lys Ala Glu Gly Lys Ser Glu
 305 310 315 320

Phe Ala Glu Asn Asp Ala Tyr Val His Ala Thr Pro Leu Ile Arg Arg
 325 330 335

Leu Ala Arg Glu Phe Gly Val Asn Leu Ala Lys Val Lys Gly Thr Gly
 340 345 350

Arg Lys Gly Arg Ile Leu Arg Glu Asp Val Gln Ala Tyr Val Lys Glu
 355 360 365

Ala Val Lys Arg Ala Glu Ser Ala Pro Ala Ala Ala Ala Gly Gly Gly
 370 375 380

Ile Pro Gly Met Leu Pro Trp Pro Lys Val Asp Phe Ser Lys Phe Gly
 385 390 395 400

Glu Val Glu Glu Val Glu Leu Gly Arg Ile Gln Lys Ile Ser Gly Ala
 405 410 415

Asn Leu Ser Arg Asn Trp Val Met Ile Pro His Val Thr His Phe Asp
 420 425 430

Lys Thr Asp Ile Thr Asp Leu Glu Ala Phe Arg Lys Gln Gln Asn Ala
 435 440 445

Glu Ala Glu Lys Arg Lys Leu Asp Val Lys Phe Thr Pro Val Val Phe
 450 455 460

Ile Met Lys Ala Val Ala Ala Ala Leu Glu Gln Met Pro Arg Phe Asn
 465 470 475 480

Ser Ser Leu Ser Glu Asp Gly Gln Arg Leu Thr Leu Lys Lys Tyr Ile
 485 490 495

Asn Ile Gly Val Ala Val Asp Thr Pro Asn Gly Leu Val Val Pro Val
 500 505 510

Phe Lys Asp Val Asn Lys Lys Ser Ile Thr Glu Leu Ser Arg Glu Leu
 515 520 525

Thr Thr Ile Ser Lys Lys Ala Arg Asp Gly Lys Leu Thr Ala Gly Glu
 530 535 540

Met Gln Gly Gly Cys Phe Thr Ile Ser Ser Ile Gly Gly Leu Gly Thr
 545 550 555 560

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Thr His Phe Ala Pro Ile Val Asn Ala Pro Glu Val Ala Ile Leu Gly
565 570 575

Val Ser Lys Ser Ala Met Glu Pro Val Trp Asn Gly Lys Glu Phe Val
580 585 590

Pro Arg Leu Met Leu Pro Ile Ser Leu Ser Phe Asp His Arg Val Ile
595 600 605

Asp Gly Ala Asp Gly Ala Arg Phe Ile Thr Ile Ile Asn Asn Thr Leu
610 615 620

Ser Asp Ile Arg Arg Leu Val Met
625 630

<210> 286
<211> 599
<212> PRT
<213> Klebsiella pneumoniae

<400> 286

Met Thr Thr Gln Ala Pro Pro Ser Asn Leu Leu Pro Leu Asn Pro Glu
1 5 10 15

Gln Leu Ala Arg Leu Gln Ala Ala Thr Thr Asp Phe Thr Pro Thr Gln
20 25 30

Leu Ala Trp Val Ser Gly Tyr Phe Trp Gly Val Leu Asn Gln Gln Ser
35 40 45

Gly Ala Ala Val Ala Ala Pro Ala Pro Ala Ala Glu Val Pro Thr Ile
50 55 60

Thr Leu Ile Ser Ala Ser Gln Thr Gly Asn Ala Arg Arg Val Ala Glu
65 70 75 80

Ala Leu Arg Asp Asp Leu Leu Ala Ala Lys Leu Asn Val Lys Leu Val
85 90 95

Asn Ala Gly Asp Tyr Lys Phe Lys Gln Ile Ala Ala Glu Lys Leu Leu
100 105 110

Val Val Val Thr Ser Thr Gln Gly Glu Gly Glu Pro Pro Glu Glu Ala
115 120 125

Val Ala Leu His Lys Phe Leu Phe Ser Lys Lys Ala Pro Lys Leu Asp
130 135 140

Gly Thr Ala Phe Ala Val Phe Gly Leu Gly Asp Thr Ser Tyr Glu Phe
145 150 155 160

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Phe Cys Gln Ser Gly Lys Asp Phe Asp Asn Lys Leu Ala Glu Leu Gly
 165 170 175
 Ala Glu Arg Leu Leu Asp Arg Val Asp Ala Asp Val Glu Tyr Gln Ala
 180 185 190
 Ala Ala Ala Glu Trp Arg Ala Arg Val Val Glu Ala Leu Lys Ala Arg
 195 200 205
 Ala Pro Val Ala Ala Pro Ala Gln Leu Ala Thr Ser Gly Ala Val Asn
 210 215 220
 Asp Ile His Thr Ser Pro Tyr Thr Lys Glu Ala Pro Leu Thr Ala Thr
 225 230 235 240
 Leu Ser Val Asn Gln Lys Ile Thr Gly Arg Asn Ser Glu Lys Asp Val
 245 250 255
 Arg His Ile Glu Ile Asp Leu Gly Asp Ser Gly Leu Arg Tyr Gln Pro
 260 265 270
 Gly Asp Ala Leu Gly Val Trp Tyr Gln Asn Asp Pro Gln Leu Val Lys
 275 280 285
 Glu Leu Val Glu Leu Leu Trp Leu Lys Gly Asp Glu Pro Val Thr Val
 290 295 300
 Glu Gly Lys Thr Leu Pro Leu Ser Glu Ala Leu Gln Trp His Phe Glu
 305 310 315 320
 Leu Thr Val Asn Thr Ala Thr Ile Val Glu Asn Tyr Ala Thr Leu Thr
 325 330 335
 Arg Ser Glu Ser Leu Val Pro Leu Val Gly Asp Lys Ala Gln Leu Gln
 340 345 350
 Gln Tyr Ala Ala Ala Thr Pro Ile Val Asp Met Val Arg Phe Ser Pro
 355 360 365
 Ala Gln Leu Asp Ala Glu Ala Leu Ile Gly Leu Leu Arg Pro Leu Thr
 370 375 380
 Pro Arg Leu Tyr Ser Ile Ala Ser Ser Gln Ala Glu Val Glu Ser Glu
 385 390 395 400
 Val His Val Thr Val Gly Val Val Arg Tyr Glu Ile Glu Gly Arg Ala
 405 410 415
 Arg Ala Gly Gly Ala Ser Ser Phe Leu Ala Asp Arg Val Glu Glu Asp
 420 425 430
 Gly Glu Val Arg Val Phe Ile Glu His Asn Asp Asn Phe Arg Leu Pro
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435

440

445

Ala Asn Pro Glu Thr Pro Val Ile Met Ile Gly Pro Gly Thr Gly Ile
450 455 460

Ala Pro Phe Arg Ala Phe Met Gln Gln Arg Ala Ala Asp Gly Ala Gln
465 470 475 480

Gly Lys Asn Trp Leu Phe Phe Gly Asn Pro His Phe Thr Glu Asp Phe
485 490 495

Leu Tyr Gln Val Glu Trp Gln Ser Tyr Val Lys Glu Gly Leu Leu Thr
500 505 510

Arg Ile Asp Leu Ala Trp Ser Arg Asp Gln Gln Gln Lys Ile Tyr Val
515 520 525

Gln Asp Lys Leu Arg Glu Gln Gly Ala Glu Leu Trp Arg Trp Ile Asn
530 535 540

Asp Gly Ala His Ile Tyr Val Cys Gly Asp Ala Asn Arg Met Ala Lys
545 550 555 560

Asp Val Glu Asn Thr Leu Leu Glu Val Ile Ala Glu Tyr Gly Ala Met
565 570 575

Asp Ala Glu Ala Ala Asp Glu Phe Leu Ser Glu Leu Arg Val Glu Arg
580 585 590

Arg Tyr Gln Arg Asp Val Tyr
595

<210> 287

<211> 119

<212> PRT

<213> Klebsiella pneumoniae

<400> 287

Pro Pro Gln Pro Asn Pro Thr Val Trp Arg Ser Ala Cys Pro Thr Gly
1 5 10 15

Met Ser Gly Trp Lys Arg Trp Pro Lys Thr Ile Pro Lys Phe Ala Gly
20 25 30

Thr Ser Ser Ile Ser Ile Ser Cys Ala Pro Ala Ser Cys Cys Ser Arg
35 40 45

Ser Val Leu Thr Trp Trp Ser Ala Pro Thr Cys Ser Ala Ile Phe Ser
50 55 60

Pro Ile Ser Ala Arg Pro Val Pro Ala Leu Ser Ala Leu Arg Arg Arg
65 70 75 80

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Pro Ile Ser Ile Arg Ser Ala Ile Ser Arg Arg Cys Ser Asn Arg Phe
85 90 95

Thr Gly Arg Arg Arg Ile Phe Thr Val Lys Ile Ser Pro Thr Arg Ser
100 105 110

Pro Pro Phe Gly Pro Gly Arg
115

<210> 288
<211> 107
<212> PRT
<213> Klebsiella pneumoniae

<400> 288

Cys Cys Ser Ala Cys Trp Val Gly Ile Asn Thr Thr Ala Arg Trp Ser
1 5 10 15

Leu Ser Pro Ser Tyr Ser Pro Ala Pro Val Pro Ala Arg Leu Thr Pro
20 25 30

Cys Ser Arg Cys Gln Arg Arg Arg Lys Gly Ala Pro Cys Arg Ile Leu
35 40 45

Ser Pro Asn Val Pro Thr Thr Ser Ala Ser Arg Pro Ile Cys Leu Gly
50 55 60

Cys Ser Pro Lys Ser Thr Arg Arg Trp Pro Pro Pro Ala Ser Phe Arg
65 70 75 80

Ser Ala Gly Ser Ala Ala Ala Pro Thr Gly Trp Ile Pro Gly Arg Trp
85 90 95

Pro Thr Ala Gly Arg Ile Thr Pro Ser Cys Ile
100 105

<210> 289
<211> 114
<212> PRT
<213> Klebsiella pneumoniae

<400> 289

Pro Val Pro Gly Ser Gly Trp Arg Arg Ala Glu Val Arg Glu Arg His
1 5 10 15

Phe Arg Asp Phe Arg Pro Trp Gln Arg Pro Gly Ala Gly Ala Gly Ala
20 25 30

Gly Ala Gly Gln Arg Arg Tyr Ala Arg Leu Ser Gly Ala Gln Arg Ala
35 40 45

Gly Asp Gly Pro Arg Gly His Arg Phe Cys Pro Pro Gly Pro Ala Pro
50 55 60

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Ala Asp Tyr Arg Leu His Leu Leu His Arg Ser Gly Ser Gly Gln His
65 70 75 80

Asp His Arg Arg Arg His Arg Gln Arg Gln Pro His Pro Thr Ala Ala
85 90 95

Ala Ala Gly Arg Cys Leu Arg His Pro Pro Ala Gly Ser Gly Ala Pro
100 105 110

Ala Asp

<210> 290
<211> 126
<212> PRT
<213> Klebsiella pneumoniae
<400> 290

Lys Met Thr Arg Trp Ser Ser Ala Ser Ala Phe Thr Ala Ser Arg Ala
1 5 10 15

Ser Thr Ala Ala Ala Ser Ala Arg Trp Thr Lys Pro Ser Met Arg Cys
20 25 30

Ser Ile Pro Cys Trp Lys Thr Ala Leu Thr Ala Ala Arg Cys Ala Ser
35 40 45

Gly Ile Pro Ser Arg Ala Arg Gly Arg Lys Tyr Ser Arg Ala Lys Pro
50 55 60

Arg Cys Lys Thr Ala Thr Gly Leu Ser Arg Trp Leu Ile Thr Ser Ala
65 70 75 80

Pro Leu Arg Phe Pro Asn Cys Met Ala Cys Ile Thr Ala Leu Pro Ser
85 90 95

Ala Ala Lys Arg Pro Ala Ser Ser Ser Asn Ala Thr Ser Ser Ala Ala
100 105 110

Thr Val Leu Arg Trp Ile Trp Arg Ala Ser Pro Ser Leu Cys
115 120 125

<210> 291
<211> 186
<212> PRT
<213> Klebsiella pneumoniae
<400> 291

Lys Ala Gly Arg Gly Ala Gly Asp His Leu Ala Gly Ala Asp Arg Lys
1 5 10 15

Tyr Arg Pro Asp Arg His Leu Ser Asp Ala Gly Gln Gly Gly Cys Ala
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20

25

30

Thr Ala Gly Gly Glu Arg Leu Arg Ala Ala Asp Leu Arg Leu Arg Ala
35 40 45

Val Tyr Arg Arg Asp Pro Gln Gln Gln Pro Gly Ala Gly Gly Val Val
50 55 60

Ser Gly Val Arg Ser Arg Gly Ile Gly Val Gly Gln Arg Gln Pro Val
65 70 75 80

Ala Val Pro Arg His Gly Ala Asp Glu Pro Gln Ala Val Gly Val Gly
85 90 95

Leu Ala Gly Ala Ala Asp Asp Tyr Tyr Pro Gly Gly Ala Gly Ala Gly
100 105 110

Asp Gly Ala Val Cys Gly Val Arg His Leu Ser Asp Asp Gly Gln Lys
115 120 125

Leu Arg Cys Arg Gly Ala Gly Ser Arg Ala Leu Arg Val Trp Pro Gly
130 135 140

Gly Asn Ala Asp Gly Asp Arg Gln Tyr Ala Gly Asp Tyr Arg Pro Phe
145 150 155 160

Arg Ala Ile Ala Tyr Gly Leu Pro Gly Ser Ala Asp Gly Gly Gly Val
165 170 175

Leu Tyr Arg Tyr Arg Gln Arg Ala Gly Asp
180 185

<210> 292
<211> 25
<212> PRT
<213> Klebsiella pneumoniae

<400> 292

Arg Gln Arg Ala Ala Gly Ala Gly Gly Gly Gly Gly Ala Arg Leu Gln
1 5 10 15

Pro Pro Ala Gly Ala Gly Tyr Arg Pro
20 25

<210> 293
<211> 121
<212> PRT
<213> Klebsiella pneumoniae

<400> 293

Gly Leu Pro Thr Phe Ala Ser Thr Leu Asn Ser Arg Phe Ile Arg Ser
1 5 10 15

eo1f-seq1.app

Thr Met Met Ser Arg Cys Ser Ser Pro Ile Pro Ala Ile Met Val Trp
20 25 30

Leu Asp Ser Ser Ser Val His Thr Arg Lys Asp Gly Ser Ser Leu Ala
35 40 45

Arg Arg Pro Arg Ala Arg Pro Ile Phe Ser Trp Ser Ala Leu Val Phe
50 55 60

Gly Ser Thr Ala Met Glu Ile Thr Gly Ser Gly Asn Ser Ile Arg Ser
65 70 75 80

Arg Met Ile Gly Ala Ser Gly Ser His Arg Val Ser Pro Val Val Thr
85 90 95

Ser Phe Arg Pro Ile Ala Ala Ala Met Ser Pro Ala Arg Thr Ser Leu
100 105 110

Ile Ser Ser Arg Leu Leu Ala Cys Ile
115 120

<210> 294
<211> 216
<212> PRT
<213> Klebsiella pneumoniae
<400> 294

Thr Ala Ala Ala Gly Gly Pro Val Ser Ala Gly Arg Ala Ala Gly Arg
1 5 10 15

Arg Cys Gly Ser His Pro Phe Cys Ser Ala Pro Pro Pro Ala Gly Pro
20 25 30

Val Arg Asp Arg Arg Arg Thr Ala Ala Lys Asn Ala Arg Leu Ala Gly
35 40 45

Ala Leu Arg Ile Ala Leu Leu Thr Ala Pro Gly Val Asp Ala Arg Arg
50 55 60

Ala Gly Pro Ala Leu Ala Thr Ala Gly Val Glu Arg Gly Ala Gly Gly
65 70 75 80

Arg Ala Val Ala Asp Pro Pro Pro Ala Val Gly Arg His Gly Gly Gly
85 90 95

Lys Arg Leu Ala Asp Gly Ala Ala Ala Glu Arg Gly Gly Arg Ala Arg
100 105 110

His Arg Gln Leu Phe Ala Ala Ala Arg Gly Ala Gly Arg Leu Ala Gly
115 120 125

Ala Ala Cys Ala Asp Ile Ala Asp Pro Cys Arg Thr Pro Ser Gly Ser
130 135 140

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Ala Glu Thr Gln Ser Ala Ala Gly Gly Val Arg Arg Pro Ala Ala Val
145 150 155 160

Cys Ala Gly Glu Leu Ala Ser Gly Ala Val Cys Arg Ala Gly Ser Gly
165 170 175

Val Thr Gly Arg Gly Lys Gln Arg Ala Gly Pro Ser Arg Ser Gly Ala
180 185 190

Ser Gly Arg Gly Gly Ala Thr Gly Gln Pro Gly Leu Leu Ser Pro Leu
195 200 205

Val Ser Asp Gly Glu Lys Gly Asp
210 215

<210> 295
<211> 56
<212> PRT
<213> Klebsiella pneumoniae

<400> 295

Arg Arg Arg Gly Leu Pro Ala Ser Pro Cys Ser Gly Arg Asp Asp Pro
1 5 10 15

Tyr Ala Gly Ala Val Arg Leu Tyr Asn Arg His Arg Gln Pro Ala Ala
20 25 30

Gly Ser Thr Leu Ser Pro Pro Arg Leu Pro Asn Met Pro His Ser Thr
35 40 45

Ser Cys Ser Ala Arg Pro Thr Ser
50 55

<210> 296
<211> 71
<212> PRT
<213> Klebsiella pneumoniae

<400> 296

Lys His Pro Ala Glu Asp Gly Arg Arg Pro Gly Gly Ala Gln Arg Arg
1 5 10 15

Gln Ala Asp Ala Val Ala Ala Arg Gln Ser Gly Lys Gly Pro Ala Ser
20 25 30

Ala Val Val Arg Leu Pro Gly Ser His Pro Asp Ala Val Glu Gln Arg
35 40 45

Ala Gln Gln Arg Gln Ala Ala Ala Gly Ser Gly Arg Arg Ala Ala Gly
50 55 60

Gly Gly Gln Tyr Pro Gly Glu

65

70

<210> 297
 <211> 98
 <212> PRT
 <213> *Klebsiella pneumoniae*
 <400> 297

Ser Arg Pro Asp Ala Ala Ala Gly Ser Ala Gly Asp Cys Ala Ala Leu
 1 5 10 15

Arg Arg Gly Gly Gly Gly Arg Ala Asp Arg Leu Cys Arg Ala Gly
 20 25 30

Gly Ala Ala Arg Gly Ala Pro Ser Gly Asp Gly Arg Tyr Pro Pro Gly
 35 40 45

Ala Ala Pro Gly Cys Ala Gly Gly Ser Ala Gly Ala Gly Ala Gly Gly
 50 55 60

Tyr Arg Arg Pro Asp Ala Gly Arg Ala Ala Gly Ala Gly Asp Arg Gly
 65 70 75 80

Asp Asp Arg Pro Gly Gly Cys Ala Val Val Tyr Leu Tyr Arg Arg Glu
 85 90 95

Val Phe

<210> 298
 <211> 41
 <212> PRT
 <213> *Klebsiella pneumoniae*
 <400> 298

Pro Ser Gly Phe Arg Val Ala Leu Leu Lys Leu Asn Arg Thr Ser Asp
 1 5 10 15

Phe Arg Val Lys Cys Leu Val Ala Thr Ser Gly Ala Gly Ala Gly Ala
 20 25 30

Gly Ala Thr Thr Gly Ala Ala Ser Ser
 35 40

<210> 299
 <211> 148
 <212> PRT
 <213> *Klebsiella pneumoniae*
 <400> 299

Ala Ala Tyr Pro Ala Gly Gly Ala Ala Arg Arg Ala Gly Gly Asp Ser
 1 5 10 15

Gly Arg Gly Pro Ala Leu Tyr Pro Arg Val Asp Ser Phe Ser Ala Gly
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20 25 30

Arg Gly Gly Tyr Pro His Gln Ala Gly Gly Arg Pro Pro Ser Ala Val
35 40 45

Asp Val Arg Arg Gly Gly Ala Gly Leu Pro Glu Asn Leu Thr Gly Tyr
50 55 60

His His Pro Ala Gly Ser Gly Gly Gly Arg Phe Ser Arg Ala Leu Arg
65 70 75 80

Gln Pro Ala Ala Lys His Ser Gly Val Ala Pro Gly Ala Gly Asp Asp
85 90 95

Leu Arg Arg Pro Arg Pro Pro Asp Ala Ala Leu Gln Gln Ser Ala Gly
100 105 110

Glu Gln Pro Ala Leu Tyr Arg Gln Arg Arg Gln Pro Ala His Tyr Arg
115 120 125

Pro Pro Gln Arg Ser His Ala Gly Asp Cys Leu Arg Arg Gln Arg Pro
130 135 140

Arg Arg Gln Arg
145

<210> 300
<211> 102
<212> PRT
<213> Klebsiella pneumoniae
<400> 300

Ser Ala Val Ala Ser Cys Pro Pro Tyr Asp Phe Leu Gln His His Arg
1 5 10 15

Pro Ala Ala Gly Ala Gly Gly Tyr Gly Gly Asp Arg Pro Pro Gly Gln
20 25 30

Pro Gly Ile Pro Arg Arg Arg Ser Gly Arg Gly Asp Gly His Gln Phe
35 40 45

Pro Leu His Ala Ala Ala Val Pro Ala His Glu His His Arg Ala His
50 55 60

Arg Ser Gly Leu Gly Arg Gln Arg Ser Ala Ala Pro Gly Ala Gly Ala
65 70 75 80

Gly Ala Ala Ala Gly Thr Gly Ala Gly Arg Arg Gly Ala Asp Tyr Pro
85 90 95

Ala Ser Pro Ala Ala Asn
100

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<210> 301
 <211> 53
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 301

Thr Val Leu His His Gln Ser His Arg Gln Arg Gln Arg Pro Gly Ala
 1 5 10 15

Val Asp Gly Val Trp Leu Cys Ala Pro Val Trp Arg Pro Gly Gly Ala
 20 25 30

Gly Glu Arg Ala Gly Ala Gly Asp Asp Gly Ala Ala Ala Ala Ala Ala
 35 40 45

Ser Val Asp Arg Gly
 50

<210> 302
 <211> 115
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 302

Trp Pro Ala Arg His Arg Ser Ala Gln Cys Ala Ala Arg Ser Arg Cys
 1 5 10 15

Gly Ala His Pro Pro Gly Glu Pro Pro Pro Gly Ala Gly Gly Gly Ala
 20 25 30

Gly Tyr Pro Phe Arg Pro Glu Cys Ala Asp Gly Arg Asp Ala Arg Cys
 35 40 45

Ser Gly Thr Gly Arg Pro Tyr Ala Asp Leu Tyr Arg Pro Gln Ala Gly
 50 55 60

Ala Ala Asp Arg Gln Gly Ala Gly Cys Arg Arg Ala Thr Pro Pro Ser
 65 70 75 80

Cys Ala Gly Ala Arg Thr Leu Ala Arg Arg Thr Lys His Ser Ser Asp
 85 90 95

Ala Val Leu Arg Arg Pro Pro Arg Arg Leu Ala Ala Ala Ala Ala Gly
 100 105 110

His Leu Pro
 115

<210> 303
 <211> 31
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 303

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Cys Arg Ala Leu Arg Gly Ser Val Arg Thr Val Arg Asn Asn Ala Ile
1 5 10 15

Arg Ser Trp Lys Ser Trp Pro Ala Arg Trp Arg Ser Arg Trp Cys
20 25 30

<210> 304
<211> 89
<212> PRT
<213> Klebsiella pneumoniae

<400> 304

Ala Val Tyr Pro Phe Arg Ala Gly Val Tyr Gly Gly Ser Glu Pro Pro
1 5 10 15

Ala Gly Gly His Pro Arg Trp Thr Val Pro Arg Arg Arg Pro Pro Leu
20 25 30

Ala Val Arg Leu Tyr Pro Gly Ile Pro Gly Ala Ser Gly Pro Val Pro
35 40 45

Ala Pro Val Gly Ser Gly His Gln Pro Ala Asp Gln Pro Gly Phe Ala
50 55 60

Ala Ala Gly Ala Gly Pro Gly Gly Gln Ser Glu Arg Ala Leu His Pro
65 70 75 80

Ile Ser Arg Pro Ala Ser Gly Val Val
85

<210> 305
<211> 70
<212> PRT
<213> Klebsiella pneumoniae

<400> 305

Ala Ser Gly Asp Pro Ala Gly Gly Ala Ala Gly Gly Ser Glu Gly Gln
1 5 10 15

Arg Gly Ala Gly Ala Gly Gly Gly Ala Gly Glu Arg Pro Gly Ala Leu
20 25 30

Ala Ile Ser Arg Arg Asp Leu Ala Ala Arg Gln Arg Lys Ser Gln Ser
35 40 45

Gly Asn Ser Ala Gly Asp Ser Pro Arg Ala Pro Cys Pro Arg Ala Val
50 55 60

Trp Arg His Arg Ala Ala
65 70

<210> 306
<211> 48

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<212> PRT

<213> Klebsiella pneumoniae

<400> 306

Phe Ala Lys Thr Thr Ala Arg Ser Ala Trp Arg Trp Pro Met Arg Trp
1 5 10 15

Lys Ala Ala Leu Ala Ser Thr Trp Asn Ser Ala Ala Arg Arg Gly Gly
20 25 30

Cys Ser Cys Gly Arg Val Ser Ala Ile Arg Ser Ile Pro Trp Asn Gly
35 40 45

<210> 307

<211> 56

<212> PRT

<213> Klebsiella pneumoniae

<400> 307

Thr Ala Pro Ala Pro Ala Ala Gly Lys Phe Thr Ser Lys Thr Ala Ser
1 5 10 15

Leu Pro Gly Lys Pro Ser Arg Pro Ile Ile Arg Ala Pro Gly Arg Ile
20 25 30

Cys Gln Ile Thr Asn Arg Ala Ala Ala Arg Ala Ala Pro Ala Thr Pro
35 40 45

Gly Ile Ser Thr Ala Pro Thr Ala
50 55

<210> 308

<211> 107

<212> PRT

<213> Klebsiella pneumoniae

<400> 308

Gly Glu Gly Asp Val Asp Ile Asn Cys Ile Phe Gly Arg Asn Val Asn
1 5 10 15

Pro Ala Glu Pro Leu Tyr Ala Ala Gly Asp Pro Ala Ala Val Arg Gln
20 25 30

Arg Pro Gly Pro Pro Gly Ala Ala Gly Asp His Ala Gly Arg Asn Gly
35 40 45

Ala Asp Val Arg Arg Cys Leu Leu Ala Gly Asp Gly Arg Gln Arg Leu
50 55 60

Gly Gly Glu Ser Asp Pro Cys Arg Pro Arg Ser Gly Ala Gly Val Leu
65 70 75 80

Arg Pro Gly Arg Ala Glu Ser Ala Phe Ala Thr Arg Arg Ala Thr Ala
85 90 95

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Asp Leu Thr Pro Gly Ser Val Gly Glu Ser Ala
100 105

<210> 309
<211> 47
<212> PRT
<213> Klebsiella pneumoniae

<400> 309

Ser Ala Asp Ala Arg Ser Gly Thr Leu Pro Pro Arg Arg Arg Thr Ser
1 5 10 15

Gly Leu Ser Gly Arg Arg Tyr Gly Ala Ala Gly Leu His Ser Ala Ala
20 25 30

Gly Trp Arg Leu Ala Gly Gly Pro Ala Ala Ala Gly Ala Ala Leu
35 40 45

<210> 310
<211> 61
<212> PRT
<213> Klebsiella pneumoniae

<400> 310

Ser Glu Arg Arg Asp Ile Phe Ile Ala Ala Gly Gly Gly Gly Cys Arg
1 5 10 15

Val Arg His Cys Asp Ala Ser Arg Thr Gly Gly Pro Gly Arg Asp Cys
20 25 30

Gln Arg His Ala Gly Gly Gly Ala Ser Gly Val Asp Ala Glu Gly Val
35 40 45

Glu Arg Leu Arg His Leu Ser Phe Pro Arg Leu Pro Thr
50 55 60

<210> 311
<211> 83
<212> PRT
<213> Klebsiella pneumoniae

<400> 311

Ala Pro Val Ser Thr Pro Ala Pro Ala Lys Pro Ser Gly Arg Ser Ala
1 5 10 15

Ser Arg Arg Ser Pro Ala Phe Thr Ala Arg Ser Cys Ser Arg Arg Gln
20 25 30

Thr Ala Ala Ala Thr Pro Ser Ala Ala Leu Ser Arg Ile Arg Ser Thr
35 40 45

Ser Thr Leu Ile Ala Thr Thr Ser Pro Leu Phe Pro Ala Cys Ala Trp
50 55 60

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Cys Ile Asn Arg Leu Ser Arg Lys Ile Cys Pro Thr Leu Pro Pro Thr
65 70 75 80

Ala Ala Tyr

<210> 312
<211> 151
<212> PRT
<213> Klebsiella pneumoniae

<400> 312

Ser Ala Asp Cys Ser Ala Ala Pro Gly Gln Pro Ala Gly Leu Ala Ala
1 5 10 15

Asp Trp Pro Ala Ala Val Pro Glu Gly Gly Ala Gly Phe Gln Leu Asp
20 25 30

His Phe Tyr Leu Leu His Leu Ala Asp Gly Asp Gln His Arg Gly Gly
35 40 45

Cys Ala Ala Asp Pro Ala Gly Leu Ser Gln Arg Arg Pro Arg Pro Pro
50 55 60

Ala Leu Gly Val Asp Gly Asp Ala Gln Asn Pro Leu Ser Gly Gly Ala
65 70 75 80

Ala Gly Gly Ala Tyr Arg Arg Ala Pro Leu His Arg His Arg Leu Ala
85 90 95

Gly Asp Arg Gly Gly Gly Asn Ala His Arg Arg Thr Gly Asp Arg Leu
100 105 110

Leu Asp Leu Glu Arg Val Glu Gln Pro Gln Cys Gly Lys His His His
115 120 125

Arg His Arg His Tyr Arg Arg Arg Arg Pro Ala Ala Gly Ala Gly Pro
130 135 140

Asp Ala Ala Arg Ser Pro Leu
145 150

<210> 313
<211> 89
<212> PRT
<213> Klebsiella pneumoniae

<400> 313

Pro Pro Pro Ser Ser Ala Arg Ser Cys Lys Ile Pro Pro Ala Ala Thr
1 5 10 15

Ala Arg Lys Ser Ser Leu Lys Pro Cys Ser Ser Thr Gly Ser Trp Arg
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20

25

30

Trp Pro Pro Gly Cys Ser Ala Gln Ser Ile Arg Arg Lys Trp Pro Arg
35 40 45

Met Ser Pro Thr Leu Ser Ile Val Ser Thr Ser Trp Ser Pro His Ser
50 55 60

Thr Thr Pro Pro Ser Ser Val Ser Asn Gly Trp Ser Gly Ser Ile Ala
65 70 75 80

Ser Ser Pro Leu Val Trp Arg Cys Cys
85

<210> 314

<211> 45

<212> PRT

<213> Klebsiella pneumoniae

<400> 314

Val Phe Ser Ile Ser Ser Thr Cys Ser Pro Gly Arg Arg Pro Trp Leu
1 5 10 15

Ser Ser Leu Ser Gly Pro Pro Ser Ile Leu Ala Ser Ala Pro Arg Arg
20 25 30

Pro Gly Cys Phe Thr Arg Ser Thr Pro Leu Ser Pro Cys
35 40 45

<210> 315

<211> 38

<212> PRT

<213> Klebsiella pneumoniae

<400> 315

Leu Pro Arg Ala Arg Pro Val Ser His Trp Ile Arg Cys Val Ile Ser
1 5 10 15

Pro Thr Thr Ala Leu Ala Arg Trp Ala Ser Arg Leu Pro Pro Pro Gln
20 25 30

Arg Ser Gly Ala Arg Met
35

<210> 316

<211> 32

<212> PRT

<213> Klebsiella pneumoniae

<400> 316

Ile Ala Val Cys Pro Ala Gly Asn Ala Pro Val Gly Gln Gln Pro Ser
1 5 10 15

His Ser His Phe Arg Gly Asp Asn Gly Arg Gly Ala Gly Ala Gly Ala
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<210> 317
<211> 103
<212> PRT
<213> Klebsiella pneumoniae
<400> 317

Gln Arg Gly Gly Gly Cys Arg Arg Gly Val Ala Ala Arg Arg Phe Arg
1 5 10 15

Arg Tyr His His Pro Asp Gln Gln Arg Arg Ala Gly Ala Val Ala Ala
20 25 30

Ala Gly Ala Gly Gly Gly Ala Gly Gly Leu Glu Asn Asp Asp Arg His
35 40 45

Gln Arg His Arg Ser Gly Asp Ser His Ser Arg Pro Ala Ala Asp Ala
50 55 60

Asp Pro Pro Trp Arg Arg Gly Glu Tyr Tyr Gln Tyr Arg Leu Asp Arg
65 70 75 80

Arg Ala Val Ala Leu Ser Arg Gln Pro Cys Val Trp Arg Gln Gln Gly
85 90 95

Val Cys Glu Ala Val Gln Leu
100

<210> 318
<211> 51
<212> PRT
<213> Klebsiella pneumoniae
<400> 318

Cys Ala Leu Pro Val Ala Gly Ala Arg His Thr Gln Val His Ala Ala
1 5 10 15

Leu Trp Gln Ser Gly Arg Tyr Arg Leu Cys Arg Arg Leu Gly His His
20 25 30

Pro Pro Val Glu Phe Pro Ala His Leu Phe Arg Tyr Tyr Pro Ala Leu
35 40 45

Lys Arg Pro
50

<210> 319
<211> 105
<212> PRT
<213> Klebsiella pneumoniae
<400> 319

Arg Ser Gly Leu Asn Gly His Asp Gly Arg Arg Ala Gly Asp Asp Gly
Page 285

1 5 10 15

Leu Cys Arg Thr Val Tyr Arg Pro Gly Gly Asp Gly Ala Asn His Pro
20 25 30

Ser Glu His Ala Arg Arg His Arg Arg Ile Asp Arg His Leu Tyr Ala
35 40 45

Gly His Arg Arg Gly Gly Gln Leu Ala Gly Gly Arg Gly Arg Pro Ala
50 55 60

Asn His Arg Ile Ala Asn Gln Arg Tyr Gly Asp Cys Arg Leu Ser Ala
65 70 75 80

Phe Leu Arg Ala Asp Gly Arg Met Asp Ser Arg Leu Arg Gly Gly Asp
85 90 95

Gly His Tyr Arg Leu Cys Arg Gly Leu
100 105

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<210> 321
<211> 36
<212> PRT
<213> Klebsiella pneumoniae

<400> 321
Ala Ile Thr Leu Gly Lys Asn Gly Tyr Ala Gly Pro Val Val Gln His
1          5          10          15
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Arg Asp Leu Leu Ser Pro Ala Gly Ala Lys Pro Cys Leu Gly Arg Cys
20 25 30

Ile Gln Gly Asp
35

<210> 322
<211> 56
<212> PRT
<213> Klebsiella pneumoniae
<400> 322

Ile Pro Ser Pro Gly Arg Gly Arg Arg Gly Asn Lys Gly Arg Gly Cys
1 5 10 15

Arg Thr Ala Leu Leu Asn Arg Pro Lys Ile Trp Trp Ala Gly Lys Thr
20 25 30

Ser Arg Ser Ser Thr Ser Arg Gln Pro Ala Arg Arg Gly Leu Trp Met
35 40 45

Thr Arg Ser Ala His Cys Ser Ser
50 55

<210> 323
<211> 135
<212> PRT
<213> Klebsiella pneumoniae
<400> 323

Leu Pro Ser Lys Ala Pro Ser Arg Ala Ala Val Trp Ala Lys Ser Pro
1 5 10 15

Ala Pro Lys Trp Pro Pro Arg Trp Ser Trp Arg Arg Lys Ile Thr Ala
20 25 30

Thr Val Ser Arg Pro Arg Arg Cys Cys Ala Ser Lys Pro Ala Ala Tyr
35 40 45

Val Cys Lys Arg Pro Thr Ser Val Trp Pro Pro Ser Pro Ile Phe Met
50 55 60

Pro Arg Leu Ser Thr Cys Ala Ala Thr Pro Arg Trp Ser Ala Leu Leu
65 70 75 80

Pro Val Pro Ser Ala Ala Ser Ala Val Cys Pro Ser Pro Arg Arg Cys
85 90 95

Ala Ala Thr Leu Ser Ser Pro Val Lys Pro Val Ser Ala Ser Met Ala
100 105 110

Arg Arg Leu Ser Ser Arg Lys Pro Ala Leu Lys Ser Thr Thr Pro Ala
115 120 125

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Thr Val Arg Leu Ser Gly Ala
130 135

<210> 324
<211> 91
<212> PRT
<213> Klebsiella pneumoniae

<400> 324

Arg Cys Arg Val Arg Ala His Arg Cys Trp Leu Arg Met Thr Ala Arg
1 5 10 15

Glu Ser Pro Pro Arg Ser Ala Ser Gly Cys Leu Ser Pro Leu Ser Ala
20 25 30

Leu Thr Pro Ala Gly Thr Gly Arg Gln Glu Ala Ala Ala Ser Ala Trp
35 40 45

Arg Leu Ser Thr Val Ser Pro Arg Arg Trp Ala Ala Arg Cys Ala Ala
50 55 60

Arg Pro Ala Leu Ser Ala Ala Pro Ala Ser Ala Leu Ala Gly Arg Ser
65 70 75 80

Ile Ile Ser Cys Leu Ile Ser Pro Leu Pro Glu
85 90

<210> 325
<211> 46
<212> PRT
<213> Klebsiella pneumoniae

<400> 325

Arg Ser Ser Ala Ala Gly Pro Gly Gly Arg Arg Gly Asp Ser Gly Arg
1 5 10 15

Cys Ala Ala Asp His Gly Leu Trp Pro Gly Ala Gly Gly Ala Gln Gly
20 25 30

Ala Gly Ala Asp Arg Pro Asp Ile Arg Pro Asp Gly Cys His
35 40 45

<210> 326
<211> 45
<212> PRT
<213> Klebsiella pneumoniae

<400> 326

Ile Val Lys Tyr Gln Pro Gly Arg Ser Gly Arg Phe Arg Leu Ala Gln
1 5 10 15

Pro Ala Ala His Gly Ala Gly Pro Ala Arg Arg His Ser Gly Ala Gly
20 25 30

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Asp Cys Ala Gly Ala Asp Cys Arg Pro Glu Arg Gly Gly
35 40 45

<210> 327
<211> 64
<212> PRT
<213> Klebsiella pneumoniae

<400> 327

Arg His Tyr Val Ala Val Ala Arg Arg Pro Gly His Arg Pro Ala Val
1 5 10 15

Arg Arg Arg Tyr Gly Gly Arg Gln Arg His Asp Gln Arg Pro Ala Cys
20 25 30

Gly Gly Asp Cys His Arg Arg His Leu Pro Gly Arg Gln Tyr Gly Arg
35 40 45

Ser Leu Arg Arg Gln Asn Gly Arg Arg Ala Gly Ala Gly Gly Gly Arg
50 55 60

<210> 328
<211> 89
<212> PRT
<213> Klebsiella pneumoniae

<400> 328

Ala Arg Arg Gly Ala Gly Gly His Pro Ala Pro Ala Arg Gly Ala Gly
1 5 10 15

Arg Thr Ala Ala Arg Ala Ala Ala Asp Ala Gly Asp Gly Gly Pro Leu
20 25 30

Arg Leu Arg Tyr Leu Ser Pro Gly Ala His Cys Pro Gly Gly Gly Ala
35 40 45

Val Ala Leu Leu Arg Leu Pro Gly Gly Gly Glu Val Ala Glu Arg Arg
50 55 60

Arg His Val Ser Gly Ala His Gly His Leu Pro Arg His Leu Tyr Arg
65 70 75 80

Thr Arg Ser Ala Arg Arg Phe Ile Glu
85

<210> 329
<211> 61
<212> PRT
<213> Klebsiella pneumoniae

<400> 329

Leu Thr Ala Ala Arg Arg Arg Ser Asn Phe Pro Ser Trp Ala Pro Pro
1 5 10 15

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Ala Ala Thr Ala Cys Ser Thr Ala Trp Pro Arg Ala Ser Thr Arg Asn
20 25 30

Gly Arg Leu Ser Arg Ser Thr Ala Ala Ser Arg Trp Arg Trp Arg Ser
35 40 45

Ala Ala Thr Lys Ala Pro Cys Arg Arg Leu Pro Gly His
50 55 60

<210> 330
<211> 96
<212> PRT
<213> Klebsiella pneumoniae

<400> 330

Ala Phe Ser Gly Ser Pro Asp Ala Tyr Tyr Arg Asp Gln Tyr Cys Ser
1 5 10 15

Leu Ala Gly Ala Gly Pro Gly Ala Asp Arg Tyr Arg Gln Pro Ala Val
20 25 30

Asp Pro Ala Cys Ala Arg Thr Gly Ser Ala Val Asn His Arg His Arg
35 40 45

Phe Tyr Arg Gln Pro Pro Gly Gly Ala Ala Gly Val Pro Ala Cys Gly
50 55 60

Ala Leu Gln Arg Asn Ile Val Leu Ala Ser Ala Ala Ala Ala Ala Pro
65 70 75 80

Glu Gly Asp Trp His His Asp Gly Ala Gly Asp Gln Arg Glu Ser Glu
85 90 95

<210> 331
<211> 152
<212> PRT
<213> Klebsiella pneumoniae

<400> 331

Pro Arg Glu Arg Arg Trp Lys Leu Ser Pro Pro Ala Ala Ala Ser Arg
1 5 10 15

Arg Ser Pro Pro Arg Ala Arg Ala Val Asn Thr Glu Arg Val Pro Asp
20 25 30

Ala Gly Val Thr Ser Arg Pro His Arg Arg Pro Val Pro Ala Val Tyr
35 40 45

Tyr Ala Ser Gly Gly His His Ser Ala Asp Gly Gly Tyr Pro Ala Gly
50 55 60

Arg Asp His Arg Leu Pro Leu Ser Ala Gly Leu Arg Pro Ala Gly Gly
65 70 75 80

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Arg Leu Pro Asp His Ser Gly Ser His Pro Leu Ser Gly Arg Gln Pro
85 90 95

Gly Arg Gly Asp Leu Arg His His Arg Pro Ala Gly Ala Pro Val Arg
100 105 110

Pro Asp Val Arg Pro Gln Ala Asp Val Val Ala Lys Leu Trp Arg Arg
115 120 125

Leu Gly Ser His Ala Ala Val Pro Ala Asp Pro Ala Ala Gly Arg Arg
130 135 140

Arg Ala Gly Ser Ala Gly Gly His
145 150

<210> 332
<211> 118
<212> PRT
<213> Klebsiella pneumoniae

<400> 332

Arg Arg His Phe Glu Ser His Phe Gly Val Pro Pro Pro Asn Gly Ala
1 5 10 15

Lys His Phe Val Val Trp His Asp Ser Thr Arg Arg Glu Ser Ile Gln
20 25 30

Gly Gly Lys Cys Glu Thr Ser Asn Ala Ile Arg Cys Arg Arg Val Cys
35 40 45

Arg Cys Leu Leu Ser Asp Arg Phe Pro Arg Gly Glu Pro Gly Gln Pro
50 55 60

Arg Leu Cys Glu Asn Ala Gly Lys Gly Gly Ser Gly Asp Gly Ala Ala
65 70 75 80

Glu Leu His Ser Gln Pro Arg Gly Thr Thr Thr Gly Gly Gln Thr Val
85 90 95

Val Ala Asp Trp Arg Cys Tyr Leu Gln Ser Gly Pro Ala Arg Ala Val
100 105 110

Ala Asn Cys Arg Gly Asp
115

<210> 333
<211> 67
<212> PRT
<213> Klebsiella pneumoniae

<400> 333

Arg Thr Gln Lys Pro Ser Arg Val Leu Ser Gly Arg Leu Thr Glu Lys
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1 5 10 15

Ser Gly Gln His Arg Gln Thr Ala Leu Thr Thr Pro Gly Ser Val Thr
20 25 30

Met Asn Cys Gly Val Arg Lys Ser Ala Arg Leu Ser His Pro Glu Lys
35 40 45

Val Arg Val Thr Gly Pro Val Asn Met Gln Thr Val Thr Val Gln Trp
50 55 60

Leu Ile Ser
65

<210> 334
<211> 142
<212> PRT
<213> Klebsiella pneumoniae
<400> 334

Ser Val Pro Leu Ser Arg Pro Asp Pro Ala Pro Val Ala Ser Arg Pro
1 5 10 15

Pro Ala Asp Arg Cys Gly His Asp Gly Ser Ile Arg Ala Glu Ser Ala
20 25 30

Thr Asp Ser Ser Arg Pro Met Pro Pro Asp Leu Ile Leu Ser Pro Arg
35 40 45

Leu Ala Glu Arg Tyr Ala Pro His Pro Pro Pro Gly Thr Thr Ala His
50 55 60

Ile Ala Ser Ala Pro Arg Arg Ser Tyr Ala Gly Gly Gln Cys Ser Ser
65 70 75 80

Gln Val Ser Asp Gln Ser Leu Thr Trp Met Pro Ala Pro Pro Ala Ser
85 90 95

Gly Phe Ser Ala Pro Ala Arg Ser Ala Arg Pro Thr Met Leu Gln Pro
100 105 110

Tyr Arg Ser Ala Glu Pro Ala Asp Asn Ser Gly Cys Gly Ser Val Ser
115 120 125

Val Asp Cys Thr Ile Gln Thr Pro Ala Asp Gly Ala His Lys
130 135 140

<210> 335
<211> 191
<212> PRT
<213> Klebsiella pneumoniae
<400> 335

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Pro Ala Gly Glu His Arg Leu His Arg Phe Thr Leu Gln Gln Thr Gly
1 5 10 15

Glu Leu Gly Ala Asn Val Gly Phe His Gln Gly Val Gln Arg Met Ala
20 25 30

Arg Thr Leu Arg Val Gly Ala Gly Ala Gly Ala Gly Gly Gly
35 40 45

Arg Asn Thr Thr Val Ile Gly Asp Leu His Asn Phe Val Met Gln Gly
50 55 60

Val Ala Gln Leu Ala Asp Ala Thr Ser Gln Arg Arg Gly Leu Leu Arg
65 70 75 80

Gln Arg Gln Gly Gly Gln Arg Glu Arg Arg Leu Tyr Ala Ala Ala Ala
85 90 95

Val Val Ala Ala Glu His His Pro Leu His Leu Lys Val Val Glu Gly
100 105 110

Ile Leu Gln Asp Ala His Asp Val Val Val Gly Arg Val Glu His Val
115 120 125

Gly Asp Ile Ala Val Asp Lys Glu Leu Ala Gly Leu Ala Ala Gly Glu
130 135 140

His Leu Gly Gly His Ala Ala Val Gly Ala Ala Asp Pro Gln Arg Val
145 150 155 160

Gly Pro Leu Pro Val Asp Pro Phe Phe Glu Ile Val Arg Ile Met Leu
165 170 175

Thr Leu Leu Gln Arg Pro Ala Ala Val Ala Gly Gln Gln Arg Phe
180 185 190

<210> 336
<211> 44
<212> PRT
<213> Klebsiella pneumoniae

<400> 336

Ala Arg Tyr Pro Ala Pro Ala Gly Gly Ser Ser Ala Arg Pro Pro Ala
1 5 10 15

Ser Arg Ser Ala Pro Ala Pro Thr Ala Arg Gln Thr Arg Ser Ala Ala
20 25 30

Ala Ser Pro Pro Ser Thr Leu Pro Ala Pro Ala Gly
35 40

<210> 337
<211> 266

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<212> PRT

<213> Klebsiella pneumoniae

<400> 337

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Arg Cys Pro Ala His Arg Pro Ser Ala Gly Ser Pro Ala Ser Pro Trp
1      5      10     15
Ala Ile Ala His Pro Cys Val Pro Val Ala Thr Phe Arg Ser His Pro
20     25     30
Ala Glu Thr Pro Ser Ser Gln His His Pro Gln Pro Pro Arg His Ser
35     40     45
Ala Ile Ala Lys Ala Ala Pro Cys Gly Arg Asp Pro Gln Pro Ala Gly
50     55     60
Lys Gly His Ala Arg Pro Pro Ala Ala Thr Ala Val Ala Thr Gly Arg
65     70     75     80
Ser Ser Val Tyr Arg Ser Ser Ser Ala Ser Ser Ser Ser Arg Arg Arg
85     90     95
Ser Val Cys Ala Ser Arg Pro Ser Glu Asn Glu Arg Gly Phe Ile Pro
100    105    110
Gln Arg Ala Ser Gln Glu Lys Ser Ala Gly Thr Val Asp Gln Asp Arg
115    120    125
Val Ser Ser Ile Ser Pro Pro Leu Pro Cys Gly Arg Gln Ala Ile Ser
130    135    140
Phe Ala Pro Glu Ser Gly Met Ala Met Gly Glu Asn Asp Cys Val Ser
145    150    155    160
Met Arg Ala Pro Gly Phe Ser Ser Pro Gly Met Arg Ser Ala Met Ile
165    170    175
Arg Arg His Cys Val Cys Asn Ala Ala Ser Arg Val Thr Ala Ala Cys
180    185    190
Gly Gly Arg Arg Ser Arg Gln Ser Ala Thr Pro Pro Pro Asp Ser Pro
195    200    205
Ile Ala Ser Arg Ile Gly Ser Pro Val Gln Val Pro Arg Arg Leu Ile
210    215    220
Arg Ile Ser Ala Arg Ser Arg Gln Gly Lys Thr Glu Leu Pro Thr Pro
225    230    235    240
Leu Gly Val Ala Leu Gly Pro Ala Gly Phe Cys Arg Arg Glu Ser Arg
245    250    255

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Asp Ala Ser Gln Arg Ser Leu His Ala Gly
 260 265

<210> 338
 <211> 172
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 338

Lys Ser Lys Ser Leu Arg Arg Lys Gln Leu Phe Arg Val Arg Gln Gly
 1 5 10 15

Val Ala Arg Asp Phe Ala Ala Ala Gln Gln Thr Gly Gln Leu Leu Gln
 20 25 30

Ala Ser Thr Phe Ile Gln Arg Leu His Met Gly Phe Gly His Leu Ala
 35 40 45

Ile Gly Leu Phe Ala Asp Lys Glu Met Met Val Ala Ala Ala Cys Asp
 50 55 60

Leu Arg Gln Val Gly His Ala His His Leu Arg Gly Leu Ala Gln Leu
 65 70 75 80

Ala Gln Gln Leu Ala Asp His Gly Gly Gly Arg Ala Ala Asp Ala Asp
 85 90 95

Val His Phe Val Glu Asp Glu Arg Arg Gly Phe His Phe Thr Arg Gly
 100 105 110

Asp His Leu Asn Arg Gln Arg Asn Ala Arg Gln Phe Ala Ala Gly Gly
 115 120 125

His Phe Gly Asp Trp Leu Gln Arg Leu Thr Gly Val Ser Gly Asp Ala
 130 135 140

Glu Leu Asn Met Val Gly Val Gly Gly Glu Met Ala Phe Ile Glu Arg
 145 150 155 160

Asp Leu Asn Arg Glu Asp Pro Val Arg His Arg Lys
 165 170

<210> 339
 <211> 110
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 339

Pro Pro Ala Asn Arg Val Leu Ile Ser Val Gly Glu Pro Gly Cys Ala
 1 5 10 15

Ser Pro Thr Trp Pro Ser Ser Ala Ser Ser Cys Val Thr Phe Thr Leu
 20 25 30

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Ser Pro Ser Pro Arg Asn Arg Pro Thr Glu Glu Ile Pro Cys Phe Phe
35 40 45

Ala His Ala Ser Ser Val Leu Leu Ala Val Pro Ala Ser Ala Pro Val
50 55 60

Met Met Ser Ile Cys Ser Ala Gly Val Thr Arg Arg Pro Phe Phe Phe
65 70 75 80

Cys Thr Gly Arg Leu Ser Cys Phe Ile Ser Ser Ser Thr Thr Gln Pro
85 90 95

Pro Pro Trp Thr Ile Ile Ser Gly Arg Trp Cys Ala Ser Arg
100 105 110

<210> 340
<211> 467
<212> PRT
<213> Klebsiella pneumoniae

<400> 340

Arg Gln His Leu Arg Gly Leu Gly Arg Ile Gly His Gln Asp Arg Ile
1 5 10 15

His Phe Pro Ala Thr Ala Asn Gly Ala Ala Gln Arg Ala Ala Val Gly
20 25 30

Ala Arg Asp Arg Arg Phe Ala Arg Arg Ile Asp Val Gln His Gln Gln
35 40 45

Gly Ile His Leu Gly Gln His Val Gly Lys Ile Ile Ile Gln Ile Ala
50 55 60

Gly Thr Gly Ile Thr Val Arg Leu Glu Tyr His His Gln Val Phe Ile
65 70 75 80

Arg Pro Ala Gly Ala Arg Cys Phe Asn Gly Gly Val His Phe Arg Arg
85 90 95

Val Val Thr Val Ile Ile Asp Gln His Arg Ala Ala Arg Phe Ala Val
100 105 110

Asp Phe Gly Gln Arg Lys Leu Ala Lys Lys Ile Lys Ala Ala Ser Ser
115 120 125

Ser Leu Glu Ala Leu Gln Cys Ala Gln Asn Ser Pro Ile Val Asn Pro
130 135 140

Leu Phe Arg Arg His Gly Asp Gly Arg Arg Arg Val Gln Arg Val Met
145 150 155 160

Ala Ser Arg Gly Ile Glu Arg His Leu Gln Asp Arg Phe Ile Leu Ala

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170

165

175

His Gln Ala Glu Met Pro Leu Arg Pro Asn Leu Thr Ile Val Leu Asp
180 185 190

Ala Tyr Val Gly Val Val Ala Lys Thr Val Gly Gly Asp Leu Pro Ala
195 200 205

Asn Ala Arg Gln Gln Phe Pro Asp His Arg Ile Val His Ala His His
210 215 220

Arg Ala Ser Val Glu Arg Gln Val Val Gln Glu Val Asp Lys Gly Leu
225 230 235 240

Leu Gln Ile Leu Glu Val Ala Met Val Gly Ile His Val Ile Gly Phe
245 250 255

Asp Val Ser Asp Asn Gly His His Arg Leu Gln Met Gln Lys Arg Arg
260 265 270

Val Ala Leu Ile Arg Phe Arg Asp Gln Val Thr Ala Met Ala Lys Ala
275 280 285

Gly Met Tyr Ala Arg Arg Phe Tyr Gln Pro Ala Val Asp Lys Gly Arg
290 295 300

Val Gln Pro Gly Leu Gly Val Asn Ala Gly Tyr His Arg Gly Gly Gly
305 310 315 320

Gly Phe Ala Val Gly Pro Gly Asn Gly Asp Pro Val Ala Lys Ala His
325 330 335

Lys Phe Arg Gln His Phe Gly Thr Thr Asp His Arg Asp Thr Arg Leu
340 345 350

Met Arg Gly Asn Asp Phe Arg Val Ile Cys Arg Asn Arg Ala Gly Asn
355 360 365

Asp Asn His Ala Gly Ile Thr His Val Phe Arg Ala Met Val Glu Ile
370 375 380

Asn Gly Gly Ala Lys Leu Arg Gln Leu Leu Gly His Arg Ile Arg Arg
385 390 395 400

Gln Val Gly Ala Ala Asp Leu Val Thr Phe Val Ser Gln His Phe Gly
405 410 415

Asn Thr Ala His Thr Gly Thr Ala Asp Ala Asp Lys Val Asn Val Pro
420 425 430

Asn Ala Thr His Leu Gly His Tyr Gly Thr Gln Phe Cys Gln Ile Leu
435 440 445

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Cys Ile His Ser Leu Arg His Gln Leu Leu Tyr Ser Gly Gly Glu Asn
450 455 460

His Arg Asn
465

<210> 341
<211> 249
<212> PRT
<213> Klebsiella pneumoniae

<400> 341

Ser Arg Leu Gln Arg Cys Gln Lys Lys Arg Glu Pro Ser Cys Ser Arg
1 5 10 15

Phe Tyr Phe Ala Val Leu Pro Ala Ala Leu Ala Arg Gly Gly Gln Gln
20 25 30

Thr Ile Arg Ala Glu His Arg Leu Asp Thr Ala Asp Arg Leu Ala Arg
35 40 45

Thr Val Pro Val Leu Asp Gln Gly Glu Ala Asp Val Gly Ile Thr Ile
50 55 60

Val Ala Lys Ala Asn Pro Arg Arg Asp Ala Asn Leu Arg Phe Ile Lys
65 70 75 80

Gln Leu Phe Arg Lys Leu Gln Arg Pro His Gly Gly Val Arg Phe Arg
85 90 95

Tyr Phe Arg Pro His Val His Arg Arg Phe Arg Thr Leu His His Pro
100 105 110

Ala Gly Leu Met Lys Pro Phe Asp Gln His Ile Ala Thr Ala Leu Ile
115 120 125

Leu Phe Gly Asn Ile Ala His Ala Leu Leu Ile Ala Leu Gln Arg Ser
130 135 140

Tyr Arg Arg His Leu Gln Arg Ser Lys Ser Pro Val Val Met Ile Ala
145 150 155 160

Phe Asp Thr Ser Glu Gly Ile His Gln Ser Leu Ile Thr His His Lys
165 170 175

Ala Asn Ala Pro Ala Gly His Val Ile Ala Phe Arg Gln Gly Lys Glu
180 185 190

Leu Asp Gly Asp Ile Pro Arg Ala Gly His Leu His Asp Gly Gly Arg
195 200 205

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Phe Pro Ala Val Ile His Asp Ile Gly Ile Gly Gln Ile Val Asp Asp
 210 215 220

Gln Asn Val Ile Leu Leu Arg Gln Ser Asp Asn Leu Phe Lys Glu Ile
 225 230 235 240

Gln Phe Asp Ala Leu Arg Gly Arg Ile
 245

<210> 342
 <211> 82
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 342

Arg Tyr Ala Gln Ser Ala Ser Pro Leu Ser Gln Ser Arg Ala Ser Gln
 1 5 10 15

Thr Ala Arg His Thr Ala Gly Ala Asp Thr Gly Arg Pro Ser Gly Ser
 20 25 30

Asp Arg Arg Ala Gly Ser Arg Ala Phe Arg Leu Pro Arg Arg Pro Asp
 35 40 45

Gly Ser Ala Glu Tyr Gly Gly Ser Pro Gly Ala Pro Ala His Arg Pro
 50 55 60

Pro Pro Pro Pro Pro Asp Arg Phe Tyr Pro Tyr Pro Pro Asp Pro Arg
 65 70 75 80

Arg Lys

<210> 343
 <211> 264
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 343

Glu Cys Cys Asp Asp Gln Leu Ala Gln Glu Leu Pro Phe Thr Arg Trp
 1 5 10 15

Ile Ser Ile Ser Arg Gly Leu Ser Ser Arg Arg Ala Leu Leu Thr Gly
 20 25 30

Gly Arg Asp Ser Met Leu Asp Ser Ala Thr Ser Ala Thr Gln Val Pro
 35 40 45

Ser Ala Asn Arg Asn Ser Pro His Thr Arg Ala Val Val Arg Arg Leu
 50 55 60

Arg Pro Asp Gly Ala Leu Ala Thr Val Gly Ala Gly Gly Gly Ala Ala
 65 70 75 80

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Ala Ser Gly Arg Gly Thr Glu Thr Ser Asp Gly Ala Pro Ala Ala Gly
85 90 95

Gly Ala Gly Thr Ala Val Asp Gly Glu Gly Val Ser Ala Ser Ile Asp
100 105 110

Gly Ala Ser Ser Ser Pro Ser Ser Val His Gln Ile Thr Gly Thr Val
115 120 125

Ser Leu Tyr Pro Arg Leu Gly Thr Val Ala Met Tyr Ser Arg Leu Thr
130 135 140

Ser Ser Pro Ser Leu Ser Asp Leu Arg Ser Ser Glu Ile Leu Cys Val
145 150 155 160

Thr Thr Trp Leu Val Thr Thr Phe Arg Val Gln Thr Phe Ser Ile Ser
165 170 175

Ser Ser Arg Leu Ser Thr Ser Pro Gly Trp Arg Ala Lys Lys Thr Arg
180 185 190

Arg Ser Ile Lys Arg Gly Ser Arg Val Ser Trp Arg Pro Phe Leu Leu
195 200 205

Ile Trp Phe Thr Glu Gly Val Thr Ser His Ser Pro Thr Arg Thr Thr
210 215 220

Gly Cys Ser Ile Gln Glu Ser Pro Arg Gln Lys Gly Lys Gly Ala Met
225 230 235 240

Ile Thr His Leu Ser Tyr Leu Phe Leu Pro Gly Val Thr Pro Ser Gly
245 250 255

Ile Arg Pro Glu Leu Ala Leu Tyr
260

<210> 344
<211> 254
<212> PRT
<213> Klebsiella pneumoniae

<400> 344

Gln Ile Lys Leu Arg Gln Thr Asp His His His Asp Ala Val Gly Ser
1 5 10 15

His Leu Leu Leu Val Phe Gln Gln Arg Gly Gln Leu Ile Val Lys Lys
20 25 30

Gln Ala Val Ile Gln Ser Gly Phe Arg Ile Leu Arg Arg Val Gly Ala
35 40 45

Asn Lys Arg Ile His Pro Ala Ala Leu Ile Ala Gly Glu Leu Gln Leu

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60

50

55

Arg Gln Gln His Ile Gln Arg Ala Thr Gly Ala Gly Arg Pro Phe Ile
65 70 75 80

Asp Arg Pro Ala His Leu Arg Pro Ala Leu Ala Ala Gln Asp Thr Arg
85 90 95

Gly Thr Gln Leu Gln Gln Leu Leu Ala Gly Gln Leu Ala Ala Asp Pro
100 105 110

Ala Asp Gly Glu Glu Asn Asn His His His Glu Ala Asn Gly Asp Arg
115 120 125

Gln Arg Gly Ser Asp Arg Gln Arg Thr Glu Ile Val His His Arg Val
130 135 140

Asn Val Asp Gln Met Gln Arg Asn Ala Arg Met Phe Lys Arg Arg Asn
145 150 155 160

Arg Asp Leu Thr Glu Leu Leu Met Ala Ala Glu Arg Ala Ile Ala Ile
165 170 175

Gly Ser Gly Met Ala Val Glu Arg Phe Ala Val Glu His Glu Ile Asp
180 185 190

Met His Asp Leu Asp Arg Arg His Gln Leu Ile Gln Leu Arg Phe Lys
195 200 205

Leu Ile Glu Arg Gly Gly Asp Glu Pro Val Ile Gln His Gly Arg His
210 215 220

Arg Leu Asn Ala Val Phe Asp Leu Val Leu Asn Ala Val Ile Lys Thr
225 230 235 240

Gln Arg Ser Ala Asn Gln Arg Asp Lys Asp Gly Gln Ala Ser
245 250

<210> 345
<211> 286
<212> PRT
<213> Klebsiella pneumoniae

<400> 345

Asp Phe Gly Ser Val Gly Phe Gln Ala Gly Gly Phe Gln Arg Val Ala
1 5 10 15

His Ser Ala His Leu Phe Pro Gly Gly Val Asp Val Asp Gly Ala Val
20 25 30

Val Ile Gly His His Val Phe Cys Ala Cys Phe Gln Arg Arg Phe His
35 40 45

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Asp Ser Val Phe Ile Ala Phe Leu Glu Gly Asp Asn Ala Phe Leu Ala
50 55 60

Glu Gln Val Gly Asp Gly Thr Val Gly Ala Glu Val Thr Pro Gly Phe
65 70 75 80

Gly Glu Gly Val Thr His Phe Arg Asn Gly Thr Val Thr Val Val Gly
85 90 95

Gln Thr Phe His His His Arg Gly Ala Ala Arg Thr Val Ala Phe Ile
100 105 110

Asn Asp Gly Phe His Val Arg Val Phe Ile Ala Ala Asp Ala Ala Arg
115 120 125

Asp Gly Ala Val Gln Gly Val Ala Ser His Val Val Arg Gln Arg Phe
130 135 140

Ile Asn Gly Arg Thr Gln Thr Arg Val Gly Ser Arg Ile Ala Ala Ala
145 150 155 160

Gln Thr Arg Gly Gly Asp Gln Leu Ala Asn Asp Phe Arg Lys Asp Phe
165 170 175

Thr Ala Phe Gly Ile Leu Cys Arg Phe Ala Val Phe Gly Val Gly Pro
180 185 190

Phe Thr Met Thr Cys His Lys Lys Leu Ser Lys Lys Arg Ala Leu Ser
195 200 205

Gly Gly Val Asn Tyr Lys Phe Phe Asn Arg Leu Pro Val Ala Pro Arg
210 215 220

Leu Gly Gln Arg Ser Gly Phe Arg Arg Ala Asp Pro Ala Ile Gly Gln
225 230 235 240

Met Phe Gly Glu Ser Asn Leu Pro Leu Met Arg Gln Arg Lys Thr Glu
245 250 255

Pro Glu Phe Arg Ile Ala Leu Tyr Thr Arg Arg Ile Ala Met Thr Gln
260 265 270

Met Arg Lys Tyr Leu Glu Leu His Arg Ala Leu Thr Val Asp
275 280 285

<210> 346
<211> 51
<212> PRT
<213> Klebsiella pneumoniae

<400> 346

Ser Leu Ala Ala Gly Ala Val Arg Val Arg Pro Ala Ala Ala Ala Phe
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1 5 10 15
 Arg Arg Arg Ala Gly Asp Arg Ala Asp Gly Arg Arg Pro Ser Pro Ala
 20 25 30
 Pro Ala Pro Ala Ala Gly Ala Arg Val Arg Pro Ser Arg Gly Ser Ala
 35 40 45
 Pro Ala Tyr
 50

<210> 347
 <211> 100
 <212> PRT
 <213> Klebsiella pneumoniae
 <400> 347

Phe Ile Ala Leu Ala Gln Ser Leu Asn Thr Gly Leu Ala Leu Arg Val
 1 5 10 15
 Met Pro Met Asp His His Gln Arg Leu Ala Leu Leu Pro His His Leu
 20 25 30
 Thr Ile Leu Ala Lys Pro Leu Ala Val Gly Ile Lys His Arg Gln Pro
 35 40 45
 Val Ala Lys Ala Arg Arg Asp Val Thr Val Asp Lys Leu Leu Pro Leu
 50 55 60
 Phe Ser Gly Asp Val Phe Pro Arg Arg Ala Ala Gln Thr Glu Val Lys
 65 70 75 80
 Arg Gly Leu His His Gly Leu Ile Arg Arg Ala Asp Ala Gly Leu Arg
 85 90 95
 Arg Ala Gly Arg
 100

<210> 348
 <211> 68
 <212> PRT
 <213> Klebsiella pneumoniae
 <400> 348

Ala Ser Glu Phe Gly Gln Pro Pro Ala Ile Ala Leu Ala Asp Thr Ala
 1 5 10 15
 Arg Cys Ser Leu Arg Ser Pro Pro Gly Arg Ser Ala Val Gly Glu
 20 25 30
 Leu Ala Lys Ala Gly Leu Ala Thr Arg Lys Tyr Ala Trp Ile Pro Ser
 35 40 45

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Arg Ala Cys Gly Arg Gln Pro Ser Ala Ala Asp Arg Ala Gly Ala Arg
 50 55 60

Pro Gly Ala Lys
 65

<210> 349
 <211> 107
 <212> PRT
 <213> Klebsiella pneumoniae
 <400> 349

Met Ser Asn Asp Arg Val Arg Arg Ser Ala Ala Ser Leu Thr Phe Cys
 1 5 10 15

Ser Ser Ser Leu Ser Asp Arg Gln Thr Gly Cys Arg Trp Pro Arg Arg
 20 25 30

Arg Ser Phe Ala His Leu Pro Leu Pro Pro Pro Trp Ser His Thr Asp
 35 40 45

Arg Leu Arg Cys Thr Trp Asn Val Arg Asp Arg Asp Ser Thr Gly Thr
 50 55 60

Thr Ser Pro Ser Cys Cys His Leu Pro Gly Tyr Trp Ser Gly Arg Asp
 65 70 75 80

Arg Cys Gly Ala Pro Ser Ala Arg Ala Asp Trp Ser Arg Gln Thr Pro
 85 90 95

Val Ser Ser Val Arg Thr Pro Arg Glu Lys Ala
 100 105

<210> 350
 <211> 72
 <212> PRT
 <213> Klebsiella pneumoniae
 <400> 350

Ser Pro Ser Ala Gly Ser Pro Gln Thr Asp Cys Lys Thr Ala Ala Gly
 1 5 10 15

Val Pro Asp Ala Arg Ser Pro Glu Trp Cys Ser Gly Leu His Arg Gly
 20 25 30

Ile Arg Arg Thr Val Arg Leu Pro Gly Ser Cys Ala Gly Glu Cys Asn
 35 40 45

Gly Ile Pro Arg Gly Ser Pro Pro Leu Ser Ala Arg Arg Ser Val Cys
 50 55 60

Cys Asp Pro Arg Tyr His Ala Ala
 65 70

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<210> 351
 <211> 26
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 351

Ser Asp Arg Gly Arg Gln Thr Pro Gly Ser Pro Ala His Gly Gly Ala
 1 5 10 15

Gly Pro Ser Ala Gly His Thr Leu Pro Gly
 20 25

<210> 352
 <211> 44
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 352

Arg His Ser His Ser Thr Gly Pro Trp Arg Lys Arg Arg Ser Gln Ser
 1 5 10 15

Asp Glu Thr Arg Arg Leu Thr Ala Gln Met Gly Gly Thr Lys Ala Ser
 20 25 30

Ser Cys Arg Arg Ser Lys Arg Ile Asn Ser Pro Arg
 35 40

<210> 353
 <211> 105
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 353

Phe Phe Arg Gln Leu Tyr Phe Asn Gly Val Gly Val Pro Leu Phe Gln
 1 5 10 15

Leu Leu Gly Asn Arg Pro Leu Asn Val Phe Val Glu Lys Arg Val Leu
 20 25 30

Ala Pro Ala Ala Leu Gln Gly Ala Lys Met Gly Phe Ile Pro Gly Arg
 35 40 45

Ile Ala Gln Arg Asp Gly Asp Ile Thr Gln Pro Ala Gln Val Ala Asn
 50 55 60

Ala Thr Asn Arg Arg Pro Phe Gly His Leu Gln Lys Pro Arg Phe Ala
 65 70 75 80

Pro Gly Glu Gln Leu His Gln Arg Arg Gly Met Gln Arg Phe Ala Trp
 85 90 95

Ala Glu Ile Leu Phe Ile Gly Glu Leu
 100 105

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<210> 354
 <211> 187
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 354

Ala Asn Pro Asp Arg Asn Arg Gly Gly His Cys Ala Glu Asp Asp Gln
 1 5 10 15

Gly Thr Glu Glu Ala Ala Gly Gly Val Thr Gly Pro His His His Val
 20 25 30

Gly Ala Val Gly Gly Ile Ala Leu Val Asp Gly Glu Leu Thr Arg Gln
 35 40 45

Asn Asp Asp Val Ala His Arg Gln Ala Glu Asp Gln Ala Gly Asp Gln
 50 55 60

Arg Arg Gly Glu Val Arg His Arg Glu Asp Lys Ala Arg Ala Glu Gln
 65 70 75 80

Gln Arg Arg His Ala Lys Thr Asp Thr Gly Leu Tyr Arg Ala Ala Asp
 85 90 95

Ile Glu Asp Pro Tyr Gln Arg Pro Phe Asp Asp Ala Gly Glu Gln Glu
 100 105 110

Ala Gly Ala Lys Arg Arg His Arg Ala Val Asn Ala Gly Ile Asn Pro
 115 120 125

Arg Leu Gln His Arg His Glu Gly His Phe Val Lys Gly Ala Asp Ala
 130 135 140

Val Gln Val Val His Val Gly Pro Gly Glu Asp Ala Gly Gly Glu Gln
 145 150 155 160

Ala Asn Lys Asp Arg Glu Arg Pro Val Gly Ile Pro Lys Thr Phe Ile
 165 170 175

Leu Phe His Tyr Pro Ala Pro Val Thr Cys Arg
 180 185

<210> 355
 <211> 120
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 355

Met Thr Ser Lys Thr Ala Arg Arg Arg Arg Arg Ala Ala Lys Ser Ser
 1 5 10 15

Ser Lys Lys Arg Ala Pro Gly Gly Pro Phe Cys Val Trp Leu Asn Gly
 20 25 30

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Arg Leu Pro Pro Asp Tyr Ser Pro Gly Asp Ser Thr Val His Ser Ala
35 40 45

Gly Lys Thr Ile His Asp Val Leu His Pro Tyr Cys Arg Gln Trp Pro
50 55 60

Glu Asp Gln Leu Ala Gly Pro Gly Arg Ala Phe Trp Arg Asn Ser Ala
65 70 75 80

Pro Lys Asn Gln Asn Ser Ser Leu Asn Thr Tyr Arg Tyr Gly Ser Cys
85 90 95

Ala Tyr Ser Phe Ser Gly Gly Cys Ser Asp Gln Ser Tyr Ala Phe Tyr
100 105 110

Ser Leu Gln Tyr Leu Arg Leu Pro
115 120

<210> 356
<211> 49
<212> PRT
<213> Klebsiella pneumoniae

<400> 356

Thr Leu Thr Val Thr Arg Pro Ala Ser Pro Gly Arg Gln Gly Ser Arg
1 5 10 15

Arg Lys Gly Met Phe Val Ser Gln Pro Val Pro Glu Ala Glu Gly Pro
20 25 30

Pro Ala Ala Ser Ala Gly Glu Thr Gly Ser Ile Thr Ala Arg Thr Ala
35 40 45

Asp

<210> 357
<211> 77
<212> PRT
<213> Klebsiella pneumoniae

<400> 357

Trp Cys Arg Leu Ser Arg Arg Arg Pro Gly Leu Gln Arg Gln Cys Thr
1 5 10 15

Leu Ser Val Leu Cys Val Pro Pro Ser Ala Ala Val Ser Pro Ala Gln
20 25 30

Arg Gly Val Cys Ala Ala Leu Ser Arg Thr Leu Cys Cys Arg Ala Ala
35 40 45

Arg Phe Leu Pro Pro Cys Arg Pro Asp Tyr Arg Phe Ser Cys Cys Pro
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50

55

Ser Pro Cys Ser Val Leu Pro Arg Tyr Pro Phe Glu Val
65 70 75

<210> 358

<211> 113

<212> PRT

<213> Klebsiella pneumoniae

<400> 358

Asn Asp Thr Ser Asp Asn Arg Leu Ser Val Gly Val Leu Arg Ile Asn
1 5 10 15

Lys Ser Pro Phe Tyr Pro Leu Arg Thr Ala Lys Ile Gly Arg Gln Gln
20 25 30

Arg Ser Ala Gln Gln Arg Lys Gln Gln Leu Thr Gln Gly Lys His Ile
35 40 45

Arg Asp Arg Arg Glu Gly Lys Ser Leu Tyr Arg Gln Gln Gln Gly Asp
50 55 60

Glu Gln Pro Asp Asn Ile Val Phe Arg His His Arg Ala Pro Leu Glu
65 70 75 80

Lys Gly Asp Ser Gln Pro Glu Arg Val Ile Pro His Gly Glu Gly Lys
85 90 95

Gln Gln Arg Gly Asp Pro Gln Arg His Met Ala Arg Ala His Gly Ala
100 105 110

Gln

<210> 359

<211> 132

<212> PRT

<213> Klebsiella pneumoniae

<400> 359

Lys His Thr Ala Lys Ala Gly Phe Val Ala Gly Ile Ala Leu Pro Gln
1 5 10 15

Gly Leu Arg Glu Pro Leu Ile Leu Ala Val His Arg Arg Leu Leu Leu
20 25 30

Ala Arg Gln Arg Arg Met Arg Leu Ala Ala Gly Arg Leu Leu Thr Asp
35 40 45

Pro Arg Met Gly Ala Glu Arg Arg Val Gln Leu Ile Leu Ser Pro Val
50 55 60

Ser His Arg Leu Pro Gly Gly Leu Gln Gln Arg Met Ala Ala Gly Glu
65 70 75 80

Arg Ser Gln Ala His Gln Arg Leu Ala Pro Gly Arg Glu Arg His Ala
85 90 95

Gly Gly Gln Gln Pro Arg Arg Leu Ile Phe Thr Gln Ala Val Lys Leu
100 105 110

Thr Gln Arg Asp His Pro Asp Ser Leu Ser Phe Ser Ser Pro Pro Ala
115 120 125

Pro Ala Ala Glu
130

<210> 360
<211> 77
<212> PRT
<213> Klebsiella pneumoniae
<400> 360

Ser Leu Gln Ser Cys Ala Ile Leu Ser Val Val Cys Gly Val Ile Arg
1 5 10 15

Ala Arg Cys Ala Phe Cys Val Gly Gly Glu Thr Val Ser Leu Gln Pro
20 25 30

Ala Arg Ser Ser Thr Ser Met Thr Glu Thr Thr Pro Phe Thr Thr Phe
35 40 45

Ser Ser Thr Ala Leu Leu Ala Ser Cys Tyr Pro Lys Asp Ser Val Leu
50 55 60

Gln Val Phe Cys Glu Tyr His Glu Thr Ala Thr Ser Leu
65 70 75

<210> 361
<211> 166
<212> PRT
<213> Klebsiella pneumoniae
<400> 361

Thr Ser Ile Arg Arg Ala Ser Ser Ser Ile Glu Ala Leu Ala Arg Ile
1 5 10 15

Arg Ala Ser Ser Trp Ser Ile Met Ser Leu Leu Ser Arg Arg Ser Leu
20 25 30

Arg Thr Pro Ser Ser Tyr Arg Pro Leu Phe Leu Leu Pro Pro Val Thr
35 40 45

Pro Arg Val Glu Thr Ser Ala Ser Pro Gly Pro Phe Thr Thr Gln Pro
50 55 60

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Met Ile Glu Thr Ser Ile Gly Val Met Ile Ser Ser Arg Arg Cys Ser
65 70 75 80

Arg Ala Phe Thr Val Pro Ile Thr Ser Asn Ser Trp Arg Glu Gln Val
85 90 95

Gly Gln Ala Ile Lys Leu Met Pro Arg Glu Arg Ile Arg Arg Asp Leu
100 105 110

Arg Ile Ser Lys Pro Thr Leu Ile Ser Ser Thr Gly Ser Ala Ala Ser
115 120 125

Glu Thr Arg Ser Val Ser Pro Ile Pro Ser Asp Ser Ser Ser Pro Arg
130 135 140

Pro Ile Ala Asp Phe Thr Ala Pro Leu Arg Ala Pro Pro Ala Ser Val
145 150 155 160

Ile Pro Arg Cys Ser Gly
165

<210> 362
<211> 104
<212> PRT
<213> Klebsiella pneumoniae

<400> 362

Pro Ala Arg Ala Gly Cys Ala Pro Pro Arg Arg Phe Pro Pro Val Pro
1 5 10 15

Pro Gly Pro Pro Leu Arg Glu Pro Pro Gly Arg Arg Pro Val Phe Gly
20 25 30

Tyr Ser Pro Ala Ala Val Gln Ser Ala Phe Ala Gly Tyr Gly Tyr Cys
35 40 45

Cys Arg Gly Ser Arg Gln Ser Pro Ala Ala Gln Gly Ser Gly Ala Pro
50 55 60

Arg Pro Gly Arg Pro Thr Ala Arg Tyr Leu His Ala Tyr Trp Pro Thr
65 70 75 80

Gly Phe Ser Ala His Ala Thr Asp Gly Glu Glu Ile Asp Ala Ala Ala
85 90 95

Thr Pro Ala Thr Pro Gly Ala Arg
100

<210> 363
<211> 26
<212> PRT
<213> Klebsiella pneumoniae

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<400> 363

Thr Ala Pro Gly Met Pro Pro Ala Arg Arg Gly Ser Trp Arg Ala Leu
1 5 10 15

Pro Ala Asn Arg Trp Ser Ser Ala Pro Gly
20 25

<210> 364

<211> 141

<212> PRT

<213> Klebsiella pneumoniae

<400> 364

Leu Arg Ile Asp Val Lys Gln Gln Ala Gly Glu Glu Gly Gly His Arg
1 5 10 15

Pro Ala Gln Arg Ala Pro His Pro Arg Pro Ala Glu Phe Lys Leu Ala
20 25 30

Leu Thr Arg His Pro Leu Gly Val Arg Phe Gln His Ala Asp Ala Ala
35 40 45

Val Lys Gly Gln Thr Asp Ile Asp Pro Ala Lys Asp Ala Ala Gln Gln
50 55 60

Asp Val Asp Phe Gln Gln Val Ala Glu Gln Gln Ile Arg Arg Thr Arg
65 70 75 80

Glu Asp Gln Gln Arg Gly Asp Ile Pro Glu Gln Met Phe Ala Gln Pro
85 90 95

Gln Leu Val Leu Asp Lys Ser Ile Ala Asn Leu Arg Lys Gln Arg Gly
100 105 110

Asn Arg Gln Tyr Gly Ile Asp Asn Thr Gly Ile Ala Ser Leu Gln Pro
115 120 125

Asn Leu Leu Val Lys Pro Asp Arg Glu Gln Gly Ala Gly
130 135 140

<210> 365

<211> 75

<212> PRT

<213> Klebsiella pneumoniae

<400> 365

Cys Arg Gly Ala Pro Ala Ser Arg Ser Gly Cys Arg Arg Asn Gly Arg
1 5 10 15

His Gly Pro Ala Ala Ala Ala Gln Ser His Arg Arg Pro Cys Gly Lys
20 25 30

Pro Gly Cys Gly Arg Lys Glu Pro Gly Asn Arg Arg Ala Glu Cys Gly
Page 311

35

40

45

Arg Gly Arg Trp Arg Glu Phe His Gly Gln Ser Leu Ser Arg Tyr Ser
 50 55 60

Leu Pro Ala Arg Gln Arg Arg Thr Cys Ala Arg
 65 70 75

<210> 366

<211> 68

<212> PRT

<213> Klebsiella pneumoniae

<400> 366

Val Ala Arg Arg Ser Cys Ala Val Phe Arg Lys Ser Ala Leu Ser Ile
 1 5 10 15

Ser Thr Phe Ala Pro Arg Leu Pro Gly Ser Arg Ala Arg Gln Arg Thr
 20 25 30

Leu Cys Gly Ile Pro Asn Arg Ser Arg Ala Ala Pro Leu Ser Gly Ser
 35 40 45

Ser Gly Ile Ala Ser Ala Met Val Trp Pro Ile Lys Arg Gln Gly Thr
 50 55 60

Leu Asn Leu Ser
 65

<210> 367

<211> 48

<212> PRT

<213> Klebsiella pneumoniae

<400> 367

Pro Asn Ala Pro Arg Cys His Gln Val Asn Ser His Leu Pro Pro Ala
 1 5 10 15

Ser Arg Arg His Leu Ser Ala Ala Pro Gly Phe Arg Asn Ala Pro Pro
 20 25 30

Gly Arg Cys His Gly Arg Arg Arg Arg Cys Gly Arg Ala Lys Arg Arg
 35 40 45

<210> 368

<211> 159

<212> PRT

<213> Klebsiella pneumoniae

<400> 368

Pro Pro Asp Gly Phe Gln Arg Trp Pro Ala Asp Ala Asp Pro Ala Gly
 1 5 10 15

Phe Asp Arg Met Lys Asn Arg Gly Asp Glu Gln Ala Leu Pro Gly Arg
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20

25

30

Tyr Arg Pro Gly Ala Ser Lys Pro Ala Glu Phe Cys Arg Cys Arg Tyr
35 40 45

Ser Arg Gln Ser Ala Arg Ser Ala Ala Ala Pro Val Arg Arg Trp Pro
50 55 60

Gly Ser Pro Pro Gly Val Ala Leu Tyr Ser Arg Arg Arg Ser Gly Gly
65 70 75 80

Asn Pro Arg Gln Leu Leu Ser Ala Thr Ala Gly Arg Tyr Ala Ser Ala
85 90 95

Gly Arg Arg Gly Arg Ser Thr Gly Asn Arg Val Gly Asn Gly Arg Thr
100 105 110

Leu Pro Ala Thr Pro Glu Tyr Gly Trp Arg Ala Gly His Pro Gly Pro
115 120 125

Val Tyr Gly Arg Ala Pro Ala Pro Leu Pro Ala Pro Asp Ala Cys Ser
130 135 140

Arg Cys Arg Pro Arg Arg Val Leu His His Ser Ser Ala Ala Gly
145 150 155

<210> 369
<211> 101
<212> PRT
<213> Klebsiella pneumoniae
<400> 369

Cys Ser Cys Gly Phe Phe Pro Val Thr Ala Val Ile Ser Ala Ala Ser
1 5 10 15

Arg His Met Met Met Pro Ser Leu Ser Val Asp His Gly Val Pro Ser
20 25 30

Lys Arg Arg Lys Glu Ala Pro Ala Leu Ser Ser Pro Pro Lys Pro Lys
35 40 45

Leu Pro Ser Asn Arg Pro Ser Thr Asn His Leu Lys Pro Thr Gly Thr
50 55 60

Ser Thr Ser Leu Arg Pro Arg Ser Phe Thr Thr Arg Ser Ile Ile Ala
65 70 75 80

Glu Glu Thr Ser Val Leu Pro Thr Ala Thr Ser Leu Pro His Cys Gly
85 90 95

Arg Cys Trp Asn Arg
100

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<210> 370
 <211> 85
 <212> PRT
 <213> Klebsiella pneumoniae

<400> 370

His Thr Thr Ala Ser Arg Ile Pro Ala Thr Leu Pro Ile Gly Val Leu
 1 5 10 15

Arg Leu Ser Thr Pro Pro Pro Thr Phe Ala Ser Ala Thr Thr Val Ser
 20 25 30

Thr Gly Arg Pro Thr Ala Val Ile Arg Lys Pro Ile Ala Ala Val Gln
 35 40 45

Thr Cys Ser Pro Ala Cys Lys Pro Thr Ile Gly Gly Lys Ile Met Leu
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Pro Ala Pro Thr Asn Asn Ala Lys Val Ile Lys Pro Asn Ala Met Met
 65 70 75 80

Ser Arg Asp Phe Asn
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<210> 371
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 <213> Klebsiella pneumoniae

<400> 371

Ser Gly Phe Pro Ala Arg Ala Asp Ala Phe Tyr Tyr Ala Ser Ala Ser
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Gly Ala Asp His Thr Ala Ala Ala Pro Asn Cys Arg Gly Gln Ala Glu
 20 25 30

Glu Ser Cys Ser Gly Pro Pro Thr Ala Thr Thr Thr Gly Ala Ser Asn
 35 40 45

Ser Arg Asn Ala Arg Ser Ala Asn Arg Ser Leu Pro Pro Val Lys Thr
 50 55 60

Thr Ala Asp Ala Pro Gln Thr Pro Pro Glu Ser Gly Pro Glu Tyr Thr
 65 70 75 80

Leu Lys Arg Ala Pro Ala Pro Ala Phe Ser Met Thr Ala Val Pro Ala
 85 90 95

Arg Val Thr Leu Leu Ser Lys Phe Arg Asn Gly Arg Arg Asn Asp Thr
 100 105 110

Pro Cys Arg Glu Pro Phe Ala Pro Tyr Asp His Gly His Cys Val Pro
 115 120 125

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Ala Leu Cys Ala Gly Gly Glu Tyr Gly Arg Pro Pro Cys Gly Leu Pro
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145 150 155 160

Thr Pro Ala Pro Asp Gly Ser
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<210> 372
<211> 105
<212> PRT
<213> Klebsiella pneumoniae

<400> 372

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20 25 30

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35 40 45

Glu Leu His Lys Glu Ala Ile His Asp Gly Gly Arg Arg Gln Lys Thr
50 55 60

Phe Trp Gly Gly Lys Ala Gly Ala Gln Gln Pro Lys Gln Asn Ser Asp
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85 90 95

Arg Arg Asp Trp Glu Pro Tyr Arg Leu
100 105

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<400> 373

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20 25 30

Arg Pro Ser Ala Thr Gly Ser Pro Thr Ser Ala Thr Ser Val Cys Ile
35 40 45

Ser Arg Glu Lys Ser Leu Ala Asn Phe Pro Ser Val Pro Gln Thr Pro
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50

55

Ala Asn Gln Ala Pro Ala Ser Ser Ser Arg Ser Arg Trp Leu Cys His
65 70 75 80

Gly Val Ser Gly Ser Asp Arg Pro Arg Ile Cys Ala Ser Ala Arg Pro
85 90 95

Thr Ala Gly Pro Phe Ser Phe Ser Ala Ser Arg Val Pro Ala Ala Pro
100 105 110

Pro Asn Cys Ser Ala Ser Ser Arg Gly Arg Ile Ser Arg Ser Arg Cys
115 120 125

Cys Gln Arg Arg Ser Ala Ser Arg Val Pro Ala Ser Phe Arg Pro Lys
130 135 140

Val Thr Gly Ser Ala Cys Cys Ile Gln Val Arg Pro Gly Ile Thr Val
145 150 155 160

Ser Arg

<210> 374
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<212> PRT
<213> Klebsiella pneumoniae

<400> 374

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20 25 30

His Phe His Thr Val Trp Arg Tyr Gly Thr Ala Ala Ala Ser Arg Pro
35 40 45

Gly Ala Leu His Thr Glu Cys Arg Trp Cys Arg Ala Ala Pro Ser Gly
50 55 60

Ser Arg Gly Cys Thr Pro Pro Gly Ala Pro Tyr Gly Leu Cys Ser Pro
65 70 75 80

Tyr Ser Gly Gly Cys Arg Ser Cys Ala Ala Ser Ala Thr Ser Thr Ser
85 90 95

Thr Gly Thr Arg Cys Arg Gln Asp Arg Ser Pro Ala Ala His Gly Ala
100 105 110

Glu Thr Ser Ile
115

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<400> 376

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 35 40 45

Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp Asp Phe Ile Glu Leu Val
 50 55 60

Gly Lys Tyr Gly Ile Ala Trp His Glu Lys Thr Leu Gly Gln Leu Phe
65 70 75 80

Cys Asp Asp Ser Ala Glu Gln Ile Val Asn Leu Leu Leu Ala Glu Cys
85 90 95

Glu Lys Gly Gly Val Gln Ile Arg Leu Arg Ser Glu Ile Leu Ser Val
100 105 110

Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln Val Asn Gly Glu Thr Leu
115 120 125

Met Thr Lys Lys Leu Val Ile Ala Ser Gly Gly Leu Ser Met Pro Gly
130 135 140

Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val Ala Glu Gln Phe Gly Leu
145 150 155 160

Lys Val Leu Pro Thr Arg Ala Gly Leu Val Pro Phe Thr Leu His Lys
165 170 175

Pro Leu Leu Glu Gln Leu Gln Val Leu Ser Gly Val Ser Val Pro Ser
180 185 190

Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe Arg Glu Asn Leu Leu Phe
195 200 205

Thr His Arg Gly Leu Ser Gly Pro Ala Val Leu Gln Ile Ser Ser Tyr
210 215 220

Trp Gln Pro Gly Glu Phe Val Thr Val Asn Leu Leu Pro Asp Cys Asp
225 230 235 240

Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser Ala His Pro Asn Gln Ser
245 250 255

Leu Lys Asn Thr Leu Ala Met Gln Leu Pro Lys Arg Leu Val Glu Cys
260 265 270

Leu Gln Gln Leu Gly Gln Ile Pro Asp Val Thr Leu Lys Gln Leu Asn
275 280 285

Val Arg Asp Gln Gln Thr Leu Val Glu Thr Leu Thr Ala Trp Arg Val
290 295 300

Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr Ala Glu Val Thr Leu Gly
305 310 315 320

Gly Val Asp Thr Asn Glu Leu Ser Ser Arg Thr Met Glu Ala Arg Lys
325 330 335

Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val Met Asp Val Thr Gly Trp
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Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp Ser Ser Ala Trp Ala Cys
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Ala Gln Ala Leu Val Glu Gly
370 375

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<210> 387
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<400> 413

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20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
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140

130

135

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
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His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
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Asp Ala Lys His
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<213> Klebsiella pneumoniae i225/94
<400> 415

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20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

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Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
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Asp Ala Lys Gln
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35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

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Asp Ala Lys His
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35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
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Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
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Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
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Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

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Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
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Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
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Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
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Asp Ala Lys His
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<213> Klebsiella pneumoniae Aerogenes4140
<400> 418

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Thr Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
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90

85

95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

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<210> 419
 <211> 356
 <212> PRT
 <213> Klebsiella pneumoniae 1015

<400> 419

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
 1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
 20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
 35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
 50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
 65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
 85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
 100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
 115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
 165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
 180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
 195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
 210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
 225 230 235 240

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Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 420
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 919
<400> 420

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
1 5 10 15

Leu Pro Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Gln Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

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Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140
 Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160
 Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
 165 170 175
 Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
 180 185 190
 Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
 195 200 205
 Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
 210 215 220
 Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
 225 230 235 240
 Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
 245 250 255
 Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
 260 265 270
 Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
 275 280 285
 Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
 290 295 300
 Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
 305 310 315 320
 Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
 325 330 335
 Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
 340 345 350
 Asp Ala Lys His
 355

<210> 421
 <211> 356
 <212> PRT
 <213> Klebsiella pneumoniae 313
 <400> 421

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Met Asn Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro

275

280

285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
 290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
 305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
 325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
 340 345 350

Asp Ala Lys Arg
 355

<210> 422

<211> 356

<212> PRT

<213> Klebsiella pneumoniae 1470

<400> 422

Met Ser Val Asn Phe Pro Ala Leu Met Ile Val Met Ile Leu Ser Ser
 1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
 20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
 35 40 45

Ala Met Ala Tyr Ala Gln Gly Thr Asp Tyr Leu Glu Gln Asp Leu Val
 50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
 65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
 85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
 100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
 115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160

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Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Ala Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Leu
355

<210> 423
<211> 356
<212> PRT
<213> Klebsiella pneumoniae Mich61

<400> 423

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
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35

40

45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

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Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 424

<211> 356

<212> PRT

<213> Klebsiella pneumoniae 2069/49

<400> 424

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

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Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 425
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 2005/49

<400> 425

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

eo1f-seq1.app

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Tyr Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Thr Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

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Asp Ala Lys Gln
355

<210> 426
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 1754/49
<400> 426

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asn Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Gln Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
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Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
 115 120 125
 Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140
 Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160
 Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
 165 170 175
 Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
 180 185 190
 Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
 195 200 205
 Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
 210 215 220
 Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
 225 230 235 240
 Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
 245 250 255
 Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
 260 265 270
 Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
 275 280 285
 Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
 290 295 300
 Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
 305 310 315 320
 Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
 325 330 335
 Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
 340 345 350
 Asp Ala Lys Gln
 355

<210> 428
 <211> 356
 <212> PRT
 <213> Klebsiella pneumoniae i202/94

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<400> 428

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Met Asn Met Lys Leu Thr Thr Leu Met Ser Gly Met Met Leu Ala Ser
 1      5      10      15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
 20      25      30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
 35      40      45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
 50      55      60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
 65      70      75      80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Gln Asp
 85      90      95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100      105      110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asp Gly Lys Asn Val Gln Thr
115      120      125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130      135      140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145      150      155      160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165      170      175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180      185      190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195      200      205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210      215      220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225      230      235      240

Thr Gln Gln Lys Gln Ala Asp Gly Gln Trp Val Asn Tyr Ser Tyr Asp
245      250      255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260      265      270

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Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Leu Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 429
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 1996/49

<400> 429

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Thr Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

eof-seq1.app

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

<210> 430
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 1680/49

<400> 430

Met Arg Met Lys Leu Thr Ala Leu Met Ser Val Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

eo1f-seq1.app

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
 35 40 45
 Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
 50 55 60
 Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
 65 70 75 80
 Arg Val Thr Asp Val Ala Gln His Phe Pro Gln Arg Ala Arg Gln Asp
 85 90 95
 Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
 100 105 110
 Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
 115 120 125
 Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140
 Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160
 Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
 165 170 175
 Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
 180 185 190
 Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
 195 200 205
 Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
 210 215 220
 Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
 225 230 235 240
 Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
 245 250 255
 Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
 260 265 270
 Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
 275 280 285
 Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
 290 295 300

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Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Val Tyr Asn Gln Ala Gly
325 330 335

Ala Ile Gly Val Val Thr Asp Phe Pro Ala Lys Ala Val Gln Leu Gly
340 345 350

Asn Ala Ile Leu
355

<210> 431
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 2002/49

<400> 431

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
Page 351

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

<210> 432
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 6613

<400> 432

Met Asn Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ala Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Val Ala Ala Glu Lys Met Asp Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

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Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Gln Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Leu Leu Tyr His Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Leu Pro Ala Lys Ala Val Gln Phe Arg
340 345 350

Asp Ala Lys Gln
355

<210> 433
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 5758
<400> 433

Met Asn Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ala Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Val Ala Ala Glu Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

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Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Gln Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Leu Leu Tyr His Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

<210> 434
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 7824
<400> 434

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

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Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

<210> 435

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<211> 356

<212> PRT

<213> Klebsiella pneumoniae 6258

<400> 435

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

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Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

<210> 436
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 6168
<400> 436

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
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Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 438
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 7749
<400> 438

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

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Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys His
355

<210> 439
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 5281
<400> 439

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Pro Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln His Phe Pro Gln Arg Ala Arg Gln Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly

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330

325

335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

His Ala Asn Arg
355

<210> 440
<211> 356
<212> PRT
<213> Klebsiella pneumoniae i224/94

<400> 440

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Gln Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

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Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 441
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 3985/51
<400> 441

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
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90

85

95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

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<210> 442
 <211> 356
 <212> PRT
 <213> Klebsiella pneumoniae i221/94

<400> 442

Met Thr Met Asn Phe Pro Ala Leu Met Ile Val Met Ile Pro Ser Ser
 1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
 20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
 35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
 50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
 65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
 85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
 100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
 115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
 165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
 180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
 195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
 210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
 225 230 235 240

eof-seq1.app

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Gly
340 345 350

Asp Ala Lys Leu
355

<210> 443
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 4463/52
<400> 443

Met Asn Met Lys Leu Thr Ala Leu Met Ser Gly Met Met Leu Ala Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Leu Asp Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Gln Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asp Gly Lys Asn Val Gln Thr
115 120 125

eo1f-seq1.app

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140
 Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160
 Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
 165 170 175
 Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
 180 185 190
 Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
 195 200 205
 Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
 210 215 220
 Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
 225 230 235 240
 Thr Gln Gln Lys Gln Ala Asp Gly Gln Trp Val Asn Tyr Ser Tyr Asp
 245 250 255
 Trp Met Phe Lys Ser Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
 260 265 270
 Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
 275 280 285
 Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
 290 295 300
 Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
 305 310 315 320
 Ala Thr Asn Val Asn Gln Leu Tyr Asp Leu Leu Tyr Asn Gln Ala Gly
 325 330 335
 Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
 340 345 350
 Asp Ala Lys Arg
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<210> 444
 <211> 356
 <212> PRT
 <213> Klebsiella pneumoniae 5710/52
 <400> 444

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro

275

280

285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
 290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
 305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
 325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
 340 345 350

Asp Ala Lys Arg
 355

<210> 445

<211> 356

<212> PRT

<213> Klebsiella pneumoniae 5711/52

<400> 445

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
 1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
 20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
 35 40 45

Ala Met Ala Tyr Ala Gln Gly Thr Asp Tyr Leu Glu Gln Asp Leu Val
 50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
 65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
 85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
 100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
 115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160

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Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Gln
355

<210> 446
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 5845/52

<400> 446

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
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35

40

45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

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Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 447
<211> 356
<212> PRT
<213> Klebsiella pneumoniae NCTC8172
<400> 447

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Met Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

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Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Ile Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 448
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 708

<400> 448

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

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Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225 230 235 240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245 250 255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260 265 270

Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

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Asp Ala Lys Gln
355

<210> 449
<211> 356
<212> PRT
<213> Klebsiella pneumoniae 370
<400> 449

Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
1 5 10 15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
20 25 30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
35 40 45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
50 55 60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
65 70 75 80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
85 90 95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Asp Glu Ile Lys Ser Leu
100 105 110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115 120 125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130 135 140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145 150 155 160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165 170 175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180 185 190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195 200 205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210 215 220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
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Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Tyr Val Gln Thr
 115 120 125
 Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
 130 135 140
 Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
 145 150 155 160
 Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
 165 170 175
 Gln Glu Gly Lys Asp Ile Thr Ala Ser Thr Leu Lys Val Leu Lys Glu
 180 185 190
 Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
 195 200 205
 Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
 210 215 220
 Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
 225 230 235 240
 Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
 245 250 255
 Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
 260 265 270
 Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
 275 280 285
 Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
 290 295 300
 Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
 305 310 315 320
 Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
 325 330 335
 Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
 340 345 350
 Asp Ala Lys Gln
 355

<210> 451
 <211> 356
 <212> PRT
 <213> Klebsiella pneumoniae 5053

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<400> 451

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Met Lys Met Lys Leu Thr Ala Leu Met Ser Gly Ile Ile Leu Ser Ser
 1      5      10      15

Ser Ala Leu Cys Phe Ser Ala Thr Ala Ala Asp Lys Met Val Ile Ala
 20      25      30

His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr Leu Pro Ala Lys
 35      40      45

Ala Met Ala Tyr Ala Gln Gly Ala Asp Tyr Leu Glu Gln Asp Leu Val
 50      55      60

Met Thr Lys Asp Asp Arg Leu Val Val Leu His Asp His Tyr Leu Asp
 65      70      75      80

Arg Val Thr Asp Val Ala Gln Arg Phe Pro Gln Arg Ala Arg Lys Asp
 85      90      95

Gly Arg Phe Tyr Ala Ile Asp Phe Thr Leu Ala Glu Ile Lys Ser Leu
100      105      110

Lys Phe Thr Glu Gly Phe Glu Pro Lys Asn Gly Lys Asn Val Gln Thr
115      120      125

Tyr Pro Gly Arg Phe Pro Met Gly Lys Ser Asp Phe Arg Ile His Thr
130      135      140

Phe Glu Glu Glu Ile Glu Phe Val Gln Gly Leu Asn His Ser Thr Gly
145      150      155      160

Lys Asn Ile Gly Ile Tyr Pro Glu Ile Lys Ala Pro Trp Phe His His
165      170      175

Gln Glu Gly Lys Asp Ile Ala Ala Ser Thr Leu Lys Val Leu Lys Glu
180      185      190

Tyr Gly Tyr Thr Ser Lys Gln Asp Lys Val Tyr Leu Gln Cys Phe Asp
195      200      205

Ala Asn Glu Leu Lys Arg Ile Lys Asn Glu Leu Glu Pro Lys Met Gly
210      215      220

Met Asp Leu Asn Leu Val Gln Leu Ile Ala Tyr Thr Asp Trp Asn Glu
225      230      235      240

Thr Gln Gln Lys Gln Ala Asp Gly Lys Trp Val Asn Tyr Ser Tyr Asp
245      250      255

Trp Met Phe Lys Pro Gly Ala Met Ala Gln Ile Ala Gln Tyr Ala Asp
260      265      270

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Gly Ile Gly Pro Asp Tyr His Met Leu Val Ala Glu Gly Ser Lys Pro
275 280 285

Gly Ala Val Lys Leu Thr Ala Met Val Lys Glu Ala His Ala Ser His
290 295 300

Leu Gln Val His Pro Tyr Thr Val Arg Ala Asp Gln Leu Pro Glu Tyr
305 310 315 320

Ala Thr Asn Val Asn Gln Leu Tyr Asp Val Leu Tyr Asn Gln Ala Gly
325 330 335

Val Asp Gly Leu Phe Thr Asp Phe Pro Asp Lys Ala Val Gln Phe Leu
340 345 350

Asp Ala Lys Arg
355

<210> 452
<211> 168
<212> PRT
<213> Klebsiella pneumoniae MGH78578

<400> 452

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 453
<211> 168
<212> PRT
<213> Klebsiella pneumoniae A5054
<400> 453

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 454
<211> 168
<212> PRT
<213> Klebsiella pneumoniae B5055
<400> 454

Val Pro Val Thr Asp Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30
Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45
Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60
Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80
Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95
Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110
Arg Glu Cys Asp Ile Asp Trp Val Ser Phe Ala Arg Glu Gln Ala Gln
115 120 125
Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140
Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160
Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 455
<211> 168
<212> PRT
<213> Klebsiella pneumoniae i225/94
<400> 455

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15
Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30
Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45
Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60
Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80
Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
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90

85

95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 456
<211> 168
<212> PRT
<213> Klebsiella pneumoniae D5050

<400> 456

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

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Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 457
<211> 168
<212> PRT
<213> Klebsiella pneumoniae E5051

<400> 457

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 458
<211> 168
<212> PRT
<213> Klebsiella pneumoniae Aerogenes4140

<400> 458

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

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Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 459
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 1015

<400> 459

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

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Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 460
<211> 168
<212> PRT
<213> Klebsiella pneumoniae i262/94
<400> 460

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Gly Lys Leu Ala Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Glu Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Gly Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

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<210> 461
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae 919

<400> 461

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
 1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
 35 40 45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
 50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
 65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
 85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
 100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
 115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
 130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
 145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
 165

<210> 462
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae 313

<400> 462

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
 1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro

eo1f-seq1.app

35

40

45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 463

<211> 168

<212> PRT

<213> Klebsiella pneumoniae 1470

<400> 463

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

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Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 464

<211> 168

<212> PRT

<213> Klebsiella pneumoniae 1193

<400> 464

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 465

eof-seq1.app

<211> 168
 <212> PRT
 <213> Klebsiella pneumoniae Mich61

<400> 465

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Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1      5      10      15
Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20     25     30
Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35     40     45
Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50     55     60
Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65     70     75     80
Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85     90     95
Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100    105    110
Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115    120    125
Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130    135    140
Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145    150    155    160
Glu Ile Trp Arg Asn Phe Ala Asp
165

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<210> 466
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae 2069/49

<400> 466

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Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1      5      10      15
Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20     25     30
Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35     40     45

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Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 467

<211> 168

<212> PRT

<213> Klebsiella pneumoniae 2005/49

<400> 467

Val Pro Val Thr Asp Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Ile Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Lys Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

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Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 468
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 1754/49
<400> 468

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 469
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 1702/49

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<400> 469

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Val Pro Val Thr Asp Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1      5      10      15
Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20      25      30
Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35      40      45
Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50      55      60
Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65      70      75      80
Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85      90      95
Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100     105     110
Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115     120     125
Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130     135     140
Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145     150     155     160
Glu Ile Trp Arg Asn Phe Ala Asp
165

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<210> 470

<211> 168

<212> PRT

<213> Klebsiella pneumoniae i202/94

<400> 470

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Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1      5      10      15
Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20      25      30
Glu Leu Arg Arg Lys Leu Ala Ala Pro Val Met Ser Lys Asn Gly Pro
35      40      45
Glu Ala Leu Asp Val Thr Pro Glu Glu Leu Glu Gln Val Val Ala Trp
50      55      60

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Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Ala Val Glu Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Ala Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Ala Glu Lys Val Lys
130 135 140

Ile Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 471
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 1996/49
<400> 471

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
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140

130

135

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 472
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 1680/49

<400> 472

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 473
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 2002/49

<400> 473

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Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 474
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 6613

<400> 474

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

eo1f-seq1.app

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 475
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 5758
<400> 475

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

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Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
 145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
 165

<210> 476
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae 5725y

<400> 476

Leu Pro Val Thr Glu Thr Ser Ser Arg Arg Ser Asp Tyr Ala Arg Leu
 1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Ala Ala Pro Val Met Ser Lys Asn Gly Pro
 35 40 45

Glu Ala Leu Asn Val Thr Pro Glu Glu Val Asp Asn Val Val Glu Trp
 50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Glu Arg Phe Val Arg Gln Phe
 65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Val Arg Gln
 85 90 95

Glu Leu Lys Gln Lys Gly Ile Ser Arg Glu Thr Ile Glu Ala Ala Met
 100 105 110

Arg Glu Cys Glu Ile Asp Trp Ala Gln Leu Ala Lys Glu Gln Ala Gln
 115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Thr Val Phe Ala Glu Lys Val Lys
 130 135 140

Ile Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
 145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
 165

<210> 477
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae 7824

<400> 477

Val Pro Val Thr Asp Ala Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
 1 5 10 15

eo1f-seq1.app

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 478
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 6258
<400> 478

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
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Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 479
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 6168
<400> 479

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

eo1f-seq1.app

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 480
<211> 168
<212> PRT
<213> Klebsiella pneumoniae i256/94
<400> 480

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 481
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 7749
<400> 481

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

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Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 482
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 2482

<400> 482

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

eolf-seq1.app

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Ala Val Glu Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 483
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 5281
<400> 483

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

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<210> 484
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae i224/94

<400> 484

Val Pro Val Thr Asp Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
 1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
 35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
 50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
 65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
 85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
 100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
 115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
 130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
 145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
 165

<210> 485
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae 1756/51

<400> 485

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
 1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
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35

40

45

Glu Ala Leu Asp Val Thr Pro Glu Glu Leu Glu Gln Val Val Ala Trp
 50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp His Arg Phe Val Gly Gln Phe
 65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
 85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Asp Val Asp Gln Ala Met
 100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
 115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
 130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
 145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
 165

<210> 486

<211> 168

<212> PRT

<213> Klebsiella pneumoniae Stanley

<400> 486

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
 1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Ala Ala Pro Val Met Ser Lys Asn Gly Pro
 35 40 45

Glu Ala Leu Asp Val Thr Pro Glu Glu Leu Glu Gln Val Val Ala Trp
 50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp His Arg Phe Val Gly Gln Phe
 65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
 85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Asp Val Glu Gln Ala Met
 100 105 110

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Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 487

<211> 168

<212> PRT

<213> Klebsiella pneumoniae 3985/51

<400> 487

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 488

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<211> 168
 <212> PRT
 <213> Klebsiella pneumoniae i221/94

<400> 488

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
 35 40 45

Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
 50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
 65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
 85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
 100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
 115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
 130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
 145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
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<210> 489
 <211> 168
 <212> PRT
 <213> Klebsiella pneumoniae 4463/52

<400> 489

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
 20 25 30

Glu Leu Arg Arg Lys Leu Ala Ala Pro Val Met Ser Lys Asn Gly Pro
 35 40 45

Glu Ala Leu Asp Val Ile Pro Glu Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Ala Val Glu Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Ala Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Ala Glu Lys Val Lys
130 135 140

Ile Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 490
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 5710/52
<400> 490

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Asp Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Tyr Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

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Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
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Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 491
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 5711/52

<400> 491

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

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<212> PRT
<213> Klebsiella pneumoniae 5845/52

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<400> 492

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Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35     40     45
Glu Ala Leu Asp Ala Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50     55     60
Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65     70     75     80
Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85     90     95
Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100    105    110
Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115    120    125
Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130    135    140
Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145    150    155    160
Glu Ile Trp Arg Asn Phe Ala Asp
165

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<210> 493

<211> 168

<212> PRT

<213> Klebsiella pneumoniae NCTC8172

<400> 493

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Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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20     25     30
Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35     40     45
Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50     55     60

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Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Glu Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 494

<211> 168

<212> PRT

<213> Klebsiella pneumoniae 264-1

<400> 494

Leu Thr Val Thr Glu Thr Ser Ser Arg Arg Ser Asp Tyr Ala Arg Leu
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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Ala Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Glu Glu Val Asp Lys Val Val Glu Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Glu Arg Phe Val Arg Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Val Arg Gln
85 90 95

Glu Leu Lys Gln Lys Gly Ile Ser Arg Glu Thr Thr Glu Ala Ala Met
100 105 110

Arg Glu Cys Glu Ile Asp Trp Ala Arg Leu Ala Lys Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Val Phe Ala Glu Lys Val Lys
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140

130

135

Ile Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

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<213> Klebsiella pneumoniae 265-1

<400> 495

Val Pro Val Thr Glu Ser Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Ala Ala Pro Val Met Gly Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Glu Glu Val Asp Arg Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Gln Arg Phe Val Arg Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Asn Gln Lys Gly Ile Ala Arg Glu Glu Gly Glu Arg Ala Met
100 105 110

Arg Glu Cys Glu Ile Asp Trp Ala Leu Leu Ala Lys Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Asp Pro Leu Pro Thr Val Phe Ala Glu Lys Val Lys
130 135 140

Ile Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 496
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 889

<400> 496

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Val Pro Val Thr Glu Ser Thr Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15
Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30
Glu Leu Arg Arg Lys Leu Ala Ala Pro Val Met Gly Lys Asn Gly Pro
35 40 45
Glu Ala Leu Asp Val Thr Pro Glu Glu Val Asp Arg Val Val Ala Trp
50 55 60
Cys Ile Glu Asn Arg Tyr Leu Asp Asp Gln Arg Phe Val Arg Gln Phe
65 70 75 80
Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95
Glu Leu Asn Gln Lys Gly Ile Ala Arg Glu Glu Gly Glu Arg Ala Met
100 105 110
Arg Glu Cys Glu Ile Asp Trp Ala Leu Leu Ala Lys Glu Gln Ala Gln
115 120 125
Arg Lys Tyr Gly Asp Pro Leu Pro Thr Val Phe Ala Glu Lys Val Lys
130 135 140
Ile Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160
Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 497
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<212> PRT
<213> Klebsiella pneumoniae 708

<400> 497

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
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20 25 30
Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45
Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60
Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

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Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 498
<211> 168
<212> PRT
<213> Klebsiella pneumoniae 370

<400> 498

Val Pro Val Thr Glu Pro Ser Ser Arg Arg Ser Gly Tyr Ala Arg Leu
1 5 10 15

Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

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Val	Gln	Arg	Phe	Leu	Leu	Tyr	Arg	Gly	Tyr	Leu	Met	Glu	Asp	Ile	Gln
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Glu	Ile	Trp	Arg	Asn	Phe	Ala	Asp
							165

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 <212> PRT
 <213> Klebsiella pneumoniae Friedlaender204
 <400> 499

Val	Pro	Val	Thr	Glu	Pro	Ser	Ser	Arg	Arg	Ser	Gly	Tyr	Ala	Arg	Leu
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Leu	Asp	Arg	Ala	Ile	Arg	Ile	Leu	Ala	Met	Arg	Asp	His	Ser	Glu	Gln
			20					25					30		

Glu	Leu	Arg	Arg	Lys	Leu	Val	Ala	Pro	Val	Met	Ser	Lys	Asn	Gly	Pro
		35					40					45			

Glu	Ala	Leu	Asp	Val	Thr	Pro	Asp	Glu	Leu	Glu	Gln	Val	Val	Ala	Trp
	50					55					60				

Cys	Ile	Glu	Asn	Arg	Tyr	Leu	Asp	Asp	Asn	Arg	Phe	Val	Gly	Gln	Phe
65					70					75					80

Ile	Ala	Ser	Arg	Ser	Arg	Lys	Gly	Tyr	Gly	Pro	Ala	Arg	Ile	Arg	Gln
				85					90					95	

Glu	Leu	Ser	Gln	Lys	Gly	Ile	Ala	Arg	Gln	Val	Val	Asp	Gln	Ala	Met
			100					105						110	

Arg	Glu	Cys	Asp	Ile	Asp	Trp	Val	Ser	Leu	Ala	Arg	Glu	Gln	Ala	Gln
		115					120					125			

Arg	Lys	Tyr	Gly	Glu	Pro	Leu	Pro	Ser	Ala	Phe	Thr	Glu	Lys	Val	Lys
	130					135					140				

Val	Gln	Arg	Phe	Leu	Leu	Tyr	Arg	Gly	Tyr	Leu	Met	Glu	Asp	Ile	Gln
145					150					155					160

Glu	Ile	Trp	Arg	Asn	Phe	Ala	Asp
							165

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Val	Pro	Val	Thr	Glu	Pro	Ser	Ser	Arg	Arg	Ser	Gly	Tyr	Ala	Arg	Leu
1				5					10					15	

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Leu Asp Arg Ala Ile Arg Ile Leu Ala Met Arg Asp His Ser Glu Gln
20 25 30

Glu Leu Arg Arg Lys Leu Val Ala Pro Val Met Ser Lys Asn Gly Pro
35 40 45

Glu Ala Leu Asp Val Thr Pro Asp Glu Leu Glu Gln Val Val Ala Trp
50 55 60

Cys Ile Glu Asn Arg Tyr Leu Asp Asp Asn Arg Phe Val Gly Gln Phe
65 70 75 80

Ile Ala Ser Arg Ser Arg Lys Gly Tyr Gly Pro Ala Arg Ile Arg Gln
85 90 95

Glu Leu Ser Gln Lys Gly Ile Ala Arg Gln Val Val Asp Gln Ala Met
100 105 110

Arg Lys Cys Asp Ile Asp Trp Val Ser Leu Ala Arg Glu Gln Ala Gln
115 120 125

Arg Lys Tyr Gly Glu Pro Leu Pro Ser Ala Phe Thr Glu Lys Val Lys
130 135 140

Val Gln Arg Phe Leu Leu Tyr Arg Gly Tyr Leu Met Glu Asp Ile Gln
145 150 155 160

Glu Ile Trp Arg Asn Phe Ala Asp
165

<210> 501
<211> 397
<212> PRT
<213> Klebsiella pneumoniae MGH78578
<400> 501

Val Glu Arg Phe Asp Ala Ile Val Val Gly Ala Gly Ala Ala Gly Met
1 5 10 15

Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Thr Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
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90

85

95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

eof-seq1.app

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
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<212> PRT
<213> Klebsiella pneumoniae A5054

<400> 502

Val Val Arg Phe Asp Ala Val Val Val Gly Ala Gly Ala Ala Gly Met
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Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Gly Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
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Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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<212> PRT
<213> Klebsiella pneumoniae B5055

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Val Glu Arg Phe Asp Ala Val Val Val Gly Ala Gly Ala Ala Gly Met
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Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80
 Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95
 Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110
 Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
 115 120 125
 Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140
 Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160
 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175
 Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190
 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240
 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255
 Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
 260 265 270
 Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
 275 280 285
 Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
 290 295 300
 Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
 305 310 315 320
 Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
 325 330 335

eo1f-seq1.app

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 504

<211> 397

<212> PRT

<213> Klebsiella pneumoniae i225/94

<400> 504

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20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Thr Ala Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val

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180

185

190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 505

<211> 397

<212> PRT

<213> Klebsiella pneumoniae D5050

<400> 505

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20 25 30

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Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
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 Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60
 Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80
 Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95
 Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110
 Leu Leu Leu Ala Glu Cys Glu Lys Gly Asp Val Gln Ile Arg Leu Arg
 115 120 125
 Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140
 Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160
 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175
 Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190
 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240
 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255
 Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
 260 265 270
 Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
 275 280 285
 Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
 290 295 300

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Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Val Gln Ala Leu Val Glu Gly
385 390 395

<210> 506
<211> 397
<212> PRT
<213> Klebsiella pneumoniae E5051

<400> 506

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20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Asp Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
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Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

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Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 507

<211> 397

<212> PRT

<213> Klebsiella pneumoniae Aerogenes4140

<400> 507

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35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro

275

280

285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
 290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
 305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
 325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
 340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
 355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
 370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Glu
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<210> 508

<211> 397

<212> PRT

<213> Klebsiella pneumoniae 1015

<400> 508

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 20 25 30

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 35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
 115 120 125

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Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Met
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

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<211> 397

<212> PRT

<213> Klebsiella pneumoniae Mich61

<400> 509

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20 25 30

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35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

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Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
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Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 510
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<212> PRT
<213> Klebsiella pneumoniae 2069/49
<400> 510

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Ser Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Leu
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp

370

375

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
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<210> 511

<211> 397

<212> PRT

<213> Klebsiella pneumoniae i243/94

<400> 511

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20 25 30

Asp Lys Gly Ile Lys Met Gly Arg Lys Ile Leu Met Ala Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Asp Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

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Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asn Leu Glu Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Thr Glu Ala Arg Lys Ala Ser Gly Leu Tyr Phe Ile Gly Glu Met
355 360 365

Met Asp Val Thr Gly Arg Leu Gly Arg Tyr Lys Thr Gln Ser Ala Trp
370 375 380

Ser Ser Leu His Ala Ser Tyr Gln Ala His Gln Glu Gly
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<210> 512
<211> 397
<212> PRT
<213> Klebsiella pneumoniae 2005/49

<400> 512

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20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
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Asp	Phe	Ile	Glu	Leu ₈₅	Val	Gly
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					Ile	Ala
					Trp	His
					Glu ₉₅	Lys
Thr	Leu	Gly	Gln ₁₀₀	Leu	Phe	Cys
				Asp	Asp ₁₀₅	Ser
					Ala	Glu
					Gln	Ile
					Val	Asn ₁₁₀
Leu	Leu	Leu ₁₁₅	Ala	Glu	Cys	Glu
					Lys ₁₂₀	Gly
					Gly	Val
					Gln	Ile
					Arg	Leu
					Arg	
Ser	Glu ₁₃₀	Ile	Leu	Ser	Val	Glu
					Glu ₁₃₅	Arg
					Asp	Glu
					Gln	Gly ₁₄₀
					Tyr	Arg
					Leu	Gln
Val	Asn	Gly	Glu	Thr	Leu ₁₅₀	Thr
₁₄₅					Ala	Lys
					Lys	Leu
					Val ₁₅₅	Ile
					Ala	Ser
					Gly ₁₆₀	
Gly	Leu	Ser	Met	Pro ₁₆₅	Gly	Leu
					Gly	Ala
					Ser ₁₇₀	Pro
					Phe	Gly
					Tyr	Lys ₁₇₅
					Val	
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					Pro	Thr
					Arg	Ala
					Gly ₁₉₀	Leu
					Val	
Pro	Phe	Thr ₁₉₅	Leu	His	Lys	Pro
					Leu ₂₀₀	Leu
					Glu	Gln
					Leu ₂₀₅	Gln
					Val	Leu
					Ser	
Gly	Val ₂₁₀	Ser	Val	Pro	Ser	Thr
					Thr ₂₁₅	Ile
					Thr	Ala
					Glu	Asn
					Gly ₂₂₀	Gly
					Thr	Leu
					Phe	
Arg	Glu	Asn	Leu	Leu	Phe ₂₃₀	Thr
₂₂₅					His	Arg
					Gly	Leu
					Ser ₂₃₅	Gly
					Pro	Ala
					Val ₂₄₀	
Leu	Gln	Ile	Ser	Ser ₂₄₅	Tyr	Trp
					Gln	Pro
					Gly ₂₅₀	Glu
					Phe	Val
					Thr	Val ₂₅₅
					Asn	
Leu	Leu	Pro	Asp ₂₆₀	Cys	Asp	Leu
					Asp ₂₆₅	Phe
					Leu	Asn
					Glu	Gln
					Arg	Ser
Ala	His	Pro ₂₇₅	Asn	Gln	Ser	Leu
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					Thr	Leu
					Ala	Met
					Gln ₂₈₅	Leu
					Pro	
Lys	Arg ₂₉₀	Leu	Val	Glu	Cys	Leu
					Gln ₂₉₅	Gln
					Gln	Leu
					Gly	Gln
					Ile	Pro
					Asp	Val
Thr	Leu	Lys	Gln	Leu	Asn ₃₁₀	Val
₃₀₅					Arg	Asp
					Gln	Gln
					Thr ₃₁₅	Leu
					Val	Glu
					Thr	Thr ₃₂₀
Leu	Thr	Ala	Trp	Arg ₃₂₅	Val	Gln
					Pro	Asn
					Gly ₃₃₀	Thr
					Glu	Gly
					Tyr	Arg
					Thr ₃₃₅	
Ala	Glu	Val	Thr ₃₄₀	Leu	Gly	Gly
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					Glu	Leu
					Ser ₃₅₀	Ser
					Arg	

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Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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385 390 395

<210> 513
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<213> Klebsiella pneumoniae 1754/49

<400> 513

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
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Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

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Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
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Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Leu Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
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<213> Klebsiella pneumoniae 1702/49

<400> 514

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
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Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
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Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
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Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
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Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

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Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
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Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 515
<211> 397
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<213> Klebsiella pneumoniae i202/94
<400> 515

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
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85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Thr
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Ala Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Ile
Page 439

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asn Leu Glu Glu Phe Leu Asn Glu Gln Arg Gly
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Ala Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 516
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<400> 516

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 Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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 Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80
 Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95
 Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110
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 115 120 125
 Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140
 Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
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 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175
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 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240
 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255
 Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
 260 265 270
 Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
 275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
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Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

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Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

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<211> 397

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<213> Klebsiella pneumoniae 1680/49

<400> 517

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35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
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Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
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Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
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165 170 175

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Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
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Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

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Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

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<213> Klebsiella pneumoniae 2002/49

<400> 518

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 35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
 115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
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260

265

270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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<210> 519

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<212> PRT

<213> Klebsiella pneumoniae 6613

<400> 519

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

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 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175
 Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190
 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240
 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
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 Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
 275 280 285
 Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
 290 295 300
 Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
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 Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
 325 330 335
 Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
 340 345 350
 Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Asp Met
 355 360 365
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<212> PRT

<213> Klebsiella pneumoniae 5725y

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Gly Arg Tyr Thr His Trp
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Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Pro Arg His Glu Lys
85 90 95

Thr Leu Arg Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Leu Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Thr Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
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Arg Glu Asn Leu Met Phe Thr His Arg Gly Leu Ser Gly Thr Ala Gly
225 230 235 240

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Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Thr Asp Cys Asp Leu Asp Asp Phe Leu Tyr Glu Gln Arg Ser
260 265 270

Ala His Pro His Gln Ser Leu Lys Lys Thr Leu Ala Met Pro Leu Pro
275 280 285

Lys Arg Leu Val Glu Arg Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Pro Asp Gln Gln Thr Leu Val Glu Lys
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Gly Pro Gly Leu Ser Phe Ile Gly Glu Val
355 360 365

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
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Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
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Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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355

360

365

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<212> PRT

<213> Klebsiella pneumoniae 6258

<400> 522

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
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Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

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Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
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Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

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<212> PRT
<213> Klebsiella pneumoniae 6168

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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50

55

60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

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225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

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260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
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Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
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Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
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Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

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Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
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Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
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<211> 397

<212> PRT

<213> Klebsiella pneumoniae i256/94

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
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Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

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Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 525
<211> 397
<212> PRT
<213> Klebsiella pneumoniae 7749

<400> 525

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Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
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 Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60
 Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80
 Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95
 Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110
 Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
 115 120 125
 Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140
 Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160
 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175
 Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190
 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240
 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255
 Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
 260 265 270
 Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
 275 280 285
 Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
 290 295 300

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Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 526
<211> 397
<212> PRT
<213> Klebsiella pneumoniae 2482
<400> 526

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35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Glu Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
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Val Glu Arg Phe Asp Ala Val Val Val Gly Ala Gly Ala Ala Gly Met
 1 5 10 15
 Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
 20 25 30
 Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
 35 40 45
 Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60
 Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80
 Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95
 Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110
 Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
 115 120 125
 Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140
 Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160
 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175
 Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190
 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240
 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255
 Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
 260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 528

<211> 397

<212> PRT

<213> Klebsiella pneumoniae i224/94

<400> 528

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20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

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Ser Glu Ile Leu Ser Val Glu His Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

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<210> 529
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 <212> PRT
 <213> Klebsiella pneumoniae 1756/51

<400> 529

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Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
 35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Asp Val Gln Ile Arg Leu Arg
 115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Asp Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asn Leu Glu Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Ser Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
 370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
 385 390 395

<210> 531

<211> 397

<212> PRT

<213> Klebsiella pneumoniae 3985/51

<400> 531

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 20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
 35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
 115 120 125

Ser Glu Ile Leu Ser Val Glu His Asp Glu Gln Gly Tyr Arg Leu Gln
 130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
 145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220

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Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 532
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<212> PRT
<213> Klebsiella pneumoniae i221/94

<400> 532

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Phe Cys Ala Ala His Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
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340

345

350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 533

<211> 397

<212> PRT

<213> Klebsiella pneumoniae 4463/52

<400> 533

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20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Thr
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Ala Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Ile
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

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Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

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225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asn Leu Glu Glu Phe Leu Asn Glu Gln Arg Gly
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Ala Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Phe Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 534
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<212> PRT
<213> Klebsiella pneumoniae 5710/52

<400> 534

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Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
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35

40

45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

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Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
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Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 535
<211> 397
<212> PRT
<213> Klebsiella pneumoniae 5711/52

<400> 535

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Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys Arg Val Leu Leu Leu
20 25 30

Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
35 40 45

Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
50 55 60

Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
85 90 95

Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
130 135 140

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
145 150 155 160

Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
165 170 175

Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
180 185 190

Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
225 230 235 240

Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
245 250 255

Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
260 265 270

Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
275 280 285

Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
305 310 315 320

Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
325 330 335

Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
340 345 350

Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
355 360 365

Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
370 375 380

Ser Ser Ala Trp Ala Cys Ala Gln Ala Leu Val Glu Gly
385 390 395

<210> 536
<211> 397
<212> PRT
<213> Klebsiella pneumoniae 5845/52

<400> 536

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Phe Cys Ala Ala Gln Ala Gly Gln Leu Gly Cys His Val Leu Leu Leu
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 Asp Asn Gly Lys Lys Pro Gly Arg Lys Ile Leu Met Ser Gly Gly Gly
 35 40 45
 Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
 50 55 60
 Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
 65 70 75 80
 Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
 85 90 95
 Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
 100 105 110
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 115 120 125
 Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
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 Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
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 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
 165 170 175
 Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
 180 185 190
 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
 225 230 235 240
 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255
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 Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
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Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
290 295 300

Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
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Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
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Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
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Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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<213> Klebsiella pneumoniae NCTC8172

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65 70 75 80

Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu His Asp Glu Gln Gly Tyr Arg Leu Gln
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140

130

135

Val Asn Gly Glu Thr Leu Met Thr Lys Lys Leu Val Ile Ala Ser Gly
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Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
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Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
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Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195 200 205

Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210 215 220

Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
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Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
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Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
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Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
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Leu Thr Ala Trp Arg Val Gln Pro Asn Gly Thr Glu Gly Tyr Arg Thr
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Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
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Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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<212> PRT

<213> Klebsiella pneumoniae 708

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Arg Cys Asn Phe Thr Asn Met Tyr Val Glu Pro Ala Ala Tyr Leu Ser
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
65      70      75      80
Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
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Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
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Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
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Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
195     200     205
Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
210     215     220
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Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

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Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
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 Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
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 Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
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 Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
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 Ala Glu Gln Phe Gly Leu Lys Val Leu Pro Thr Arg Ala Gly Leu Val
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 Pro Phe Thr Leu His Lys Pro Leu Leu Glu Gln Leu Gln Val Leu Ser
 195 200 205
 Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
 210 215 220
 Arg Glu Asn Leu Leu Phe Thr His Arg Gly Leu Ser Gly Pro Ala Val
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 Leu Gln Ile Ser Ser Tyr Trp Gln Pro Gly Glu Phe Val Thr Val Asn
 245 250 255
 Leu Leu Pro Asp Cys Asp Leu Asp Asp Phe Leu Asn Glu Gln Arg Ser
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 Ala His Pro Asn Gln Ser Leu Lys Asn Thr Leu Ala Met Gln Leu Pro
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 Lys Arg Leu Val Glu Cys Leu Gln Gln Leu Gly Gln Ile Pro Asp Val
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 Thr Leu Lys Gln Leu Asn Val Arg Asp Gln Gln Thr Leu Val Glu Thr
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 Ala Glu Val Thr Leu Gly Gly Val Asp Thr Asn Glu Leu Ser Ser Arg
 340 345 350
 Thr Met Glu Ala Arg Lys Ala Pro Gly Leu Tyr Phe Ile Gly Glu Val
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 Met Asp Val Thr Gly Trp Leu Gly Gly Tyr Asn Phe Gln Trp Ala Trp
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<213> Klebsiella pneumoniae 5053
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Gln Asn Pro His Phe Cys Lys Ser Ala Leu Ala Arg Tyr Thr Gln Trp
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Asp Phe Ile Glu Leu Val Gly Lys Tyr Gly Ile Ala Trp His Glu Lys
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Thr Leu Gly Gln Leu Phe Cys Asp Asp Ser Ala Glu Gln Ile Val Asn
100 105 110

Leu Leu Leu Ala Glu Cys Glu Lys Gly Gly Val Gln Ile Arg Leu Arg
115 120 125

Ser Glu Ile Leu Ser Val Glu Arg Asp Glu Gln Gly Tyr Arg Leu Gln
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Val Asn Gly Glu Thr Leu Val Thr Lys Lys Leu Val Ile Ala Ser Gly
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Gly Leu Ser Met Pro Gly Leu Gly Ala Ser Pro Phe Gly Tyr Lys Val
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Gly Val Ser Val Pro Ser Thr Ile Thr Ala Glu Asn Gly Thr Leu Phe
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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
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Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
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His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
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Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

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Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
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Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
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Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
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Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
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Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
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Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
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Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
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Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
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Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
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Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
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Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
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Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
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Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
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Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
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Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
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Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
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His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
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Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
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Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
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Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
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Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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530

535

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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
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Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
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Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
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Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
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Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
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Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
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His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
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Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

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His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
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Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Page 499

340

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Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
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 His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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 Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
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 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
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 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
 610 615 620
 Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640
 Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
 645 650 655
 Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
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 Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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 Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
 690 695 700
 Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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 Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
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 740 745 750
 Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
 755 760 765
 Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
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Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
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195

200

205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
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Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
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Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
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Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
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Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
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Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
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Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
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Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

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Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
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Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
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Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
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785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
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Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
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Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Ala	Gly	Ala	Leu	Lys 165	Asn	Leu	Gly	Val	Glu 170	Thr	His	Val	Ile	Glu 175	Phe
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His 225	Phe	Ala	Asp	Gly	Ser 230	Glu	Leu	Gln	Val	Asp 235	Phe	Ile	Val	Phe	Ser 240
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His	Gly	Arg	Thr 340	Pro	Gly	Ala	Arg	Ser 345	Tyr	Val	Tyr	Leu	Asp 350	Glu	Ser
Lys	Glu	Val 355	Tyr	Lys	Arg	Leu	Ile 360	Val	Ser	Ala	Asp	Asn 365	Lys	Thr	Leu
Leu	Gly 370	Ala	Val	Leu	Val	Gly 375	Asp	Thr	Ser	Asp	Tyr 380	Gly	Asn	Leu	Leu

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Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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 405 410 415
 Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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 Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
 450 455 460
 Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
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 485 490 495
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 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525
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 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
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 595 600 605
 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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 645 650 655

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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
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Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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50

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60

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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
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Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
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Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
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Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
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His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
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Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
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Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
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Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
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Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
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Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400
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 Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
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 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
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 Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
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Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
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Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
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Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Gly Arg Thr	Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr		
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Asn Thr	Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met		
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Val Ala Gln	Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser		
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Asp Pro Asp	Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg		
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 Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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 Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
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 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
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 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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 Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
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 Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
 770 775 780
 Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
 785 790 795 800
 Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
 805 810 815
 Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
 820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Lys Ala
 835 840 845

<210> 555

<211> 847

<212> PRT

<213> Klebsiella pneumoniae i243/94

<400> 555

Met Ser Lys Val Arg Ile Ala Ile Ile Gly Asn Gly Met Val Gly His
 1 5 10 15

Arg Phe Ile Glu Glu Leu Leu Asp Lys Ala Pro Ala Gly Gln Phe Asp
 20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
 35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
 50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
 65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
 85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
 100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
 115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
 130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
 145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
 165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
 180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
 195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
 210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
 225 230 235 240

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Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Ile Cys Lys Pro Thr Val
 515 520 525
 Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
 530 535 540
 His Thr Pro Leu Gln Asp Thr Asn Asp Asn Phe Leu Ala Asn Ile Gln
 545 550 555 560
 Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
 565 570 575
 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
 580 585 590
 Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605
 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
 610 615 620
 Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640
 Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
 645 650 655
 Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
 660 665 670
 Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
 675 680 685
 Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
 690 695 700
 Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
 705 710 715 720
 Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
 725 730 735
 Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
 740 745 750
 Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
 755 760 765
 Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
 770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Asn Val
835 840 845

<210> 556

<211> 847

<212> PRT

<213> Klebsiella pneumoniae 2005/49

<400> 556

Met Ser Lys Val Arg Ile Ala Ile Ile Gly Asn Gly Met Val Gly His
1 5 10 15

Arg Phe Ile Glu Glu Leu Leu Asp Lys Ala Pro Ala Gly Gln Phe Asp
20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

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Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
 195 200 205
 Asn Thr Lys Glu Val Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
 210 215 220
 His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
 225 230 235 240
 Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
 245 250 255
 Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
 260 265 270
 Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
 275 280 285
 Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
 290 295 300
 Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
 305 310 315 320
 Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
 325 330 335
 His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
 340 345 350
 Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
 355 360 365
 Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
 370 375 380
 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400
 Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
 405 410 415
 Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
 435 440 445
 Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
 450 455 460

eo1f-seq1.app

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
 465 470 475 480
 Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
 485 490 495
 Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
 500 505 510
 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525
 Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
 530 535 540
 His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
 545 550 555 560
 Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
 565 570 575
 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
 580 585 590
 Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605
 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
 610 615 620
 Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640
 Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
 645 650 655
 Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
 660 665 670
 Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
 675 680 685
 Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
 690 695 700
 Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
 705 710 715 720
 Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
 725 730 735

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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
835 840 845

<210> 557
<211> 847
<212> PRT
<213> Klebsiella pneumoniae 1754/49

<400> 557

Met Ser Lys Val Arg Ile Ala Ile Ile Gly Asn Gly Met Val Gly His
1 5 10 15

Arg Phe Ile Glu Glu Leu Leu Asp Lys Ala Pro Ala Gly Gln Phe Asp
20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

eo1f-seq1.app

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
 435 440 445
 Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
 450 455 460
 Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
 465 470 475 480
 Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
 485 490 495
 Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
 500 505 510
 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525
 Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
 530 535 540
 His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
 545 550 555 560
 Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
 565 570 575
 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
 580 585 590
 Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605
 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
 610 615 620
 Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640
 Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
 645 650 655
 Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
 660 665 670
 Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
 675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
835 840 845

<210> 558
<211> 847
<212> PRT
<213> Klebsiella pneumoniae 1702/49
<400> 558

Met Ser Lys Val Arg Ile Ala Ile Ile Gly Asn Gly Met Val Gly His
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Arg Phe Ile Glu Glu Leu Leu Asp Lys Ala Pro Ala Gly Gln Phe Asp
20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

eo1f-seq1.app

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

eo1f-seq1.app

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
 370 375 380
 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400
 Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
 405 410 415
 Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
 435 440 445
 Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
 450 455 460
 Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
 465 470 475 480
 Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
 485 490 495
 Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
 500 505 510
 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525
 Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
 530 535 540
 His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
 545 550 555 560
 Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
 565 570 575
 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
 580 585 590
 Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605
 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
 610 615 620
 Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
835 840 845

<210> 559
<211> 847
<212> PRT
<213> Klebsiella pneumoniae i202/94

<400> 559

Met Ser Lys Val Arg Ile Ala Ile Ile Gly Asn Gly Met Val Gly His
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Arg Phe Ile Glu Glu Leu Leu Asp Lys Ala Pro Ala Gly Gln Phe Asp
20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

eo1f-seq1.app

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
 50 55 60
 Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
 65 70 75 80
 Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
 85 90 95
 Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
 100 105 110
 Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
 115 120 125
 Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
 130 135 140
 Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
 145 150 155 160
 Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
 165 170 175
 Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
 180 185 190
 Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
 195 200 205
 Asn Thr Lys Glu Ile Val Gln Gln Gly Ile Glu Ala Arg Lys Thr Met
 210 215 220
 Arg Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
 225 230 235 240
 Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
 245 250 255
 Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
 260 265 270
 Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
 275 280 285
 Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
 290 295 300
 Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
 305 310 315 320

eo1f-seq1.app

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

Ala Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Thr Asn Asp Asn Phe Leu Ala Asn Ile Gln
545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

eolf-seq1.app

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Thr Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
835 840 845

<210> 560
<211> 847
<212> PRT
<213> Klebsiella pneumoniae 1996/49

eo1f-seq1.app

<400> 560

Met Ser Lys Val Arg Ile Ala Ile Ile Gly Asn Gly Met Val Gly His
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Arg Phe Ile Glu Glu Leu Leu Asp Lys Ala Pro Ala Gly Gln Phe Asp
20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
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Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

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Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
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 Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
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 Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
 305 310 315 320
 Ala Lys Leu Lys Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
 325 330 335
 His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
 340 345 350
 Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
 355 360 365
 Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
 370 375 380
 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400
 Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
 405 410 415
 Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
 435 440 445
 Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
 450 455 460
 Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
 465 470 475 480
 Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
 485 490 495
 Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
 500 505 510
 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525
 Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
 530 535 540

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His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

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His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
 225 230 235 240
 Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
 245 250 255
 Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
 260 265 270
 Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
 275 280 285
 Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
 290 295 300
 Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
 305 310 315 320
 Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
 325 330 335
 His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
 340 345 350
 Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
 355 360 365
 Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
 370 375 380
 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400
 Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
 405 410 415
 Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
 435 440 445
 Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
 450 455 460
 Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
 465 470 475 480
 Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
 485 490 495

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Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Gly Glu Leu Leu
 500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
 530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
 545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
 565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
 580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Gln Gln Leu Ile Glu Ala Gly
 610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
 645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
 660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
 675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
 690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
 705 710 715 720

Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
 725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
 740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
 755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala

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775

Arg Leu Arg Ala Ala Phe Ala Trp Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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<400> 562

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35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

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Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
Page 548

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725

735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
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Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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 Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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 Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
 165 170 175
 Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
 180 185 190
 Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
 195 200 205
 Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
 210 215 220
 His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
 225 230 235 240
 Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
 245 250 255
 Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
 260 265 270
 Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
 275 280 285
 Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
 290 295 300
 Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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 Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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 His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
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 Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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 Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
 370 375 380
 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
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Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
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Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala

675

680

685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
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Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
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Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
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Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
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Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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<213> Klebsiella pneumoniae 5758

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Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr

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Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
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His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

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Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
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Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
 610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
 645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
 660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
 675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
 690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
 705 710 715 720

Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
 725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
 740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
 755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
 770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
 785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
 805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
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<211> 847

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<212> PRT

<213> Klebsiella pneumoniae 6168

<400> 566

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20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln

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530

535

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

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Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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835 840 845

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<212> PRT
<213> Klebsiella pneumoniae i256/94

<400> 567

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20 25 30

Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

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Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
835 840 845

<210> 568
<211> 847
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<213> Klebsiella pneumoniae 7749

<400> 568

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35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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435

440

445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
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Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
545 550 555 560

Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

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Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asn Gln His Arg Pro Ala
820 825 830

Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
835 840 845

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<213> Klebsiella pneumoniae i224/94
<400> 569

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Ile Thr Val Phe Cys Glu Glu Pro Arg Ile Ala Tyr Asp Arg Val His
35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
Page 569

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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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835 840 845

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<213> Klebsiella pneumoniae 1756/51

<400> 570

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35 40 45

Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
275 280 285

Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser

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340

345

350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
435 440 445

Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
450 455 460

Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
465 470 475 480

Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
485 490 495

Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
500 505 510

Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Ile Cys Lys Pro Thr Val
515 520 525

Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
530 535 540

His Thr Pro Leu Gln Asp Thr Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
565 570 575

Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
580 585 590

Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
595 600 605

Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
610 615 620

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Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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835 840 845

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<213> Klebsiella pneumoniae 3985/51

<400> 571

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Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
50 55 60

Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
115 120 125

Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
130 135 140

Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
145 150 155 160

Ala Gly Ala Leu Lys Asn Leu Gly Val Glu Thr His Val Ile Glu Phe
165 170 175

Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
180 185 190

Leu Arg Arg Lys Ile Glu Ser Met Gly Val Lys Val His Thr Ser Lys
195 200 205

Asn Thr Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met
210 215 220

His Phe Ala Asp Gly Ser Glu Leu Gln Val Asp Phe Ile Val Phe Ser
225 230 235 240

Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
245 250 255

Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
260 265 270

Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
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Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
Page 575

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290

295

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
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Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
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Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
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Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
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Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
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Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
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Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
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Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
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Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
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His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
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Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
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Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
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Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
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Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
805 810 815

Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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Thr Pro Tyr Glu Arg Ile Pro Val Thr Leu Val Glu Glu Lys Ala
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<400> 572

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Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
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Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
 65 70 75 80

Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
 85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala

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250

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Asp Pro Asp Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg
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Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
290 295 300

Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
305 310 315 320

Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
325 330 335

His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
340 345 350

Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
355 360 365

Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
370 375 380

Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
385 390 395 400

Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
405 410 415

Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
420 425 430

Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
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Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
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Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
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Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
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Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
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 His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
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 Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
 625 630 635 640
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 645 650 655
 Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
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 Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
 675 680 685
 Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
 690 695 700
 Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
 705 710 715 720
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 725 730 735
 Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
 740 745 750
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 755 760 765
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 770 775 780
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 785 790 795 800

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Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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<400> 573

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Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
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Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Val Tyr Gly Leu Val Ala Pro Gly Tyr Lys Met Ala Gln Val Ala Val
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Asp His Leu Leu Gly Ser Glu Asn Ser Phe Thr Gly Ala Asp Leu Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
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Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Asp Asn Lys Thr Leu
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Leu Gly Ala Val Leu Val Gly Asp Thr Ser Asp Tyr Gly Asn Leu Leu
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Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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Ile Leu Pro Ala His Ala Gly Ser Gly Lys Pro Ser Ile Gly Val Asp
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Lys Leu Pro Asp Ser Ala Gln Ile Cys Ser Cys Phe Asp Val Ser Lys
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Leu Val Thr Gln Val Leu Asn Ala Glu Leu Ala Lys Gln Gly Ile Glu
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Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
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Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
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His Thr Pro Leu Gln Asp Thr Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
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Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685
Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700
Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720
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Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
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785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
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						Arg
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Leu Lys Ala Glu Thr Lys Ala Gly Thr Gly Cys Gly Gly Cys Ile Pro
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Val Asn Asn Asn Leu Cys Glu His Phe Ala Tyr Ser Arg Gln Glu Leu
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His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Lys	Glu	Val 355	Tyr	Lys	Arg	Leu	Ile 360	Val	Ser	Ala	Asp	Asn 365	Lys	Thr	Leu
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 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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 Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
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Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
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Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
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Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
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Ala Ala Asp Leu Asp Arg Asp Thr Leu Ile Lys Tyr Leu Asp Arg Phe
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

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755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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Leu Ser Ser Tyr Phe Ser His His Thr Ala Glu Glu Leu Ser Leu Val
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55

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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
85 90 95

Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
100 105 110

Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Ala Pro Met Leu Met Ala Glu Gln Leu Asp Gln Met Gly Gly Glu Gln
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Thr Gly Ile Arg Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala
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Val Ala Gln Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser
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Ala Lys Leu Lys Leu Leu Gly Val Asp Val Gly Gly Ile Gly Asp Ala
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His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
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 Lys Glu Val Tyr Lys Arg Leu Ile Val Ser Ala Thr Asn Lys Thr Leu
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 370 375 380
 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
 385 390 395 400
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 420 425 430
 Gly Asp Leu Ile Ala Ala Ile Asn Lys Gly Cys His Thr Val Ala Ala
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 Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
 515 520 525
 Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
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 His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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 Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
 565 570 575
 Thr Pro Glu Gly Leu Val Ala Val Gly Arg Ile Ala Arg Glu Phe Asn
 580 585 590
 Leu Tyr Thr Lys Ile Thr Gly Ser Gln Arg Ile Gly Leu Phe Gly Ala
 595 600 605

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Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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Phe Glu Thr Gly His Ala Tyr Ala Lys Ala Leu Arg Met Ala Lys Thr
625 630 635 640

Cys Val Gly Ser Thr Trp Cys Arg Tyr Gly Val Gly Asp Ser Val Gly
645 650 655

Phe Gly Val Glu Leu Glu Asn Arg Tyr Lys Gly Ile Arg Thr Pro His
660 665 670

Lys Met Lys Phe Gly Val Ser Gly Cys Thr Arg Glu Cys Ala Glu Ala
675 680 685

Gln Gly Lys Asp Val Gly Ile Ile Ala Thr Glu Lys Gly Trp Asn Leu
690 695 700

Tyr Val Cys Gly Asn Gly Gly Met Lys Pro Arg His Ala Asp Leu Leu
705 710 715 720

Ala Ala Asp Leu Asp Arg Glu Thr Leu Ile Lys Tyr Leu Asp Arg Phe
725 730 735

Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
740 745 750

Trp Leu Asp Asn Met Glu Gly Gly Ile Asp Tyr Leu Arg Ser Val Ile
755 760 765

Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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Asp Pro Asn Val Gln Val Val Pro Glu Arg Asp Gln His Arg Pro Ala
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<213> Klebsiella pneumoniae 370

<400> 577

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Leu Ser Ser Tyr Phe Ser	His His Thr Ala Glu Glu Leu Ser Leu Val		
	50	55	60
Arg Glu Gly Phe Tyr	Glu Lys His Gly Val Lys Val Leu Val Gly Glu		
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Arg Ala Ile Thr	Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala		
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Gly Arg Thr	Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr		
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Pro Trp Ile	Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val		
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Tyr Arg Thr	Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg		
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Asn Thr	Lys Glu Ile Val Gln Gln Gly Thr Glu Ala Arg Lys Thr Met		
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Thr Gly Ile Arg	Pro Arg Asp Lys Leu Ala Thr Gln Cys Gly Leu Ala		
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Val Ala Gln	Arg Gly Gly Ile Met Val Asn Asp Ser Cys Gln Thr Ser		
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Asp Pro Asp	Ile Tyr Ala Ile Gly Glu Cys Ala Ser Trp Asn Asn Arg		
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 His Gly Arg Thr Pro Gly Ala Arg Ser Tyr Val Tyr Leu Asp Glu Ser
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 Gln Leu Val Leu Asn Ala Ile Glu Leu Pro Glu Asn Pro Asp Ser Leu
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 Phe His Leu Ile Arg Val Glu Gly Ile Lys Thr Phe Asp Glu Leu Leu
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 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
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 Gly Ser Leu Leu Ala Ser Cys Trp Asn Glu Tyr Ile Leu Lys Pro Gln
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 His Thr Pro Leu Gln Asp Ser Asn Asp Asn Phe Leu Ala Asn Ile Gln
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Lys Asp Gly Thr Tyr Ser Val Ile Pro Arg Ser Ala Gly Gly Glu Ile
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 Gln Lys Asp Asp Leu Pro Glu Ile Trp Arg Gln Leu Ile Glu Ala Gly
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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Arg Glu Gly Phe Tyr Glu Lys His Gly Val Lys Val Leu Val Gly Glu
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Arg Ala Ile Thr Ile Asn Arg Gln Glu Lys Val Ile His Ser Ser Ala
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Gly Arg Thr Val Phe Tyr Asp Lys Leu Ile Met Ala Thr Gly Ser Tyr
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Pro Trp Ile Pro Pro Ile Lys Gly Ala Glu Thr Gln Asp Cys Phe Val
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Tyr Arg Thr Ile Glu Asp Leu Asn Ala Ile Glu Ser Cys Ala Arg Arg
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Ser Lys Arg Gly Ala Val Val Gly Gly Gly Leu Leu Gly Leu Glu Ala
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 Glu Lys His Gly Gln Gly Tyr Gly Cys Glu Val Cys Lys Pro Thr Val
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Met Met Phe Tyr Ile Arg Thr Ala Asp Lys Leu Thr Arg Thr Ala Pro
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Ile Asp Asp Lys Leu Gly Leu Asn Asp His Leu Glu Glu Glu Leu Ala
770 775 780

Arg Leu Arg Ala Ala Phe Ala Cys Glu Trp Thr Glu Thr Val Asn Asn
785 790 795 800

Pro Ala Ala Gln Thr Arg Phe Lys His Phe Ile Asn Ser Asp Gln Arg
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<213> Klebsiella pneumoniae MGH78578

<400> 580

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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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 Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
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 Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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 Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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 260 265 270
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 Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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 465 470 475 480
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 675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
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Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
1055 1060 1065

Thr Ala Ser Gly Leu Val Thr Leu Thr Glu Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
1100 1105 1110

Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
1130 1135 1140

Asn Ser Gly Ala Val Leu Gln Pro Gly Glu Ser Trp Gln Pro Pro
1145 1150 1155

Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
1160 1165 1170

Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
1175 1180 1185

Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
1190 1195 1200

Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys
1205 1210 1215

Ala Leu Gly Ile Ser Gly Asp Ser Asp Glu Lys Arg Arg Ala Ala
1220 1225 1230

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Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
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Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
	1265					1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
	1280					1285					1290			
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
	1295					1300					1305			
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
	1310					1315					1320			
Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu
	1325					1330					1335			
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
	1340					1345					1350			
Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
	1355					1360					1365			
Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro	Arg	Gln
	1370					1375					1380			
Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu	Arg	Asp
	1385					1390					1395			
Asn	Ala	Leu	Lys	Leu	Ala	Leu	Leu	Glu	Glu	Asn	Lys	Leu	Leu	Pro
	1400					1405					1410			
Glu	Val	Gln	Asn	Gln	Leu	Leu	Ser	Thr	Leu	Ser	Glu	Glu	Ala	Tyr
	1415					1420					1425			
Gly	Gln	Arg	Trp	Leu	Ser	Thr	Gln	Glu	Thr	Asn	Ala	Leu	Phe	Leu
	1430					1435					1440			
Ala	Gly	Arg	Thr	Leu	Ala	Asp	Leu	Pro	Gly	Ser	Trp	Gln	Ala	Lys
	1445					1450					1455			
Thr	Ser	Leu	Gln	Ala	Glu	Pro	Leu	Ala	Gly	Asp	Lys	Ala	Gln	Thr
	1460					1465					1470			
Arg	Asn	Leu	Asp	Gly	Asp	Arg	Leu	Ala	Ala	Leu	Gln	Val	Ser	Asn
	1475					1480					1485			

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Thr Gly Ser Gln Pro Leu Trp Leu Arg Leu Asp Ser Ser Gly Tyr
1490 1495 1500

Pro Gln Ser Ala Pro Gln Pro Gly Gly Asn Val Leu Gly Ile Glu
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Arg Thr Ile Phe Asp Thr Gln Gly Gln Gln Lys Ser Leu Ser Ser
1520 1525 1530

Leu Arg Ser Gly Glu Leu Val Leu Val Lys Leu Glu Val Thr Ala
1535 1540 1545

Lys Arg Asn Val Pro Asp Ala Leu Val Val Asp Leu Leu Pro Ala
1550 1555 1560

Gly Leu Glu Leu Glu Asn Gln Asn Leu Ala Asn Ser Ser Ala Ser
1565 1570 1575

Leu Gln Glu Asn Gly Asp Ala Val Gln Asn Leu Leu Asn Gln Met
1580 1585 1590

Gln Gln Ala Asp Ile Gln His Ile Glu Phe Arg Asp Asp Arg Phe
1595 1600 1605

Val Ala Ala Val Ala Val Asn Glu Gly Gln Pro Val Thr Leu Val
1610 1615 1620

Tyr Leu Ala Arg Ala Val Thr Pro Gly Thr Tyr Gln Val Pro Gln
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Ala Ala Ser Gly Pro Leu Thr Val Thr Pro
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<213> Klebsiella pneumoniae A5054

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Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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50

55

60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

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Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Phe Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

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Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Asp Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
1055 1060 1065

Thr Ala Ser Gly Leu Val Thr Leu Thr Asp Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
1100 1105 1110

Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
1130 1135 1140

Asn Ser Gly Ala Val Leu Gln Pro Gly Glu Ser Trp Gln Pro Pro
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1145

1150

1155

Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
1160 1165 1170

Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
1175 1180 1185

Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
1190 1200

Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys
1205 1210 1215

Ala Leu Gly Ile Ser Gly Asp Ser Asp Glu Lys Arg Arg Ala Ala
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Ile Asp Val Gly Ile Ser Arg Leu Leu Gln Met Gln Leu Glu Asn
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Gly Gly Phe Ala Leu Trp
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<213> Klebsiella pneumoniae i252/94

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Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Thr Ala Pro Ala
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Val
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Ile Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Asn Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly His
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Asp Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Ala Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
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675

680

685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Thr
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Thr Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Lys Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Ala Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
 65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
 85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
 100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
 115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
 130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
 145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
 165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
 180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
 195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
 210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
 225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro

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515

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525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

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Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
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 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
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 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
 900 905 910
 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Cys Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
 980 985 990
 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
 1010 1015 1020
 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
 1025 1030 1035
 Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
 1040 1045 1050
 Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
 1055 1060 1065

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Thr	Ala	Ser	Gly	Leu	Val	Thr	Leu	Thr	Asp	Gly	Gln	Leu	Pro	Pro
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	1085					1090					1095			
Ser	Ala	Leu	Ala	Gly	Phe	Gly	Asp	Gly	Gln	Val	Asn	Ala	Thr	Ile
	1100					1105					1110			
Ser	Gly	Leu	Ser	Leu	Pro	Gly	Glu	Thr	Phe	Ala	Pro	Leu	Gln	Lys
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Gln	Trp	Lys	Ile	Gly	Val	Arg	Pro	Ala	Tyr	Pro	Ala	Gln	Thr	Val
	1130					1135					1140			
Asn	Ser	Gly	Ala	Val	Leu	Gln	Pro	Gly	Glu	Ser	Trp	Gln	Pro	Pro
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Ala	Ala	Gln	Ser	Gln	Gly	Phe	Ala	Pro	Gln	Thr	Leu	Gln	Gly	Gln
	1160					1165					1170			
Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
	1175					1180					1185			
Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala
	1190					1195					1200			
Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
	1205					1210					1215			
Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala	Ala
	1220					1225					1230			
Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
	1235					1240					1245			
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
	1250					1255					1260			
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
	1265					1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
	1280					1285					1290			
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
	1295					1300					1305			
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
	1310					1315					1320			

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Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
1325 1330 1335

Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

Arg Gly Asp Ala Ala Leu Lys Leu Ala Val Ala Thr Pro Arg Gln
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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

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Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Ile
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
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Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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Thr Ala Ser Gly Leu Val Thr Leu Thr Glu Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Thr Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
1130 1135 1140

Asn Ser Gly Ala Val Leu Gln Pro Gly Glu Ser Trp Gln Pro Pro
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Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
1160 1165 1170

Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
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Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
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Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys
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Ala Leu Gly Ile Ser Gly Asp Ser Asp Glu Lys Arg Arg Ala Ala
1220 1225 1230

Ile Asp Val Gly Ile Ser Arg Leu Leu Gln Met Gln Leu Glu Asn
1235 1240 1245

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Gly Gly Phe Ala Leu Trp Asp Arg Glu Gly Pro Glu Glu Tyr Trp
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Leu Thr Ala Tyr Ala Met Asp Phe Leu Val Arg Ala Ser Glu Gln
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Gly Tyr Ser Val Pro Val Asn Ala Ile Asn Lys Gly Asn Glu Arg
1280 1285 1290

Leu Leu Arg Tyr Leu Gln Glu Pro Gly Leu Met Thr Val Arg Tyr
1295 1300 1305

Ser Asp Asp Ala Gln Ala Ser Arg Phe Ala Ala Gln Ala Tyr Ala
1310 1315 1320

Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
1325 1330 1335

Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

Arg Gly Asp Ala Ala Leu Lys Leu Ala Val Ala Thr Pro Arg Gln
1370 1375 1380

Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
1385 1390 1395

Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Arg Pro Glu Ser Leu Ser Ala Leu Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Asn Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg His Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Leu Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ile Tyr Ile Asn Ala Ala Thr Leu Phe Thr Leu Ile Asp Ile Gly

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300

290

295

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr His Thr
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Lys Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Lys Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Arg Lys Gln Phe Val
385 390 395 400

Met Phe Gly Pro Arg Asp Pro Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe Tyr Val Glu Asp Phe Met Pro Glu
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Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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Ala Ser Gly Asn Gln Leu Gln Ala Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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 Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
 595 600 605
 Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
 610 615 620
 Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
 625 630 635 640
 Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
 645 650 655
 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
 660 665 670
 Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
 675 680 685
 Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
 690 695 700
 Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
 705 710 715 720
 Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
 725 730 735
 Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
 740 745 750
 Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
 755 760 765
 Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 795 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845

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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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Thr Ala Ser Gly Leu Val Thr Leu Thr Asp Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
1100 1105 1110

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Gln	Trp	Lys	Ile	Gly	Val	Arg	Pro	Ala	Tyr	Pro	Ala	Gln	Thr	Val
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Asn	Ser	Gly	Ala	Val	Leu	Gln	Pro	Gly	Glu	Ser	Trp	Gln	Pro	Pro
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Ala	Ala	Gln	Ser	Gln	Gly	Phe	Ala	Pro	Gln	Thr	Leu	Gln	Gly	Gln
	1160					1165					1170			
Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
	1175					1180					1185			
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Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
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Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala	Ala
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Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
	1235					1240					1245			
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Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
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Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
	1280					1285					1290			
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
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Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
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Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu
	1325					1330					1335			
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
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1370

1375

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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
1400 1405 1410

Glu Val Gln Thr Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
1415 1420 1425

Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
1430 1435 1440

Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Thr Gly Ser Gln
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Ala Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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660

665

670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
 980 985 990
 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
 1010 1015 1020
 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
 1025 1030 1035
 Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
 1040 1045 1050
 Leu Ser Asn Leu Thr Asp Lys Pro Gln Pro Leu Gln Val His Leu
 1055 1060 1065
 Thr Ala Ser Gly Leu Val Thr Leu Thr Asp Gly Gln Leu Pro Pro
 1070 1075 1080
 Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
 1085 1090 1095
 Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
 1100 1105 1110
 Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
 1115 1120 1125
 Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
 1130 1135 1140
 Asn Ser Gly Ala Val Leu Gln Pro Gly Glu Ser Trp Gln Pro Pro
 1145 1150 1155
 Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
 1160 1165 1170
 Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
 1175 1180 1185
 Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
 1190 1195 1200

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Ser	Gly 1205	Leu	Phe	Pro	Ser	Leu 1210	Tyr	Thr	Ser	Ala	Ala 1215	Gln	Leu	Lys
Ala	Leu 1220	Gly	Ile	Ser	Gly	Asp 1225	Ser	Asp	Glu	Lys	Arg 1230	Arg	Ala	Ala
Ile	Asp 1235	Val	Gly	Ile	Ser	Arg 1240	Leu	Leu	Gln	Met	Gln 1245	Leu	Glu	Asn
Gly	Gly 1250	Phe	Ala	Leu	Trp	Asp 1255	Arg	Glu	Gly	Pro	Glu 1260	Glu	Tyr	Trp
Leu	Thr 1265	Ala	Tyr	Ala	Met	Asp 1270	Phe	Leu	Val	Arg	Ala 1275	Ser	Glu	Gln
Gly	Tyr 1280	Ser	Val	Pro	Val	Asn 1285	Ala	Ile	Asn	Lys	Gly 1290	Asn	Glu	Arg
Leu	Leu 1295	Arg	Tyr	Leu	Gln	Glu 1300	Pro	Gly	Leu	Met	Thr 1305	Val	Arg	Tyr
Ser	Asp 1310	Asp	Ala	Gln	Ala	Ser 1315	Arg	Phe	Ala	Ala	Gln 1320	Ala	Tyr	Ala
Ala	Leu 1325	Val	Leu	Ala	Arg	Gln 1330	Gln	Lys	Ala	Pro	Leu 1335	Gly	Ala	Leu
Arg	Glu 1340	Ile	Trp	Ser	Arg	His 1345	Asp	Gln	Ala	Arg	Ser 1350	Gly	Leu	Pro
Leu	Leu 1355	Gln	Leu	Gly	Ile	Ala 1360	Leu	Lys	Thr	Met	Gly 1365	Asp	Ala	Pro
Arg	Gly 1370	Asp	Ala	Ala	Leu	Lys 1375	Leu	Ala	Val	Ala	Thr 1380	Pro	Arg	Gln
Asp	Glu 1385	Asn	Arg	Trp	Leu	Gly 1390	Asp	Tyr	Gly	Ser	Pro 1395	Leu	Arg	Asp
Asn	Asp 1400	Leu	Lys	Leu	Ala	Leu 1405	Leu	Glu	Glu	Asn	Lys 1410	Leu	Leu	Pro
Glu	Val 1415	Gln	Thr	Gln	Leu	Leu 1420	Ser	Thr	Leu	Ser	Glu 1425	Glu	Ala	Tyr
Gly	Gln 1430	Arg	Trp	Leu	Ser	Thr 1435	Gln	Glu	Thr	Asn	Ala 1440	Leu	Phe	Leu
Ala	Gly 1445	Arg	Thr	Leu	Ala	Asp 1450	Leu	Pro	Gly	Ser	Trp 1455	Gln	Ala	Gln

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Thr Ser Leu Gln Ala
1460

<210> 587
<211> 1492
<212> PRT
<213> Klebsiella pneumoniae Aerogenes4140
<400> 587

Val Thr Asn Ser Ile Arg Leu Ile Gly Arg Gly Val Arg Arg Met Lys
1 5 10 15

Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
20 25 30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

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Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
 245 250 255
 Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
 260 265 270
 Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
 275 280 285
 Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
 290 300
 Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
 305 310 315 320
 Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
 325 330 335
 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
 340 345 350
 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
 355 360 365
 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
 370 375 380
 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
 385 390 395 400
 Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
 405 410 415
 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
 420 425 430
 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
 435 440 445
 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
 450 455 460
 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
 Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
 485 490 495
 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
 500 505 510

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Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

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Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Gln Pro Gln Thr Leu Gln Val His Leu

eo1f-seq1.app

1055					1060					1065			
Thr	Ala	Ser	Gly	Leu	Val	Thr	Leu	Thr	Asp	Gly	Gln	Leu	Pro
1070						1075					1080		
Val	Gln	Leu	Ala	Pro	Gly	Ala	Arg	Ser	Thr	Leu	Phe	Ile	Pro
1085						1090					1095		
Ser	Ala	Leu	Ala	Gly	Phe	Gly	Asp	Gly	Gln	Val	Asn	Ala	Thr
1100						1105					1110		
Ser	Gly	Leu	Ser	Leu	Pro	Gly	Glu	Thr	Phe	Ala	Pro	Leu	Gln
1115						1120					1125		
Gln	Trp	Lys	Ile	Gly	Val	Arg	Pro	Ala	Tyr	Pro	Ala	Gln	Thr
1130						1135					1140		
Asn	Ser	Gly	Ala	Val	Leu	Gln	Pro	Gly	Glu	Ser	Trp	Gln	Pro
1145						1150					1155		
Ala	Ala	Gln	Ser	Gln	Gly	Phe	Ala	Pro	Gln	Thr	Leu	Gln	Gly
1160						1165					1170		
Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr
1175						1180					1185		
Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr
1190						1195					1200		
Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu
1205						1210					1215		
Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala
1220						1225					1230		
Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Asp
1235						1240					1245		
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr
1250						1255					1260		
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu
1265						1270					1275		
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu
1280						1285					1290		
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg
1295						1300					1305		
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr
1310						1315					1320		

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Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
1325 1330 1335

Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

Arg Gly Asp Ala Ala Leu Lys Leu Ala Val Ala Thr Pro Arg Gln
1370 1375 1380

Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
1385 1390 1395

Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
1400 1405 1410

Glu Val Gln Thr Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
1415 1420 1425

Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
1430 1435 1440

Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
1445 1450 1455

Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
1460 1465 1470

Arg Asn Leu Asp Gly Asp Arg Leu Ala Ala Leu Gln Val Ser Asn
1475 1480 1485

Thr Gly Ser Gln
1490

<210> 588
<211> 1457
<212> PRT
<213> Klebsiella pneumoniae 1015
<400> 588

Val Thr Asn Cys Ile Arg Leu Ile Gly Arg Gly Val Arg Arg Met Lys
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Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
20 25 30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn

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325

330

335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Ala Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

eo1f-seq1.app

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
 610 615 620
 Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
 625 630 635 640
 Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
 645 650 655
 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
 660 665 670
 Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
 675 680 685
 Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
 690 695 700
 Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
 705 710 715 720
 Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
 725 730 735
 Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
 740 745 750
 Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
 755 760 765
 Val Thr Met Lys Leu Asp Lys Pro Gly Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 795 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Ala Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Ile
 865 870 875 880

eo1f-seq1.app

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
1055 1060 1065

Thr Ala Ser Gly Leu Val Thr Leu Thr Glu Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Thr Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
1100 1105 1110

Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
1130 1135 1140

Asn	Ser	Gly	Ala	Val	Leu	Gln	Pro	Gly	Glu	Ser	Trp	Gln	Pro	Pro
1145						1150					1155			
Ala	Ala	Gln	Ser	Gln	Gly	Phe	Ala	Pro	Gln	Thr	Leu	Gln	Gly	Gln
1160						1165					1170			
Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
1175						1180					1185			
Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala
1190						1195					1200			
Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
1205						1210					1215			
Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala	Ala
1220						1225					1230			
Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
1235						1240					1245			
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
1250						1255					1260			
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
1265						1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
1280						1285					1290			
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
1295						1300					1305			
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
1310						1315					1320			
Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu
1325						1330					1335			
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
1340						1345					1350			
Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
1355						1360					1365			
Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro	Arg	Gln
1370						1375					1380			
Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu	Arg	Asp
1385						1390					1395			
Asn	Ala	Leu	Lys	Leu	Ala	Leu	Leu	Glu	Glu	Asn	Lys	Leu	Leu	Pro

eof-seq1.app

1400

1405

1410

Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
1415 1420 1425

Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
1430 1435 1440

Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala
1445 1450 1455

<210> 589

<211> 1489

<212> PRT

<213> Klebsiella pneumoniae i262/94

<400> 589

Val Thr Asn Cys Ile Arg Leu Ile Gly Arg Gly Val Arg Arg Met Lys
1 5 10 15

Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
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Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
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Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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Lys Met Ala Asp Leu Val Tyr Thr Ser Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
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Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Gln Ser Thr Val His Lys
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Ala Glu Val Ser Ile Ala Gly Ala Pro Val Phe Ser Arg Gln Phe Arg
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Asn Pro Val Arg Leu Leu Leu Arg Arg Ala Gly Glu Thr Val Leu Leu
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His Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
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Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
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Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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740

745

750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
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Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
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Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
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Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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Leu	Ser 1055	Asn	Leu	Thr	Asp	Lys 1060	Pro	Gln	Thr	Leu	Gln 1065	Val	His	Leu
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Val	Gln 1085	Leu	Ala	Pro	Gly	Ala 1090	Arg	Ser	Thr	Leu	Phe 1095	Ile	Pro	Val
Ser	Ala 1100	Leu	Ala	Gly	Phe	Gly 1105	Asp	Gly	Gln	Val	Asn 1110	Ala	Thr	Ile
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Gln	Trp 1130	Lys	Ile	Gly	Val	Arg 1135	Pro	Ala	Tyr	Pro	Ala 1140	Gln	Thr	Val
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Leu	Leu 1175	Leu	Ser	Gly	Lys	Pro 1180	Pro	Leu	Asn	Leu	Ala 1185	Arg	Tyr	Ile
Arg	Glu 1190	Leu	Lys	Ala	Tyr	Pro 1195	Tyr	Gly	Cys	Leu	Glu 1200	Gln	Thr	Ala
Ser	Gly 1205	Leu	Phe	Pro	Ser	Leu 1210	Tyr	Thr	Ser	Ala	Ala 1215	Gln	Leu	Lys
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Ile	Asp 1235	Val	Gly	Ile	Ser	Arg 1240	Leu	Leu	Gln	Met	Gln 1245	Leu	Glu	Asn
Gly	Gly 1250	Phe	Ala	Leu	Trp	Asp 1255	Arg	Glu	Gly	Pro	Glu 1260	Glu	Tyr	Trp
Leu	Thr 1265	Ala	Tyr	Ala	Met	Asp 1270	Phe	Leu	Val	Arg	Ala 1275	Ser	Glu	Gln

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Gly Tyr Ser Val Pro Val Asn Ala Ile Asn Lys Gly Asn Glu Arg
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Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
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Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Leu Thr Gly₃₅ Cys Asp Asp Ser Gly₄₀ Thr Pro Gln Ala Ser₄₅ Ala Pro Ala

Pro Ala₅₀ Ala Asp Ser Asn Pro₅₅ Gly Ala Thr Ala Lys₆₀ Pro Asp Arg Ala

Gln₆₅ Leu Ala Ala Leu Ala₇₀ Glu Lys Ser Gln Gly₇₅ Lys Ala Leu Thr Leu₈₀

Leu Asp Ala Ser Glu₈₅ Val Gln Leu Asp Gly₉₀ Ala Ala Thr Leu Val₉₅ Leu

Thr Phe Ser Val₁₀₀ Pro Leu Gln Pro Asp₁₀₅ Gln Asp Phe Ser Arg₁₁₀ Ser Val

His Leu Val₁₁₅ Asp Lys Lys Ser Gly₁₂₀ Lys Val Asp Gly Ala₁₂₅ Trp Glu Leu

Ala Pro₁₃₀ Asn Leu Lys Glu Leu₁₃₅ Arg Leu Arg His Leu₁₄₀ Glu Pro Lys Arg

Glu₁₄₅ Leu Ile Val Ser Val₁₅₀ Asp Pro Thr Leu Thr₁₅₅ Ala Leu Asn Lys Ala₁₆₀

Thr Leu Asp Lys Pro₁₆₅ Phe Glu Lys Thr Leu₁₇₀ Thr Thr Arg Asp Ile₁₇₅ Ala

Pro Ser Val Gly₁₈₀ Phe Ala Ser Arg Gly₁₈₅ Ser Leu Leu Pro Gly₁₉₀ Asn Val

Val Ala Gly₁₉₅ Leu Pro Val Met Ala₂₀₀ Leu Asn Val Asp Asn₂₀₅ Val Asp Val

Asn Phe₂₁₀ Phe Arg Ile Lys Pro₂₁₅ Glu Ser Leu Ser Ala₂₂₀ Phe Val Ser Gln

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Lys Met Ala Asp Leu₂₄₅ Val Tyr Thr Ser Arg₂₅₀ Phe Asp Leu Asn Pro₂₅₅ Ala

Arg Asn Thr Arg₂₆₀ Glu Lys Leu Leu Leu₂₆₅ Pro Leu Ser Asp Ile₂₇₀ Lys Pro

Leu Gln Gly₂₇₅ Pro Gly Val Tyr Val₂₈₀ Ala Val Met Asn Pro₂₈₅ Ala Gly Arg

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 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Gln Ser Ala Leu His Lys
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 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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 515 520 525
 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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 Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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 Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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 Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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 Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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 Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
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 Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
 690 695 700
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 Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
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Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
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Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
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Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
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Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
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Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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 Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
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Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	His	Leu	Glu	Asn
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Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
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Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
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Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
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Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
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Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro	Arg	Gln
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Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu	Arg	Asp
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Asn	Ala	Leu	Lys	Leu	Ala	Leu	Leu	Glu	Glu	Asn	Lys	Leu	Leu	Pro
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Thr Gly
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

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Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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 Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
 225 230 235 240
 Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
 245 250 255
 Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
 260 265 270
 Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
 275 280 285
 Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
 290 295 300
 Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
 305 310 315 320
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 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
 355 360 365
 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
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 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
 385 390 395 400
 Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
 405 410 415
 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
 435 440 445
 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
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Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
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Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
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Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
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Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
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755

760

765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
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Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
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Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
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Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
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Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
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Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Val	Gln	Leu	Ala	Pro	Gly	Ala	Arg	Ser	Thr	Leu	Phe	Ile	Pro	Val
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Ser	Ala	Leu	Ala	Gly	Phe	Gly	Asp	Gly	Gln	Val	Asn	Ala	Thr	Ile
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Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala
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Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
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Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
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Leu Leu Arg Tyr Leu Gln Glu Pro Gly Leu Met Thr Val Arg Tyr
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Ser Asp Asp Ala Gln Ala Ser Arg Phe Ala Ala Gln Ala Tyr Ala
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Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
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Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
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Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
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Arg Gly Asp Ala Ala Leu Lys Leu Ala Val Ala Thr Pro Arg Gln
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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Glu Val Gln Thr Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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25

30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
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Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
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Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Lys Arg Leu Asp Val Phe Thr Gln Ser
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Val Pro Ala Leu Asp Leu
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 Ala Glu Phe Ser Ser Ala Ala Ala Pro Gly Phe Ser Lys Gln Ser Phe
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 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
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 485 490 495
 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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 Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
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 Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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 Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
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 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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 Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
 675 680 685
 Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
 690 695 700
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 Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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 Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
 740 745 750
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 755 760 765
 Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
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850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
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Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
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Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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Thr Ala Ser Gly Leu Val Thr Leu Ser Glu Gly Gln Leu Pro Pro
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Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
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Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
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Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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Leu Glu Asn Gly Ala Val Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
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Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Asp Leu Gln Glu Ser Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
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Val Thr Met Lys Leu Asp Lys Pro Gly Tyr Lys Pro Gly Asp Thr Ile
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Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
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Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
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Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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 980 985 990
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
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Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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 Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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 Lys Met Ala Asp Leu Val Tyr Thr Ser Arg Phe Asp Leu Asn Pro Ala
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 Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
 275 280 285
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 290 295 300
 Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
 305 310 315 320
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 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
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 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
 420 425 430
 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
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Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
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Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
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755

760

765

Val Thr Met Lys Leu Asp Lys Pro Gly Tyr Lys Pro Gly Asp Thr Ile
 770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
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Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
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Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
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Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
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Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
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Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Thr	Ala 1070	Ser	Gly	Leu	Val	Thr 1075	Leu	Thr	Glu	Gly	Gln 1080	Leu	Pro	Pro
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Gln	Trp 1130	Lys	Ile	Gly	Val	Arg 1135	Pro	Ala	Tyr	Pro	Ala 1140	Gln	Thr	Val
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Arg	Glu 1190	Leu	Lys	Ala	Tyr	Pro 1195	Tyr	Gly	Cys	Leu	Glu 1200	Gln	Thr	Ala
Ser	Gly 1205	Leu	Phe	Pro	Ser	Leu 1210	Tyr	Thr	Ser	Ala	Ala 1215	Gln	Leu	Lys
Ala	Leu 1220	Gly	Ile	Ser	Gly	Asp 1225	Ser	Asp	Glu	Lys	Arg 1230	Arg	Ala	Ala
Ile	Asp 1235	Val	Gly	Ile	Ser	Arg 1240	Leu	Leu	Gln	Met	Gln 1245	Leu	Glu	Asn
Gly	Gly 1250	Phe	Ala	Leu	Trp	Asp 1255	Arg	Glu	Gly	Pro	Glu 1260	Glu	Tyr	Trp
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Leu Leu Arg Tyr Leu Gln Glu Pro Gly Leu Met Thr Val Arg Tyr
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Ser Asp Asp Ala Gln Ala Ser Arg Phe Ala Ala Gln Ala Tyr Ala
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Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
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Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

Arg Gly Asp Ala Ala Leu Lys Leu Ala Val Ala Thr Pro Arg Gln
1370 1375 1380

Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
1385 1390 1395

Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
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Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Lys
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
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25

30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
 50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
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Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
 225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
 245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
 260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
 275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
 290 295 300

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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
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 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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 Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
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 Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
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 645 650 655
 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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 Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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 Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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 Lys Gly Pro Asp Asp Val Val Ser Ser Val Cys Phe Trp Ala Gly Tyr
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Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
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Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
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Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
1430 1435 1440

Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
1445 1450 1455

Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
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Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
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Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
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Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
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Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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Thr Ala Ser Gly Leu Val Thr Leu Thr Glu Gly Gln Leu Pro Pro
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Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
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Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
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Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
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Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
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Gly Gly Phe Ala Leu Trp Asp Arg Glu Gly Pro Glu Glu Tyr Trp
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Gly Tyr Ser Val Pro Val Asn Ala Ile Asn Lys Gly Asn Glu Arg
1280 1285 1290

Leu Leu Arg Tyr Leu Gln Glu Pro Gly Leu Met Thr Val Arg Tyr
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Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

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1370 1375 1380

Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
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Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
 355 360 365
 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
 370 375 380
 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
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 405 410 415
 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
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 485 490 495
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 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
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835

840

845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
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Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
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Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
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Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
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Gln	Trp 1130	Lys	Ile	Gly	Val	Arg 1135	Pro	Ala	Tyr	Pro	Ala 1140	Gln	Thr	Val
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Leu	Thr 1265	Ala	Tyr	Ala	Met	Asp 1270	Phe	Leu	Val	Arg	Ala 1275	Ser	Glu	Gln
Gly	Tyr 1280	Ser	Val	Pro	Val	Asn 1285	Ala	Ile	Asn	Lys	Gly 1290	Asn	Glu	Arg
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Leu	Leu 1355	Gln	Leu	Gly	Ile	Ala 1360	Leu	Lys	Thr	Met	Gly 1365	Asp	Ala	Pro

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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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100

105

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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
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Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
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Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
	1355					1360					1365			
Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro	Arg	Gln
	1370					1375					1380			
Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu	Arg	Asp
	1385					1390					1395			
Asn	Ala	Leu	Lys	Leu	Ala	Leu	Leu	Glu	Glu	Asn	Lys	Leu	Leu	Pro
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Glu	Val	Gln	Asn	Gln	Leu	Leu	Ser	Thr	Leu	Ser	Glu	Glu	Ala	Tyr
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Gly	Gln	Arg	Trp	Leu	Ser	Thr	Gln	Glu	Thr	Asn	Ala	Leu	Phe	Leu
	1430					1435					1440			
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	1445					1450					1455			

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35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Arg Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Trp Pro Arg Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
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Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asn Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
 900 905 910
 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
 980 985 990
 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Pro	Arg 1040	Phe	Leu	Ala	Ser	Gly 1045	Asp	Thr	Thr	Arg	Leu 1050	Ala	Leu	Asp
Leu	Ser 1055	Asn	Leu	Thr	Asp	Lys 1060	Pro	Gln	Thr	Leu	Gln 1065	Val	His	Leu
Thr	Ala 1070	Ser	Gly	Leu	Val	Thr 1075	Leu	Thr	Asp	Gly	Gln 1080	Leu	Pro	Pro
Val	Gln 1085	Leu	Ala	Pro	Gly	Ala 1090	Arg	Ser	Thr	Leu	Phe 1095	Ile	Pro	Val
Ser	Ala 1100	Leu	Ala	Gly	Phe	Gly 1105	Asp	Gly	Gln	Val	Asn 1110	Ala	Thr	Ile
Ser	Gly 1115	Leu	Ser	Leu	Pro	Gly 1120	Glu	Thr	Phe	Ala	Pro 1125	Leu	Gln	Lys
Gln	Trp 1130	Lys	Ile	Gly	Val	Arg 1135	Pro	Ala	Tyr	Pro	Ala 1140	Gln	Thr	Val
Asn	Ser 1145	Gly	Ala	Val	Leu	Gln 1150	Pro	Gly	Glu	Ser	Trp 1155	Gln	Pro	Pro
Ala	Ala 1160	Gln	Ser	Gln	Gly	Phe 1165	Ala	Pro	Gln	Thr	Leu 1170	Gln	Gly	Gln
Leu	Leu 1175	Leu	Ser	Gly	Lys	Pro 1180	Pro	Leu	Asn	Leu	Ala 1185	Arg	Tyr	Ile
Arg	Glu 1190	Leu	Lys	Ala	Tyr	Pro 1195	Tyr	Gly	Cys	Leu	Glu 1200	Gln	Thr	Ala
Ser	Gly 1205	Leu	Phe	Pro	Ser	Leu 1210	Tyr	Thr	Ser	Ala	Ala 1215	Gln	Leu	Lys
Ala	Leu 1220	Gly	Ile	Ser	Gly	Asp 1225	Ser	Asp	Glu	Lys	Arg 1230	Arg	Ala	Ala
Ile	Asp 1235	Val	Gly	Ile	Ser	Arg 1240	Leu	Leu	Gln	Met	Gln 1245	Leu	Glu	Asn
Gly	Gly 1250	Phe	Ala	Leu	Trp	Asp 1255	Arg	Glu	Gly	Pro	Glu 1260	Glu	Tyr	Trp
Leu	Thr 1265	Ala	Tyr	Ala	Met	Asp 1270	Phe	Leu	Val	Arg	Ala 1275	Ser	Glu	Gln
Gly	Tyr 1280	Ser	Val	Pro	Val	Asn 1285	Ala	Ile	Asn	Lys	Gly 1290	Asn	Glu	Arg

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Leu Leu Arg Tyr Leu Gln Glu Pro Gly Leu Met Thr Val Arg Tyr
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Ser Asp Asp Ala Gln Ala Ser Arg Phe Ala Ala Gln Ala Tyr Ala
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Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
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Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

Arg Gly Asp Ala Ala Leu Lys Leu Ala Val Ala Thr Pro Arg Gln
1370 1375 1380

Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
1385 1390 1395

Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Glu Val Gln Thr Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
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Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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 Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu Leu Asp Ala Ser Glu Val
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 Gln Leu Asp Gly Ala Ala Thr Leu Val Leu Thr Phe Ser Val Pro Leu
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 Gln Pro Asp Gln Asp Phe Ser Arg Ser Val His Leu Val Asp Lys Lys
 100 105 110
 Ser Gly Lys Val Asp Gly Ala Trp Glu Leu Ala Pro Asn Leu Lys Glu
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 Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala Thr Leu Asp Lys Pro Phe
 145 150 155 160
 Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala Pro Ser Val Gly Phe Ala
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 Ser Arg Gly Ser Leu Leu Pro Gly Asn Val Val Ala Gly Leu Pro Val
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 Met Ala Leu Asn Val Asp Asn Val Asp Val Asn Phe Phe Arg Ile Lys
 195 200 205
 Pro Glu Ser Leu Ser Ala Phe Val Ser Gln Trp Glu Tyr Arg Asn Ser
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 Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu Lys Met Ala Asp Leu Val
 225 230 235 240
 Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala Arg Asn Thr Arg Glu Lys
 245 250 255
 Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro Leu Gln Gln Pro Gly Val
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 Tyr Val Ala Val Met Asn Pro Ala Gly Arg Tyr Ser Tyr Ser Asn Ala
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 Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly Val Ser Ala His Arg Tyr
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His Asn Arg Leu Glu Val Phe Thr Gln Ser Leu Glu Asn Gly Ala Ala
 305 310 315 320
 Gln Ser Gly Ile Glu Val Gln Leu Leu Asn Ala Lys Gly Gln Thr Leu
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 Ala Glu Ala Lys Ser Asp Ser Gln Gly His Val Thr Leu Gln Thr Asp
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 Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys Glu Gly Gln Thr Thr Leu
 355 360 365
 Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu Ala Glu Phe Ser Ile Ala
 370 375 380
 Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe Met Phe Gly Pro Arg Asp
 385 390 395 400
 Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu Asn Ala Leu Leu Arg Asp
 405 410 415
 Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro Val Lys Leu Glu Val Val
 420 425 430
 Gln Pro Asp Gly Gln Val Ile Arg Ser Val Met Ser Lys Pro Val Asn
 435 440 445
 Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp Ser Gly Ala Ala Thr Gly
 450 455 460
 Met Trp His Ile Arg Ala Ser Ala Gly Asp Asn Gln Pro Arg Glu Trp
 465 470 475 480
 Asp Phe His Val Glu Asp Phe Met Pro Glu Arg Met Ala Leu Asn Leu
 485 490 495
 Thr Pro Gln Ala Ala Pro Val Ala Pro Asp Ala Asp Val Thr Phe Gly
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 Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro Ala Ser Gly Asn Gln Leu
 515 520 525
 Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg Asp Ala Val Ala Ala Leu
 530 535 540
 Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu Glu Asn Leu Ser Arg Ser
 545 550 555 560
 Leu Asp Glu Val Gln Leu Thr Leu Asp Glu Lys Gly His Gly Glu Val
 565 570 575

Thr Thr Ser Ser Gln Trp Gln Asp Ser His Ser Pro Leu Gln Val Val
580 585 590

Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly Arg Pro Val Thr Arg Thr
595 600 605

Val Lys Gln Pro Ile Trp Pro Ala Glu Ala Leu Pro Gly Ile Arg Pro
610 615 620

Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr Arg Thr Asp Thr Thr Val
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Lys Gln Pro Val Val Asp Glu Asn Ser Asn Ala Ala Phe Asp Ile Val
645 650 655

Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala Ile Ser Gly Leu Gln Val
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Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr Trp Asn Trp Ser Asp Ser
675 680 685

Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys Asp Leu Gln Glu Gly Glu
690 695 700

Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile Gly Lys Val Ser Phe Pro
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Val Glu Trp Gly Ser Tyr Arg Leu Glu Val Lys Gly Pro Asp Asp Val
725 730 735

Val Ser Ser Val Arg Phe Trp Ala Gly Tyr Ser Trp Gln Asp Asn Ser
740 745 750

Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg Val Thr Met Lys Leu Asp
755 760 765

Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile Arg Leu His Ile Ala Ala
770 775 780

Pro Ala Ala Gly Lys Gly Tyr Ala Met Val Glu Ser Ser Glu Gly Pro
785 790 795 800

Leu Trp Trp Gln Glu Ile Asp Val Pro Ala Glu Gly Met Asp Leu Ser
805 810 815

Ile Pro Val Asp Lys Thr Trp Asn Arg His Asp Leu Tyr Leu Ser Thr
820 825 830

Leu Val Val Arg Pro Gly Asp Lys Ser Arg Ser Ala Thr Pro Lys Arg
835 840 845

Ala Val Gly Leu Leu His Leu Pro Leu Gly Asp Glu Asn Arg Arg Leu
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860

850

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Val Asn Val Leu Leu Ser Ala Val Asp Ser Gly Val Leu Asn Ile Thr
900 905 910

Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala Phe Phe Gly Gln Lys Arg
915 920 925

Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly Gln Val Ile Glu Gly Gln
930 935 940

Gly Arg Val Ala Ser Leu Arg Phe Gly Gly Asp Gly Asp Glu Leu Lys
945 950 955 960

Arg Gly Gly Lys Pro Pro Val Asn His Val Thr Ile Val Ala Gln Gln
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Ala Gln Pro Val Val Leu Asn Asp Gln Gly Glu Gly Thr Val Thr Leu
980 985 990

Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg Val Met Ala Gln Ala Trp
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Thr Ala Asp Asp Phe Gly Ser Ser Glu Asp Lys Val Val Val Ala
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Ala Pro Val Ile Ala Glu Leu Asn Thr Pro Arg Phe Leu Ala Ser
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Gly Asp Thr Thr Arg Leu Ala Leu Asp Leu Ser Asn Leu Thr Asp
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Lys Pro Gln Thr Leu Gln Val His Leu Thr Ala Ser Gly Leu Val
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Thr Leu Thr Asp Gly Gln Leu Pro Pro Val Gln Leu Ala Pro Gly
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Ala Arg Ser Thr Leu Phe Ile Pro Val Ser Ala Leu Ala Gly Phe
1085 1090 1095

Gly Asp Gly Gln Val Asn Ala Thr Ile Ser Gly Leu Ser Leu Pro
1100 1105 1110

Gly Glu Thr Phe Ala Pro Leu Gln Lys Gln Trp Lys Ile Gly Val
1115 1120 1125

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Phe	Ala	Pro	Gln	Thr	Leu	Gln	Gly	Gln	Leu	Leu	Leu	Ser	Gly	Lys
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Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile	Arg	Glu	Leu	Lys	Ala	Tyr
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Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala	Ser	Gly	Leu	Phe	Pro	Ser
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Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys	Ala	Leu	Gly	Ile	Ser	Gly
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	1220					1225					1230			
Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn	Gly	Gly	Phe	Ala	Leu	Trp
	1235					1240					1245			
Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp	Leu	Thr	Ala	Tyr	Ala	Met
	1250					1255					1260			
Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln	Gly	Tyr	Ser	Val	Pro	Val
	1265					1270					1275			
Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg	Leu	Leu	Arg	Tyr	Leu	Gln
	1280					1285					1290			
Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr	Ser	Asp	Asp	Ala	Gln	Ala
	1295					1300					1305			
Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala	Ala	Leu	Val	Leu	Ala	Arg
	1310					1315					1320			
Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu	Arg	Glu	Ile	Trp	Ser	Arg
	1325					1330					1335			
His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro	Leu	Leu	Gln	Leu	Gly	Ile
	1340					1345					1350			
Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro	Arg	Gly	Asp	Ala	Ala	Leu
	1355					1360					1365			
Lys	Leu	Ala	Val	Ala	Thr	Pro	Arg	Gln	Asp	Glu	Asn	Arg	Trp	Leu
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Gly Asp Tyr Gly Ser Pro Leu Arg Asp Asn Ala Leu Lys Leu Ala
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Leu Leu Glu Glu Asn Lys Leu Leu Pro Glu Val Gln Asn Gln Leu
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Leu Ser Thr Leu Ser Glu Glu Ala Tyr Gly Gln Arg Trp Leu Ser
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Thr Gln Glu Thr Asn Ala Leu Phe Leu Ala Gly Arg Thr Leu Ala
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Asp Leu Pro Gly Ser Trp Gln Ala Gln Thr Ser Leu Gln Ala Glu
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Pro Ala Ala Thr Ala Lys Pro Asp Leu Ala Gln Leu Ala Ala Leu Ala
50 55 60

Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu Leu Asp Ala Ser Glu Val
65 70 75 80

Gln Leu Asp Gly Ala Ala Thr Leu Val Leu Thr Phe Ser Val Pro Leu
85 90 95

Gln Pro Asp Gln Asp Phe Ser Arg Ser Val His Leu Val Asp Lys Lys
100 105 110

Ser Gly Lys Val Asp Gly Ala Trp Glu Leu Ala Pro Asn Leu Lys Glu
115 120 125

Leu Arg Leu Arg His Leu Glu Pro Lys Arg Glu Leu Ile Val Ser Val
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140

130

135

Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala Thr Leu Asp Lys Pro Phe
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Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala Pro Ser Val Gly Phe Ala
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Ser Arg Gly Ser Leu Leu Pro Gly Asn Val Val Ala Gly Leu Pro Val
180 185 190

Met Ala Leu Asn Val Asp Asn Val Asp Val Asn Phe Phe Arg Ile Lys
195 200 205

Pro Glu Ser Leu Ser Ala Phe Val Ser Gln Trp Glu Tyr Arg Asn Ser
210 215 220

Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu Lys Met Ala Asp Leu Val
225 230 235 240

Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala Arg Asn Thr Arg Glu Lys
245 250 255

Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro Leu Gln Gln Pro Gly Val
260 265 270

Tyr Val Ala Val Met Asn Pro Ala Gly Arg Tyr Ser Tyr Ser Asn Ala
275 280 285

Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly Val Ser Ala His Arg Tyr
290 295 300

His Asn Arg Leu Glu Val Phe Thr Gln Ser Leu Glu Asn Gly Ala Ala
305 310 315 320

Gln Ser Gly Ile Glu Val Gln Leu Leu Asn Ala Lys Gly Gln Thr Leu
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Ala Glu Ala Lys Ser Asp Ser Gln Gly His Val Thr Leu Gln Thr Asp
340 345 350

Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys Glu Gly Gln Thr Thr Leu
355 360 365

Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu Ala Glu Phe Ser Ile Ala
370 375 380

Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe Met Phe Gly Pro Arg Asp
385 390 395 400

Leu Tyr Arg Pro Gly Ala Thr Val Ile Leu Asn Ala Leu Leu Arg Asp
405 410 415

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Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro Val Lys Leu Glu Val Val
420 425 430

Gln Pro Asp Gly Gln Val Ile Arg Ser Val Met Ser Lys Pro Val Asn
435 440 445

Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp Ser Gly Ala Ala Thr Gly
450 455 460

Met Trp His Ile Arg Ala Ser Ala Gly Asp Asn Gln Pro Arg Glu Trp
465 470 475 480

Asp Phe His Val Glu Asp Phe Met Pro Glu Arg Met Ala Leu Asn Leu
485 490 495

Thr Pro Gln Ala Ala Pro Val Ala Pro Asp Ala Asp Val Thr Phe Gly
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Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro Ala Ser Gly Asn Gln Leu
515 520 525

Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg Asp Ala Val Ala Ala Leu
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Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu Glu Asn Leu Ser Arg Ser
545 550 555 560

Leu Asp Glu Val Gln Leu Thr Leu Asp Glu Lys Gly His Gly Glu Val
565 570 575

Thr Thr Ser Ser Gln Trp Gln Asp Ser His Ser Pro Leu Gln Val Val
580 585 590

Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly Arg Pro Val Thr Arg Thr
595 600 605

Val Lys Gln Pro Ile Trp Pro Ala Glu Ala Leu Pro Gly Ile Arg Pro
610 615 620

Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr Arg Thr Asp Thr Thr Val
625 630 635 640

Lys Gln Pro Val Val Asp Glu Asn Ser Asn Ala Ala Phe Asp Ile Val
645 650 655

Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala Ile Ser Gly Leu Gln Val
660 665 670

Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr Trp Asn Trp Ser Asp Ser
675 680 685

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Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys Asp Leu Gln Glu Gly Glu
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 Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile Arg Leu His Ile Ala Ala
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 Ile Pro Val Asp Lys Thr Trp Asn Arg His Asp Leu Tyr Leu Ser Thr
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 Thr Leu Ala Leu Glu Ala Pro Asp Lys Met Arg Pro Asn Gln Pro Leu
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 Thr Val Lys Val Lys Ala Ser Val Lys Glu Gly Glu Ala Pro Lys Gln
 885 890 895
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 Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala Phe Phe Gly Gln Lys Arg
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 Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly Gln Val Ile Glu Gly Gln
 930 935 940
 Gly Arg Val Ala Ser Leu Arg Phe Gly Gly Asp Gly Asp Glu Leu Lys
 945 950 955 960

Arg Gly Gly Lys Pro Pro Val Asn His Val Thr Ile Val Ala Gln Gln
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Ala Gln Pro Val Val Leu Asn Asp Gln Gly Glu Gly Thr Val Thr Leu
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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 Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
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 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
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 485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
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Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile

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775

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
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Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Arg Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
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Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
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Ser	Ala	Leu	Ala	Gly	Phe	Gly	Asp	Gly	Gln	Val	Asn	Ala	Thr	Ile
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
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Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
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His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
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Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
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Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
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Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
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490

485

495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Ser Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

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Val Thr Met Lys Leu Asp Lys Pro Gly Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Ile
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
 900 905 910
 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
 980 985 990
 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
 1010 1015 1020
 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
 1025 1030 1035

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Pro	Arg 1040	Phe	Leu	Ala	Ser	Gly 1045	Asp	Thr	Thr	Arg	Leu 1050	Ala	Leu	Asp
Leu	Ser 1055	Asn	Leu	Thr	Asp	Lys 1060	Pro	Gln	Thr	Leu	Gln 1065	Val	His	Leu
Thr	Ala 1070	Ser	Gly	Leu	Val	Thr 1075	Leu	Thr	Glu	Gly	Gln 1080	Leu	Pro	Pro
Val	Gln 1085	Leu	Ala	Pro	Gly	Ala 1090	Arg	Ser	Thr	Leu	Phe 1095	Ile	Pro	Val
Ser	Ala 1100	Leu	Ala	Gly	Phe	Gly 1105	Asp	Gly	Gln	Val	Asn 1110	Ala	Thr	Ile
Ser	Gly 1115	Leu	Ser	Leu	Pro	Gly 1120	Glu	Thr	Phe	Ala	Pro 1125	Leu	Gln	Lys
Gln	Trp 1130	Lys	Ile	Gly	Val	Arg 1135	Pro	Ala	Tyr	Pro	Ala 1140	Gln	Thr	Val
Asn	Ser 1145	Gly	Ala	Val	Leu	Gln 1150	Pro	Gly	Glu	Ser	Trp 1155	Gln	Pro	Pro
Ala	Ala 1160	Gln	Ser	Gln	Gly	Phe 1165	Ala	Pro	Gln	Thr	Leu 1170	Gln	Gly	Gln
Leu	Leu 1175	Leu	Ser	Gly	Lys	Pro 1180	Pro	Leu	Asn	Leu	Ala 1185	Arg	Tyr	Ile
Arg	Glu 1190	Leu	Lys	Ala	Tyr	Pro 1195	Tyr	Gly	Cys	Leu	Glu 1200	Gln	Thr	Ala
Ser	Gly 1205	Leu	Phe	Pro	Ser	Leu 1210	Tyr	Thr	Ser	Ala	Ala 1215	Gln	Leu	Lys
Ala	Leu 1220	Gly	Ile	Ser	Gly	Asp 1225	Ser	Asp	Glu	Lys	Arg 1230	Arg	Ala	Ala
Ile	Asp 1235	Val	Gly	Ile	Ser	Arg 1240	Leu	Leu	Gln	Met	Gln 1245	Leu	Glu	Asn
Gly	Gly 1250	Phe	Ala	Leu	Trp	Asp 1255	Arg	Glu	Gly	Pro	Glu 1260	Glu	Tyr	Trp
Leu	Thr 1265	Ala	Tyr	Ala	Met	Asp 1270	Phe	Leu	Val	Arg	Ala 1275	Ser	Glu	Gln
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Leu Leu Arg Tyr Leu Gln Glu Pro Gly Leu Met Thr Val Arg Tyr
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Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
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Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
1385 1390 1395

Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
1400 1405 1410

Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
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Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Thr Gly Ser
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<400> 606

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Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
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 Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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 Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
 65 70 75 80
 Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
 85 90 95
 Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
 100 105 110
 His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
 115 120 125
 Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
 130 135 140
 Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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 Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
 165 170 175
 Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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 Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
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 Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
 210 215 220
 Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
 225 230 235 240
 Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
 245 250 255
 Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
 260 265 270
 Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
 275 280 285
 Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
 290 295 300

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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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 Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
 325 330 335
 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
 340 345 350
 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
 355 360 365
 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
 370 375 380
 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
 385 390 395 400
 Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
 405 410 415
 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
 420 425 430
 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
 435 440 445
 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
 450 455 460
 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
 Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
 485 490 495
 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
 500 505 510
 Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
 515 520 525
 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
 530 535 540
 Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
 545 550 555 560
 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
 565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
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850

855

860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Arg Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Ala Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
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Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
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Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

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	1160					1165					1170			
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Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
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Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
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Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
	1265					1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
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Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
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Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
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Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu
	1325					1330					1335			
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
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Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Lys
1445 1450 1455

Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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115

120

125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
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Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
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Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

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Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
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Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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Met Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Ile Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Met Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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Thr Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Leu Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
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Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
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Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
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1100 1105 1110

Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
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Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
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Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
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Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
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Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys
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1235						1240					1245	Glu
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu
1250						1255					1260	Tyr
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser
1265						1270					1275	Gln
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn
1280						1285					1290	Glu
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val
1295						1300					1305	Arg
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala
1310						1315					1320	Tyr
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1325						1330					1335	Ala
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly
1340						1345					1350	Leu
Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp
1355						1360					1365	Ala
Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro
1370						1375					1380	Arg
Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu
1385						1390					1395	Arg
Asn	Ala	Leu	Lys	Leu	Ala	Leu	Leu	Glu	Glu	Asn	Lys	Leu
1400						1405					1410	Leu
Glu	Val	Gln	Asn	Gln	Leu	Leu	Ser	Thr	Leu	Ser	Glu	Glu
1415						1420					1425	Ala
Gly	Gln	Arg	Trp	Leu	Ser	Thr	Gln	Glu	Thr	Asn	Ala	Leu
1430						1435					1440	Phe
Ala	Gly	Arg	Thr	Leu	Ala	Asp	Leu	Pro	Gly	Ser	Trp	Gln
1445						1450					1455	Ala
Thr	Ser	Leu	Gln	Ala	Glu	Pro	Leu	Ala	Gly	Asp	Lys	Ala
1460						1465					1470	Gln

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Arg Asn Leu Asp Gly Asp Arg Leu Ala Ala Leu Gln Val Ser Asn
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Thr Gly Ser Gln
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35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Gly Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
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Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
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Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
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Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
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Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
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Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
 900 905 910
 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
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 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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Pro	Arg 1040	Phe	Leu	Ala	Ser	Gly 1045	Asp	Thr	Thr	Arg	Leu 1050	Ala	Leu	Asp
Leu	Ser 1055	Asn	Leu	Thr	Asp	Lys 1060	Pro	Gln	Thr	Leu	Gln 1065	Val	His	Leu
Thr	Ala 1070	Ser	Gly	Leu	Val	Thr 1075	Leu	Thr	Asp	Gly	Gln 1080	Leu	Pro	Pro
Val	Gln 1085	Leu	Ala	Pro	Gly	Ala 1090	Arg	Ser	Thr	Leu	Phe 1095	Ile	Pro	Val
Ser	Ala 1100	Leu	Ala	Gly	Phe	Gly 1105	Asp	Gly	Gln	Val	Asn 1110	Ala	Thr	Ile
Ser	Gly 1115	Leu	Ser	Leu	Pro	Gly 1120	Glu	Thr	Phe	Ala	Pro 1125	Leu	Gln	Lys
Gln	Trp 1130	Lys	Ile	Gly	Val	Arg 1135	Pro	Ala	Tyr	Pro	Ala 1140	Gln	Thr	Val
Asn	Ser 1145	Gly	Ala	Val	Leu	Gln 1150	Pro	Gly	Glu	Ser	Trp 1155	Gln	Pro	Pro
Ala	Ala 1160	Gln	Ser	Gln	Gly	Phe 1165	Ala	Pro	Gln	Thr	Leu 1170	Gln	Gly	Gln
Leu	Leu 1175	Leu	Ser	Gly	Lys	Pro 1180	Pro	Leu	Asn	Leu	Ala 1185	Arg	Tyr	Ile
Arg	Glu 1190	Leu	Lys	Ala	Tyr	Pro 1195	Tyr	Gly	Cys	Leu	Glu 1200	Gln	Thr	Ala
Ser	Gly 1205	Leu	Phe	Pro	Ser	Leu 1210	Tyr	Thr	Ser	Ala	Ala 1215	Gln	Leu	Lys
Ala	Leu 1220	Gly	Ile	Ser	Gly	Asp 1225	Ser	Asp	Glu	Lys	Arg 1230	Arg	Ala	Ala
Ile	Asp 1235	Val	Gly	Ile	Ser	Arg 1240	Leu	Leu	Gln	Met	Gln 1245	Leu	Glu	Asn
Gly	Gly 1250	Phe	Ala	Leu	Trp	Asp 1255	Arg	Glu	Gly	Pro	Glu 1260	Glu	Tyr	Trp
Leu	Thr 1265	Ala	Tyr	Ala	Met	Asp 1270	Phe	Leu	Val	Arg	Ala 1275	Ser	Glu	Gln
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Leu Leu Arg Tyr Leu Gln Glu Pro Gly Leu Met Thr Val Arg Tyr
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Ser Asp Asp Ala Gln Ala Ser Arg Phe Ala Ala Gln Ala Tyr Ala
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Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
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Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

Arg Gly Asp Ala Ala Leu Lys Leu Ala Val Ala Thr Pro Arg Gln
1370 1375 1380

Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
1385 1390 1395

Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Gly Gln Arg Trp Leu Ser Thr Gln Asp Thr Asn Ala Leu Phe Leu
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Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Gln
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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 Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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 Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
 100 105 110
 His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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 Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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 Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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 Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
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 Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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 Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
 195 200 205
 Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
 210 215 220
 Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
 225 230 235 240
 Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
 245 250 255
 Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
 260 265 270
 Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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 Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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 Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
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 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
 370 375 380
 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
 385 390 395 400
 Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
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 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
 Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
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 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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 Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
 515 520 525
 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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 Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
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Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Ala Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
Page 765

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 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
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 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
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 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
 980 985 990
 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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 1025 1030 1035
 Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
 1040 1045 1050
 Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
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 Thr Ala Ser Gly Leu Val Thr Leu Thr Asp Gly Gln Leu Pro Pro
 1070 1075 1080
 Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
 1085 1090 1095
 Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
 1100 1105 1110
 Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
 1115 1120 1125

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	1160					1165					1170			
Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
	1175					1180					1185			
Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala
	1190					1195					1200			
Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
	1205					1210					1215			
Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala	Ala
	1220					1225					1230			
Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
	1235					1240					1245			
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
	1250					1255					1260			
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
	1265					1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
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Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
	1295					1300					1305			
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
	1310					1315					1320			
Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu
	1325					1330					1335			
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
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Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
	1355					1360					1365			
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Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
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Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Gly Gln Arg Trp Leu Ser Thr Gln Asp Thr Asn Ala Leu Phe Leu
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Ser Asp Ser Gln
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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115

120

125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

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Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
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Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

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Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
1055 1060 1065

Thr Ala Ser Gly Leu Val Thr Leu Thr Asp Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
1100 1105 1110

Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
1130 1135 1140

Asn Ser Gly Ala Val Leu Gln Pro Gly Glu Ser Trp Gln Pro Pro
1145 1150 1155

Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
1160 1165 1170

Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
1175 1180 1185

Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
1190 1195 1200

Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys

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Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg
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1235						1240					1245	
Gly	Gly	Phe	Ala	Leu	Trp	Asn	Arg	Glu	Glu	Pro	Glu	Glu
1250						1255					1260	
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser
1265						1270					1275	
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn
1280						1285					1290	
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val
1295						1300					1305	
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala
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Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly
1325						1330					1335	
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly
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1355						1360					1365	
Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Ile	Ala	Thr	Pro
1370						1375					1380	
Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu
1385						1390					1395	
Asn	Ala	Leu	Lys	Leu	Ala	Leu	Leu	Glu	Glu	Asn	Lys	Leu
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Glu	Val	Gln	Asn	Gln	Leu	Leu	Ser	Thr	Leu	Ser	Glu	Glu
1415						1420					1425	
Gly	Gln	Arg	Trp	Leu	Ser	Thr	Gln	Glu	Thr	Asn	Ala	Leu
1430						1435					1440	
Ala	Gly	Arg	Thr	Leu	Ala	Asp	Leu	Pro	Gly	Ser	Trp	Gln
1445						1450					1455	
Thr	Ser	Leu	Gln	Ala	Glu	Pro	Leu	Ala	Gly	Asp	Lys	Ala
1460						1465					1470	

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Arg Asn Leu Asp Gly Asp Arg Leu Ala Ala Leu Gln Val Ser Asn
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Thr Gly Ser Gln
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<211> 1487
<212> PRT
<213> Klebsiella pneumoniae i221/94

<400> 611

Val Thr Asn Ser Ile Arg Leu Ile Gly Arg Gly Val Arg Arg Met Lys
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Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
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Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Gln
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
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490

485

495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
500 505 510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

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Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
 900 905 910
 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
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 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
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 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
 1025 1030 1035

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Pro	Arg 1040	Phe	Leu	Ala	Ser	Gly 1045	Asp	Thr	Thr	Arg	Leu 1050	Ala	Leu	Asp
Leu	Ser 1055	Asn	Leu	Thr	Asp	Lys 1060	Pro	Gln	Thr	Leu	Gln 1065	Val	His	Leu
Thr	Ala 1070	Ser	Gly	Leu	Val	Thr 1075	Leu	Thr	Asp	Gly	Gln 1080	Leu	Pro	Pro
Val	Gln 1085	Leu	Ala	Pro	Gly	Ala 1090	Arg	Ser	Thr	Leu	Phe 1095	Ile	Pro	Val
Ser	Ala 1100	Leu	Ala	Gly	Phe	Gly 1105	Asp	Gly	Gln	Val	Asn 1110	Ala	Thr	Ile
Ser	Gly 1115	Leu	Ser	Leu	Pro	Gly 1120	Glu	Thr	Phe	Ala	Pro 1125	Leu	Gln	Lys
Gln	Trp 1130	Lys	Ile	Gly	Val	Arg 1135	Pro	Ala	Tyr	Pro	Ala 1140	Gln	Thr	Val
Asn	Ser 1145	Gly	Ala	Val	Leu	Gln 1150	Pro	Gly	Glu	Ser	Trp 1155	Gln	Pro	Pro
Ala	Ala 1160	Gln	Ser	Gln	Gly	Phe 1165	Ala	Pro	Gln	Thr	Leu 1170	Gln	Gly	Gln
Leu	Leu 1175	Leu	Ser	Gly	Lys	Pro 1180	Pro	Leu	Asn	Leu	Ala 1185	Arg	Tyr	Ile
Arg	Glu 1190	Leu	Lys	Ala	Tyr	Pro 1195	Tyr	Gly	Cys	Leu	Glu 1200	Gln	Thr	Ala
Ser	Gly 1205	Leu	Phe	Pro	Ser	Leu 1210	Tyr	Thr	Ser	Ala	Ala 1215	Gln	Leu	Lys
Ala	Leu 1220	Gly	Ile	Ser	Gly	Asp 1225	Ser	Asp	Glu	Lys	Arg 1230	Arg	Ala	Ala
Ile	Asp 1235	Val	Gly	Ile	Ser	Arg 1240	Leu	Leu	Gln	Met	Gln 1245	Leu	Glu	Asn
Gly	Gly 1250	Phe	Ala	Leu	Trp	Asp 1255	Arg	Glu	Gly	Pro	Glu 1260	Glu	Tyr	Trp
Leu	Thr 1265	Ala	Tyr	Ala	Met	Asp 1270	Phe	Leu	Val	Arg	Ala 1275	Ser	Glu	Gln
Gly	Tyr 1280	Ser	Val	Pro	Val	Asn 1285	Ala	Ile	Asn	Lys	Gly 1290	Asn	Glu	Arg

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Leu 1295 Leu Arg Tyr Leu Gln Glu 1300 Pro Gly Leu Met Thr 1305 Val Arg Tyr

Ser 1310 Asp Ala Gln Ala Ser 1315 Arg Phe Ala Ala Gln 1320 Ala Tyr Ala

Ala 1325 Val Leu Ala Arg Gln 1330 Gln Lys Ala Pro Leu 1335 Gly Ala Leu

Arg Glu 1340 Ile Trp Ser Arg His 1345 Asp Gln Ala Arg Ser 1350 Gly Leu Pro

Leu 1355 Leu Gln Leu Gly Ile Ala 1360 Leu Lys Thr Met Gly 1365 Asp Ala Pro

Arg Gly 1370 Asp Ala Ala Leu Lys 1375 Leu Ala Ile Ala Thr 1380 Pro Arg Gln

Asp Glu 1385 Asn Arg Trp Leu Gly 1390 Asp Tyr Gly Ser Pro 1395 Leu Arg Asp

Asn Ala 1400 Leu Lys Leu Ala Leu 1405 Leu Glu Glu Asn Lys 1410 Leu Leu Pro

Glu Val 1415 Gln Asn Gln Leu Leu 1420 Ser Thr Leu Ser Glu 1425 Glu Ala Tyr

Gly Gln 1430 Arg Trp Leu Ser Thr 1435 Gln Glu Thr Asn Ala 1440 Leu Phe Leu

Ala Gly 1445 Arg Thr Leu Ala Asp 1450 Leu Pro Gly Ser Trp 1455 Gln Ala Lys

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<213> Klebsiella pneumoniae 5710/52

<400> 612

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Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
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Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

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Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
 325 330 335
 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
 340 345 350
 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
 355 360 365
 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
 370 375 380
 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
 385 390 395 400
 Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
 405 410 415
 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
 420 425 430
 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
 435 440 445
 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
 450 455 460
 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
 Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
 485 490 495
 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
 500 505 510
 Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
 515 520 525
 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
 530 535 540
 Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
 545 550 555 560
 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
 565 570 575
 Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
 580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
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Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Ser Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
785 790 795 800

Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
805 810 815

Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
820 825 830

Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
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				890		
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					Ser	Val
					895	
						Lys
						Glu
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					Asn	Val
					905	
						Leu
						Leu
						Ser
						Ala
						Val
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						Asp
						Ser
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					920	
						Thr
						Pro
						Asp
						Pro
						925
						Trp
						Asn
						Ala
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						Ile
						940
						Tyr
						Asp
						Ile
						Tyr
						Gly
Gln	Val	Ile	Glu	Gly	Gln	Gly
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						Val
						Ala
						Ser
						955
						Leu
						Arg
						Phe
						Gly
						960
						Gly
Asp	Gly	Asp	Glu	Leu	Lys	Arg
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						Gly
						Lys
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						Pro
						Pro
						Val
						Asn
						975
						His
						Val
Thr	Ile	Val	Ala	Gln	Gln	Ala
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						Pro
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						Val
						Leu
						Asn
						990
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						Gln
						Gly
Glu	Gly	Thr	Val	Thr	Leu	Pro
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						1000
						Gly
						Asp
						Phe
						Asn
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						1005
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						Leu
						Arg
Val	Met	Ala	Gln	Ala	Trp	Thr
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Asp	Lys	Val	Val	Val	Ala	Ala
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						Pro
						Val
						Ile
						Ala
						Glu
						1035
						Leu
						Asn
						Thr
Pro	Arg	Phe	Leu	Ala	Ser	Gly
	1040					1045
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						Thr
						Thr
						Arg
						Leu
						1050
						Ala
						Leu
						Asp
Leu	Ser	Asn	Leu	Thr	Asp	Lys
	1055					1060
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						Gln
						Thr
						Leu
						Gln
						1065
						Val
						His
						Leu
Thr	Ala	Ser	Gly	Leu	Val	Thr
	1070					1075
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						Gly
						Gln
						1080
						Leu
						Pro
						Pro
Val	Gln	Leu	Ala	Pro	Gly	Ala
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						Ser
						Thr
						Leu
						Phe
						1095
						Ile
						Pro
						Val
Ser	Ala	Leu	Ala	Gly	Phe	Gly
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						Asp
						Gly
						Gln
						Val
						Asn
						1110
						Ala
						Thr
						Ile
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						Thr
						Phe
						Ala
						Pro
						1125
						Leu
						Gln
						Lys
Gln	Trp	Lys	Ile	Gly	Val	Arg
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						Ala
						Tyr
						Pro
						Ala
						1140
						Gln
						Thr
						Val

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Asn	Ser	Gly	Ala	Val	Leu	Gln	Pro	Gly	Glu	Ser	Trp	Gln	Pro	Pro
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Leu	Leu	Leu	Ser	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
	1175					1180					1185			
Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala
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Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
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Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala	Ala
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Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
	1235					1240					1245			
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
	1250					1255					1260			
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
	1265					1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
	1280					1285					1290			
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
	1295					1300					1305			
Ser	Asp	Asp	Ala	Gln	Ala	Ser	Arg	Phe	Ala	Ala	Gln	Ala	Tyr	Ala
	1310					1315					1320			
Ala	Leu	Val	Leu	Ala	Arg	Gln	Gln	Lys	Ala	Pro	Leu	Gly	Ala	Leu
	1325					1330					1335			
Arg	Glu	Ile	Trp	Ser	Arg	His	Asp	Gln	Ala	Arg	Ser	Gly	Leu	Pro
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Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
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Arg	Gly	Asp	Ala	Ala	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro	Arg	Gln
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Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
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Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
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Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
1430 1435 1440

Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Lys
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Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
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Thr

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<213> Klebsiella pneumoniae 5711/52

<400> 613

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35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
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140

130

135

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

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Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
 420 425 430
 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
 435 440 445
 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
 450 455 460
 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
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 485 490 495
 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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 515 520 525
 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
 530 535 540
 Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
 545 550 555 560
 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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 Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
 580 585 590
 Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
 595 600 605
 Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
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 Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
 625 630 635 640
 Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
 645 650 655
 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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 Phe Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
 675 680 685

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Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
 690 695 700
 Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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 Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
 725 730 735
 Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
 740 745 750
 Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
 755 760 765
 Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
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 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960

Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
965 970 975

Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Gln Pro Gln Thr Leu Gln Val His Leu
1055 1060 1065

Thr Ala Ser Gly Leu Val Thr Leu Thr Asp Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
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Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
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Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
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Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
1190 1195 1200

Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys
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Ala Leu Gly Ile Ser Gly Asp Ser Asp Glu Lys Arg Arg Ala Ala
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Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
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Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
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Leu	Leu	Gln	Leu	Gly	Ile	Ala	Leu	Lys	Thr	Met	Gly	Asp	Ala	Pro
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Arg	Gly	Asp	Pro	Pro	Leu	Lys	Leu	Ala	Val	Ala	Thr	Pro	Pro	Gln
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Asp	Glu	Asn	Arg	Trp	Leu	Gly	Asp	Tyr	Gly	Ser	Pro	Leu	Arg	Asp
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Arg	Asn	Leu	Asp	Gly	Asp	Arg	Leu	Ala	Ala	Leu	Gln	Val	Ser	Asn
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Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
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Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
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Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
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Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
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Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
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Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
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Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
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Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
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Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
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Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
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Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
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Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
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Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
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Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
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Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp

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500

505

510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
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Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
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Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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Asp Leu Gln Glu Asp Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
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Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
770 775 780

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Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Arg Val Asn Val Leu Leu Ser Ala Val Asp Ser
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 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
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 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
 980 985 990
 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
 1010 1015 1020
 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
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 Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
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Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
1055 1060 1065

Thr Ala Ser Gly Leu Val Thr Leu Thr Asp Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
1100 1105 1110

Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
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Asn Ser Gly Ala Val Leu Gln Pro Gly Glu Ser Trp Gln Pro Pro
1145 1150 1155

Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
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Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
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Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
1190 1195 1200

Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys
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Ala Leu Gly Ile Ser Gly Asp Ser Asp Glu Lys Arg Arg Ala Ala
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Gly Gly Phe Ala
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<400> 615

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25

30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
 35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
 50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
 65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
 85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
 100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
 115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
 130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
 145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
 165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
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Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
 195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
 225 230 235 240

Lys Met Ala Asp Leu Val Tyr Ser Gly Arg Phe Asp Leu Asn Pro Ala
 245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
 260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
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Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
 290 295 300

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Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
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 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
 355 360 365
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 370 375 380
 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
 385 390 395 400
 Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
 405 410 415
 Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
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 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
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 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
 450 455 460
 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
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 485 490 495
 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
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 Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
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 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
 530 535 540
 Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
 545 550 555 560
 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
 565 570 575

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Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
 580 585 590
 Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
 595 600 605
 Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
 610 615 620
 Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
 625 630 635 640
 Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
 645 650 655
 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
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 675 680 685
 Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
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 Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
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 Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
 740 745 750
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 Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
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 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
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 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
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 835 840 845

Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
850 855 860

Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Met
865 870 875 880

Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
885 890 895

Gly Glu Ala Pro Lys Arg Val Asn Val Leu Leu Ser Ala Val Asp Ser
900 905 910

Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
915 920 925

Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
930 935 940

Gln Val Ile Glu Gly
945

<210> 616
<211> 1244
<212> PRT
<213> Klebsiella pneumoniae Friedlaender204

<400> 616

Val Thr Asn Cys Ile Arg Leu Ile Gly Arg Gly Val Arg Arg Met Lys
1 5 10 15

Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
20 25 30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

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Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
 145 150 155 160
 Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
 165 170 175
 Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
 180 185 190
 Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
 195 200 205
 Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
 210 215 220
 Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
 225 230 235 240
 Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
 245 250 255
 Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
 260 265 270
 Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
 275 280 285
 Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
 290 295 300
 Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
 305 310 315 320
 Leu Glu Asn Gly Ala Ala Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
 325 330 335
 Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
 340 345 350
 Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
 355 360 365
 Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
 370 375 380
 Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
 385 390 395 400
 Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
 405 410 415

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Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
 420 425 430
 Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
 435 440 445
 Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
 450 455 460
 Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
 465 470 475 480
 Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
 485 490 495
 Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp
 500 505 510
 Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
 515 520 525
 Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
 530 535 540
 Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
 545 550 555 560
 Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
 565 570 575
 Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
 580 585 590
 Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
 595 600 605
 Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
 610 615 620
 Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
 625 630 635 640
 Leu Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
 645 650 655
 Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
 660 665 670
 Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
 675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
 690 695 700
 Asp Leu Gln Glu Gly Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
 705 710 715 720
 Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
 725 730 735
 Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
 740 745 750
 Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
 755 760 765
 Val Thr Met Lys Leu Asp Lys Pro Ser Tyr Lys Pro Gly Asp Thr Ile
 770 775 780
 Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 795 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Ile
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
 900 905 910
 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
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Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
980 985 990

Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
995 1000 1005

Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
1010 1015 1020

Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
1025 1030 1035

Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
1040 1045 1050

Leu Ser Asn Leu Thr Asp Lys Pro Gln Thr Leu Gln Val His Leu
1055 1060 1065

Thr Ala Ser Gly Leu Val Thr Leu Ser Glu Gly Gln Leu Pro Pro
1070 1075 1080

Val Gln Leu Ala Pro Gly Ala Arg Ser Thr Leu Phe Ile Pro Val
1085 1090 1095

Ser Ala Leu Ala Gly Phe Gly Asp Gly Gln Val Asn Ala Thr Ile
1100 1105 1110

Ser Gly Leu Ser Leu Pro Gly Glu Thr Phe Ala Pro Leu Gln Lys
1115 1120 1125

Gln Trp Lys Ile Gly Val Arg Pro Ala Tyr Pro Ala Gln Thr Val
1130 1135 1140

Asn Ser Gly Ala Ala Leu Gln Pro Gly Glu Ser Trp Gln Pro Pro
1145 1150 1155

Ala Ala Gln Ser Gln Gly Phe Ala Pro Gln Thr Leu Gln Gly Gln
1160 1165 1170

Leu Leu Leu Ser Gly Lys Pro Pro Leu Asn Leu Ala Arg Tyr Ile
1175 1180 1185

Arg Glu Leu Lys Ala Tyr Pro Tyr Gly Cys Leu Glu Gln Thr Ala
1190 1195 1200

Ser Gly Leu Phe Pro Ser Leu Tyr Thr Ser Ala Ala Gln Leu Lys
1205 1210 1215

Ala Leu Gly Ile Ser Gly Asp Ser Asp Glu Lys Arg Arg Ala Ala
1220 1225 1230

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Ile Asp Val Gly Ile Ser Arg Leu Leu Gln Met
1235 1240

<210> 617
<211> 1474
<212> PRT
<213> Klebsiella pneumoniae 5053
<400> 617

Val Thr Asn Cys Ile Arg Leu Ile Gly Arg Gly Val Arg Arg Met Lys
1 5 10 15

Pro Phe Arg Leu Ala Ala Leu Ser Leu Ala Leu Leu Thr Ala Phe Ser
20 25 30

Leu Thr Gly Cys Asp Asp Ser Gly Thr Pro Gln Ala Ser Ala Pro Ala
35 40 45

Pro Ala Ala Asp Ser Asn Pro Gly Ala Thr Ala Lys Pro Asp Arg Ala
50 55 60

Gln Leu Ala Ala Leu Ala Glu Lys Ser Gln Gly Lys Ala Leu Thr Leu
65 70 75 80

Leu Asp Ala Ser Glu Val Gln Leu Asp Gly Ala Ala Thr Leu Val Leu
85 90 95

Thr Phe Ser Val Pro Leu Gln Pro Asp Gln Asp Phe Ser Arg Ser Val
100 105 110

His Leu Val Asp Lys Lys Ser Gly Lys Val Asp Gly Ala Trp Glu Leu
115 120 125

Ala Pro Asn Leu Lys Glu Leu Arg Leu Arg His Leu Glu Pro Lys Arg
130 135 140

Glu Leu Ile Val Ser Val Asp Pro Thr Leu Thr Ala Leu Asn Lys Ala
145 150 155 160

Thr Leu Asp Lys Pro Phe Glu Lys Thr Leu Thr Thr Arg Asp Ile Ala
165 170 175

Pro Ser Val Gly Phe Ala Ser Arg Gly Ser Leu Leu Pro Gly Asn Val
180 185 190

Val Ala Gly Leu Pro Val Met Ala Leu Asn Val Asp Asn Val Asp Val
195 200 205

Asn Phe Phe Arg Ile Lys Pro Glu Ser Leu Ser Ala Phe Val Ser Gln
210 215 220

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Trp Glu Tyr Arg Asn Ser Leu Ser Asn Trp Glu Ser Asp Glu Leu Leu
225 230 235 240

Lys Met Ala Asp Leu Val Tyr Thr Gly Arg Phe Asp Leu Asn Pro Ala
245 250 255

Arg Asn Thr Arg Glu Lys Leu Leu Leu Pro Leu Ser Asp Ile Lys Pro
260 265 270

Leu Gln Gln Pro Gly Val Tyr Val Ala Val Met Asn Pro Ala Gly Arg
275 280 285

Tyr Ser Tyr Ser Asn Ala Ala Thr Leu Phe Thr Leu Ser Asp Ile Gly
290 295 300

Val Ser Ala His Arg Tyr His Asn Arg Leu Asp Val Phe Thr Gln Ser
305 310 315 320

Leu Glu Asn Gly Ala Val Gln Ser Gly Ile Glu Val Gln Leu Leu Asn
325 330 335

Ala Lys Gly Gln Thr Leu Ala Glu Ala Lys Ser Asp Ser Gln Gly His
340 345 350

Val Thr Leu Gln Thr Asp Lys Glu Ala Ala Leu Leu Leu Ala Arg Lys
355 360 365

Glu Gly Gln Thr Thr Leu Leu Asp Leu Lys Leu Pro Ala Leu Asp Leu
370 375 380

Ala Glu Phe Ser Ile Ala Gly Ala Pro Gly Phe Ser Lys Gln Phe Phe
385 390 395 400

Met Phe Gly Pro Arg Asp Leu Tyr Arg Pro Gly Glu Thr Val Ile Leu
405 410 415

Asn Ala Leu Leu Arg Asp Ser Asp Gly Lys Pro Leu Ala Glu Gln Pro
420 425 430

Val Lys Leu Glu Val Val Gln Pro Asp Gly Gln Val Ile Arg Ser Val
435 440 445

Met Ser Lys Pro Val Asn Gly Leu Tyr Gln Phe Thr Tyr Pro Leu Asp
450 455 460

Ser Gly Ala Ala Thr Gly Met Trp His Ile Arg Ala Ser Ala Gly Asp
465 470 475 480

Asn Gln Pro Arg Glu Trp Asp Phe His Val Glu Asp Phe Met Pro Glu
485 490 495

Arg Met Ala Leu Asn Leu Thr Pro Gln Ala Ala Pro Val Ala Pro Asp

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500

505

510

Ala Asp Val Thr Phe Gly Val Ser Gly Ala Tyr Leu Tyr Gly Ala Pro
515 520 525

Ala Ser Gly Asn Gln Leu Gln Gly Lys Leu Phe Leu Arg Pro Leu Arg
530 535 540

Asp Ala Val Ala Ala Leu Pro Gly Phe Gln Phe Gly Asp Ile Ala Glu
545 550 555 560

Glu Asn Leu Ser Arg Ser Leu Asp Glu Val Gln Leu Thr Leu Asp Glu
565 570 575

Lys Gly His Gly Glu Val Thr Thr Ser Ser Gln Trp Gln Asp Ser His
580 585 590

Ser Pro Leu Gln Val Val Leu Gln Ala Ser Leu Leu Glu Ser Gly Gly
595 600 605

Arg Pro Val Thr Arg Thr Val Lys Gln Pro Ile Trp Pro Ala Glu Ala
610 615 620

Leu Pro Gly Ile Arg Pro Gln Phe Thr Leu Lys Asp Val Tyr Asp Tyr
625 630 635 640

Arg Thr Asp Thr Thr Val Lys Gln Pro Val Val Asp Glu Asn Ser Asn
645 650 655

Ala Ala Phe Asp Ile Val Tyr Ala Asp Val Lys Gly Glu Lys Lys Ala
660 665 670

Ile Ser Gly Leu Gln Val Arg Leu Ile Arg Glu Arg Arg Asp Tyr Tyr
675 680 685

Trp Asn Trp Ser Asp Ser Glu Gly Trp Gln Ser Gln Phe Asp Gln Lys
690 695 700

Asp Leu Gln Glu Ser Glu Glu Ser Leu Asp Leu Gln Ala Gly Gln Ile
705 710 715 720

Gly Lys Val Ser Phe Pro Val Glu Trp Gly Ser Tyr Arg Leu Glu Val
725 730 735

Lys Gly Pro Asp Asp Val Val Ser Ser Val Arg Phe Trp Ala Gly Tyr
740 745 750

Ser Trp Gln Asp Asn Ser Glu Gly Ala Gly Ala Ala Arg Pro Asp Arg
755 760 765

Val Thr Met Lys Leu Asp Lys Pro Gly Tyr Lys Pro Gly Asp Thr Ile
770 775 780

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Arg Leu His Ile Ala Ala Pro Ala Ala Gly Lys Gly Tyr Ala Met Val
 785 790 795 800
 Glu Ser Ser Glu Gly Pro Leu Trp Trp Gln Glu Ile Asp Val Pro Ala
 805 810 815
 Glu Gly Met Asp Leu Ser Ile Pro Val Asp Lys Thr Trp Asn Arg His
 820 825 830
 Asp Leu Tyr Leu Ser Thr Leu Val Val Arg Pro Gly Asp Lys Ser Arg
 835 840 845
 Ser Ala Thr Pro Lys Arg Ala Val Gly Leu Leu His Leu Pro Leu Gly
 850 855 860
 Asp Glu Asn Arg Arg Leu Thr Leu Ala Leu Glu Ala Pro Asp Lys Ile
 865 870 875 880
 Arg Pro Asn Gln Pro Leu Thr Val Lys Val Lys Ala Ser Val Lys Glu
 885 890 895
 Gly Glu Ala Pro Lys Gln Val Asn Val Leu Leu Ser Ala Val Asp Ser
 900 905 910
 Gly Val Leu Asn Ile Thr Asp Tyr Ala Thr Pro Asp Pro Trp Asn Ala
 915 920 925
 Phe Phe Gly Gln Lys Arg Tyr Gly Ala Asp Ile Tyr Asp Ile Tyr Gly
 930 935 940
 Gln Val Ile Glu Gly Gln Gly Arg Val Ala Ser Leu Arg Phe Gly Gly
 945 950 955 960
 Asp Gly Asp Glu Leu Lys Arg Gly Gly Lys Pro Pro Val Asn His Val
 965 970 975
 Thr Ile Val Ala Gln Gln Ala Gln Pro Val Val Leu Asn Asp Gln Gly
 980 985 990
 Glu Gly Thr Val Thr Leu Pro Ile Gly Asp Phe Asn Gly Glu Leu Arg
 995 1000 1005
 Val Met Ala Gln Ala Trp Thr Ala Asp Asp Phe Gly Ser Ser Glu
 1010 1015 1020
 Asp Lys Val Val Val Ala Ala Pro Val Ile Ala Glu Leu Asn Thr
 1025 1030 1035
 Pro Arg Phe Leu Ala Ser Gly Asp Thr Thr Arg Leu Ala Leu Asp
 1040 1045 1050

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Leu	Ser	Asn	Leu	Thr	Asp	Lys	Pro	Gln	Thr	Leu	Gln	Val	His	Leu
	1055					1060					1065			
Thr	Ala	Ser	Gly	Leu	Val	Thr	Leu	Thr	Glu	Gly	Gln	Leu	Pro	Pro
	1070					1075					1080			
Val	Gln	Leu	Ala	Pro	Gly	Ala	Arg	Ser	Thr	Leu	Phe	Ile	Pro	Val
	1085					1090					1095			
Ser	Ala	Leu	Ala	Gly	Phe	Gly	Asp	Gly	Gln	Val	Asn	Ala	Thr	Ile
	1100					1105					1110			
Ser	Gly	Leu	Ser	Leu	Pro	Gly	Glu	Thr	Phe	Ala	Pro	Leu	Gln	Lys
	1115					1120					1125			
Gln	Trp	Lys	Ile	Gly	Val	Arg	Pro	Ala	Tyr	Pro	Ala	Gln	Thr	Val
	1130					1135					1140			
Asn	Ser	Gly	Ala	Val	Leu	Gln	Pro	Gly	Glu	Ser	Trp	Gln	Pro	Pro
	1145					1150					1155			
Ala	Ala	Gln	Ser	Gln	Gly	Phe	Ala	Pro	Gln	Thr	Leu	Gln	Gly	Gln
	1160					1165					1170			
Leu	Leu	Leu	Cys	Gly	Lys	Pro	Pro	Leu	Asn	Leu	Ala	Arg	Tyr	Ile
	1175					1180					1185			
Arg	Glu	Leu	Lys	Ala	Tyr	Pro	Tyr	Gly	Cys	Leu	Glu	Gln	Thr	Ala
	1190					1195					1200			
Ser	Gly	Leu	Phe	Pro	Ser	Leu	Tyr	Thr	Ser	Ala	Ala	Gln	Leu	Lys
	1205					1210					1215			
Ala	Leu	Gly	Ile	Ser	Gly	Asp	Ser	Asp	Glu	Lys	Arg	Arg	Ala	Ala
	1220					1225					1230			
Ile	Asp	Val	Gly	Ile	Ser	Arg	Leu	Leu	Gln	Met	Gln	Leu	Glu	Asn
	1235					1240					1245			
Gly	Gly	Phe	Ala	Leu	Trp	Asp	Arg	Glu	Gly	Pro	Glu	Glu	Tyr	Trp
	1250					1255					1260			
Leu	Thr	Ala	Tyr	Ala	Met	Asp	Phe	Leu	Val	Arg	Ala	Ser	Glu	Gln
	1265					1270					1275			
Gly	Tyr	Ser	Val	Pro	Val	Asn	Ala	Ile	Asn	Lys	Gly	Asn	Glu	Arg
	1280					1285					1290			
Leu	Leu	Arg	Tyr	Leu	Gln	Glu	Pro	Gly	Leu	Met	Thr	Val	Arg	Tyr
	1295					1300					1305			

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Ser Asp Asp Ala Gln Ala Ser Arg Phe Ala Ala Gln Ala Tyr Ala
1310 1315 1320

Ala Leu Val Leu Ala Arg Gln Gln Lys Ala Pro Leu Gly Ala Leu
1325 1330 1335

Arg Glu Ile Trp Ser Arg His Asp Gln Ala Arg Ser Gly Leu Pro
1340 1345 1350

Leu Leu Gln Leu Gly Ile Ala Leu Lys Thr Met Gly Asp Ala Pro
1355 1360 1365

Arg Gly Asp Ala Ala Leu Lys Leu Ala Ile Ala Thr Pro Arg Gln
1370 1375 1380

Asp Glu Asn Arg Trp Leu Gly Asp Tyr Gly Ser Pro Leu Arg Asp
1385 1390 1395

Asn Ala Leu Lys Leu Ala Leu Leu Glu Glu Asn Lys Leu Leu Pro
1400 1405 1410

Glu Val Gln Asn Gln Leu Leu Ser Thr Leu Ser Glu Glu Ala Tyr
1415 1420 1425

Gly Gln Arg Trp Leu Ser Thr Gln Glu Thr Asn Ala Leu Phe Leu
1430 1435 1440

Ala Gly Arg Thr Leu Ala Asp Leu Pro Gly Ser Trp Gln Ala Lys
1445 1450 1455

Thr Ser Leu Gln Ala Glu Pro Leu Ala Gly Asp Lys Ala Gln Thr
1460 1465 1470

Arg

<210> 618

<211> 245

<212> PRT

<213> Klebsiella pneumoniae MGH78578

<400> 618

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

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Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80
 Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95
 Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110
 Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125
 Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140
 Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160
 Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175
 Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190
 Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205
 Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220
 Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
 225 230 235 240
 Asn Thr Asn Asn Asp
 245

<210> 619
 <211> 245
 <212> PRT
 <213> Klebsiella pneumoniae A5054
 <400> 619

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
 1 5 10 15
 Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20 25 30
 Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45

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Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 620
<211> 245
<212> PRT
<213> Klebsiella pneumoniae i252/94

<400> 620

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

eo1f-seq1.app

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Thr Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 621
<211> 245
<212> PRT
<213> Klebsiella pneumoniae B5055

<400> 621

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

eo1f-seq1.app

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 622
<211> 245
<212> PRT
<213> Klebsiella pneumoniae i225/94

<400> 622

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

eo1f-seq1.app

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 623
<211> 245
<212> PRT
<213> Klebsiella pneumoniae D5050

<400> 623

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
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<211> 245
<212> PRT
<213> Klebsiella pneumoniae E5051

<400> 624

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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
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 Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45
 Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60
 Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80
 Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95
 Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110
 Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125
 Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140
 Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160
 Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175
 Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190
 Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205
 Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220
 Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
 225 230 235 240
 Asn Thr Asn Asn Asp
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<210> 625
 <211> 245
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 <213> Klebsiella pneumoniae Aerogenes4140
 <400> 625

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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
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Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45
Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60
Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80
Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95
Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110
Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125
Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140
Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160
Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175
Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190
Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205
Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220
Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240
Asn Thr Asn Asn Asp
245

<210> 626
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 1015

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<400> 626

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Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35      40      45
Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50      55      60
Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65      70      75      80
Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85      90      95
Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100     105     110
Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115     120     125
Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130     135     140
Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145     150     155     160
Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165     170     175
Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180     185     190
Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195     200     205
Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
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225     230     235     240
Asn Thr Asn Asn Asp
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<210> 627

<211> 245

<212> PRT

<213> *Klebsiella pneumoniae* i262/94

<400> 627

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Thr Ser Gly Ser Pro Glu
 115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ser Arg Lys Ala Arg Ala Asp
 225 230 235 240

Asn Thr Asn Asn Asp
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<210> 628

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<211> 245

<212> PRT

<213> Klebsiella pneumoniae 919

<400> 628

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

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 <212> PRT
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<400> 629

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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
 225 230 235 240

Asn Thr Asn Asn Asp

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 <211> 245
 <212> PRT
 <213> Klebsiella pneumoniae 1470
 <400> 630

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 20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Thr Arg Ala Asp
 225 230 235 240

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Asn Thr Asn Asn Asp
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<210> 631
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 1193
<400> 631

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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
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Arg	Leu	Val	Ala	Lys	Gly	Ala	Arg	Ser	Lys	Arg	Ser	Asn	Leu	Lys	Gly			
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Ala	Leu	Gln	Pro	Phe	Thr	Pro	Leu	Leu	Val	Arg	Phe	Gly	Gly	Arg	Gly			
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Glu	Val	Lys	Thr	Leu	Arg	Ser	Ala	Glu	Ala	Val	Ser	Leu	Ala	Leu	Pro			
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				85					90					95				
Ser	Arg	Val	Leu	Glu	His	Glu	Thr	Arg	Phe	Ser	Glu	Leu	Phe	Phe	Asp			
			100					105					110					
Tyr	Leu	His	Cys	Ile	Gln	Ala	Leu	Ala	Gly	Ala	Ser	Gly	Ser	Pro	Glu			
			115				120					125						
Pro	Ala	Leu	Arg	Arg	Phe	Glu	Leu	Ala	Leu	Leu	Gly	His	Leu	Gly	Tyr			
			130				135					140						
Gly	Val	Asp	Phe	Leu	His	Cys	Ala	Gly	Ser	Gly	Glu	Pro	Val	Asp	Asp			
145					150					155					160			
Thr	Met	Thr	Tyr	Arg	Tyr	Arg	Glu	Glu	Lys	Gly	Phe	Ile	Ala	Ser	Leu			
				165					170					175				
Val	Ile	Asp	Asn	Asn	Thr	Phe	Thr	Gly	His	His	Leu	Lys	Ala	Leu	Ala			
			180					185					190					
Ser	Arg	Glu	Phe	Pro	Asp	Val	Asp	Thr	Leu	Arg	Ala	Ala	Lys	Arg	Phe			
			195				200					205						
Thr	Arg	Ile	Ala	Leu	Lys	Pro	Tyr	Leu	Gly	Gly	Lys	Pro	Leu	Lys	Ser			
			210				215					220						

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Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
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Asn Thr Asn Asn Asp
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<211> 245
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<213> Klebsiella pneumoniae 2069/49

<400> 633

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Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser

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220

210

215

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
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<210> 634
<211> 245
<212> PRT
<213> Klebsiella pneumoniae i243/94

<400> 634

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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Thr Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

eo1f-seq1.app

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ser Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 635
<211> 245
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<213> Klebsiella pneumoniae 2005/49

<400> 635

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20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe

195

200

205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
 225 230 235 240

Asn Thr Asn Asn Asp
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<210> 636
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 20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190

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Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205
 Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
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 Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
 225 230 235 240
 Asn Thr Asn Asn Asp
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<210> 637
 <211> 245
 <212> PRT
 <213> Klebsiella pneumoniae 1702/49

<400> 637

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 20 25 30
 Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45
 Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60
 Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80
 Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95
 Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110
 Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125
 Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140
 Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160
 Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175
 Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 638
<211> 245
<212> PRT
<213> Klebsiella pneumoniae i202/94

<400> 638

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

eo1f-seq1.app

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Lys Asn Asp
245

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<211> 245
<212> PRT
<213> Klebsiella pneumoniae 1996/49

<400> 639

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
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170

165

175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

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<211> 245
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<213> Klebsiella pneumoniae 1680/49

<400> 640

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

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Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

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<400> 641

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
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145 150 155 160

Thr Met Thr Tyr Arg 165 Tyr Arg Glu Glu Lys 170 Gly Phe Ile Ala Ser 175 Leu

Val Ile Asp Asn 180 Asn Thr Phe Thr Gly 185 His His Leu Lys Ala 190 Leu Ala

Ser Arg Glu 195 Phe Pro Asp Val Asp 200 Thr Leu Arg Ala Ala 205 Lys Arg Phe

Thr Arg 210 Ile Ala Leu Lys 215 Pro Tyr Leu Gly Gly Lys 220 Pro Leu Lys Ser

Arg 225 Glu Leu Phe Arg 230 Gln Phe Met Pro Ala Arg 235 Lys Ala Arg Ala Asp 240

Asn Thr Asn Asn Asp 245

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Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Met Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

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<211> 245
<212> PRT
<213> Klebsiella pneumoniae 5758
<400> 643

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
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Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
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140

130

135

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Met Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 644
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 7824

<400> 644

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

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Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 645
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 6258

<400> 645

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Asn Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
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115

120

125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 646

<211> 245

<212> PRT

<213> Klebsiella pneumoniae 6168

<400> 646

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

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Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125
Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140
Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160
Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175
Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190
Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205
Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220
Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240
Asn Thr Asn Asn Asp
245

<210> 647
<211> 245
<212> PRT
<213> Klebsiella pneumoniae i256/94

<400> 647

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15
Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30
Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45
Ala Leu Gln Ser Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60
Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80
Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95
Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
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100

105

110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 648
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 7749

<400> 648

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

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Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 649
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 2482
<400> 649

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
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90

85

95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 650
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 5281

<400> 650

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

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Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 651
<211> 245
<212> PRT
<213> Klebsiella pneumoniae i224/94

<400> 651

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
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65 70 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
 245

<210> 652
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 1756/51
<400> 652

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60

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Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Thr Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ser Arg Lys Pro Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 653
<211> 245
<212> PRT
<213> Klebsiella pneumoniae Stanley

<400> 653

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
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60

50

55

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Thr Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ser Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 654
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 3985/51

<400> 654

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

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Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Asn Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 655
<211> 245
<212> PRT
<213> Klebsiella pneumoniae i221/94

<400> 655

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
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35

40

45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 656
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 4463/52

<400> 656

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

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20 25 30

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Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Thr Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Lys Asn Asp
245

<210> 657
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 5710/52

<400> 657

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
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20

25

30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Met Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 658
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 5711/52

<400> 658

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

eo1f-seq1.app

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20 25 30
 Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45
 Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60
 Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80
 Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95
 Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110
 Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125
 Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140
 Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160
 Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175
 Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190
 Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205
 Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220
 Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
 225 230 235 240
 Asn Thr Asn Asn Asp
 245

<210> 659
 <211> 245
 <212> PRT
 <213> Klebsiella pneumoniae 5845/52

<400> 659

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
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10

1 5 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 660
<211> 245
<212> PRT
<213> Klebsiella pneumoniae NCTC8172
<400> 660

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Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 661
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 264-1

eo1f-seq1.app

<400> 661

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Met Glu Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
 1      5      10     15
Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20     25     30
Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35     40     45
Ala Leu Gln Pro Phe Thr Pro Leu Leu Leu Arg Phe Gly Gly Arg Gly
 50     55     60
Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65     70     75     80
Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Leu
 85     90     95
Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100    105    110
Tyr Leu His Cys Ile Gln Ser Leu Ala Gly Ala Ser Gly Ser Pro Glu
115    120    125
Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130    135    140
Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Ala Val Asp Asp
145    150    155    160
Ala Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Val
165    170    175
Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180    185    190
Ser Arg Glu Phe Pro Asp Ser Asp Ala Leu Arg Ala Ala Lys Arg Phe
195    200    205
Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210    215    220
Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Ala Ala Arg Ala Asp
225    230    235    240
Lys Thr Asn Asn Asp
245

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<210> 662

<211> 245

eo1f-seq1.app

<212> PRT

<213> Klebsiella pneumoniae 265-1

<400> 662

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Val Glu Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1      5      10     15
Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20     25     30
Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Ser Leu Lys Gly
35     40     45
Ala Phe Gln Pro Phe Thr Pro Leu Leu Leu Arg Phe Gly Gly Arg Gly
50     55     60
Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65     70     75     80
Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Leu
85     90     95
Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100    105    110
Tyr Leu His Cys Leu Gln Ala Leu Ala Gly Ala Ser Gly Thr Pro Glu
115    120    125
Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130    135    140
Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Ala Val Ser Asp
145    150    155    160
Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165    170    175
Val Ile Asp Asn Asn Ser Phe Thr Gly His His Leu Lys Ala Leu Ala
180    185    190
Asn Arg Glu Phe Pro Asp Ser Asp Ala Leu Arg Ala Ala Lys Arg Phe
195    200    205
Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210    215    220
Arg Glu Leu Phe Arg Gln Phe Ile Pro Ala Arg Ala Ala Arg Ala Asp
225    230    235    240
Lys Thr Asn Asn Glu
245

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eo1f-seq1.app

<210> 663
 <211> 246
 <212> PRT
 <213> Klebsiella pneumoniae 889

<400> 663

Val Glu Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
 1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Ser Leu Lys Gly
 35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Leu Arg Phe Gly Gly Arg Gly
 50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Leu
 85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110

Tyr Leu His Cys Leu Gln Ala Leu Ala Gly Ala Ser Gly Thr Pro Glu
 115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Ala Val Ser Asp
 145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175

Val Ile Asp Asn Asn Ser Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190

Asn Arg Glu Phe Pro Asp Ser Asp Ala Leu Arg Ala Ala Lys Arg Phe
 195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220

Arg Glu Leu Phe Arg Gln Phe Ile Pro Ala Arg Ala Ala Arg Ala Asp
 225 230 235 240

Lys Thr Asn Asn Glu Gln
 245

eo1f-seq1.app

<210> 664
 <211> 245
 <212> PRT
 <213> Klebsiella pneumoniae 708

<400> 664

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
 1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
 20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
 35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
 50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
 65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
 85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
 100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
 115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
 130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
 145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
 165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
 180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
 195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
 210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
 225 230 235 240

eof-seq1.app

Asn Thr Asn Asn Asp
245

<210> 665
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 370
<400> 665

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

eo1f-seq1.app

Asn Thr Asn Asn Asp
245

<210> 666
<211> 245
<212> PRT
<213> Klebsiella pneumoniae Friedlaender204
<400> 666

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

eo1f-seq1.app

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 667
<211> 245
<212> PRT
<213> Klebsiella pneumoniae 5053
<400> 667

Val Asp Gly Trp Gln Arg Ala Phe Val Leu His Ser Arg Pro Trp Ser
1 5 10 15

Glu Thr Ser Leu Met Leu Asp Val Phe Thr Glu Glu Ser Gly Arg Val
20 25 30

Arg Leu Val Ala Lys Gly Ala Arg Ser Lys Arg Ser Asn Leu Lys Gly
35 40 45

Ala Leu Gln Pro Phe Thr Pro Leu Leu Val Arg Phe Gly Gly Arg Gly
50 55 60

Glu Val Lys Thr Leu Arg Ser Ala Glu Ala Val Ser Leu Ala Leu Pro
65 70 75 80

Leu Ser Gly Ile Thr Leu Tyr Ser Gly Leu Tyr Val Asn Glu Leu Ile
85 90 95

Ser Arg Val Leu Glu His Glu Thr Arg Phe Ser Glu Leu Phe Phe Asp
100 105 110

Tyr Leu His Cys Ile Gln Ala Leu Ala Gly Ala Ser Gly Ser Pro Glu
115 120 125

Pro Ala Leu Arg Arg Phe Glu Leu Ala Leu Leu Gly His Leu Gly Tyr
130 135 140

Gly Val Asp Phe Leu His Cys Ala Gly Ser Gly Glu Pro Val Asp Asp
145 150 155 160

Thr Met Thr Tyr Arg Tyr Arg Glu Glu Lys Gly Phe Ile Ala Ser Leu
165 170 175

Val Ile Asp Asn Asn Thr Phe Thr Gly His His Leu Lys Ala Leu Ala
180 185 190

Ser Arg Glu Phe Pro Asp Val Asp Thr Leu Arg Ala Ala Lys Arg Phe
195 200 205

Thr Arg Ile Ala Leu Lys Pro Tyr Leu Gly Gly Lys Pro Leu Lys Ser
210 215 220

eo1f-seq1.app

Arg Glu Leu Phe Arg Gln Phe Met Pro Ala Arg Lys Ala Arg Ala Asp
225 230 235 240

Asn Thr Asn Asn Asp
245

<210> 668
<211> 248
<212> PRT
<213> Klebsiella pneumoniae MGH78578

<400> 668

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 669

<211> 248

<212> PRT

<213> Klebsiella pneumoniae A5054

<400> 669

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

eof-seq1.app

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 670
<211> 248
<212> PRT
<213> Klebsiella pneumoniae i252/94
<400> 670

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 671
<211> 248
<212> PRT
<213> Klebsiella pneumoniae B5055

<400> 671

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

eof-seq1.app

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 672
<211> 248
<212> PRT
<213> Klebsiella pneumoniae i225/94
<400> 672

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 673
<211> 248
<212> PRT
<213> Klebsiella pneumoniae D5050
<400> 673

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asp Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Gly Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

eo1f-seq1.app

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Asp Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 674
<211> 248
<212> PRT
<213> Klebsiella pneumoniae E5051

<400> 674

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 675

<211> 248

<212> PRT

<213> Klebsiella pneumoniae Aerogenes4140

<400> 675

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

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Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 676

<211> 248

<212> PRT

<213> Klebsiella pneumoniae 1015

<400> 676

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

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Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 677

<211> 248

<212> PRT

<213> Klebsiella pneumoniae i262/94

<400> 677

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

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Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 678
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 919
<400> 678

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

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Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 679
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 313
<400> 679

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

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Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 680
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 1470

<400> 680

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

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Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 681

<211> 248

<212> PRT

<213> Klebsiella pneumoniae 1193

<400> 681

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

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Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 682
<211> 248
<212> PRT
<213> Klebsiella pneumoniae Mich61

<400> 682

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 683
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 2069/49
<400> 683

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

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Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 684
<211> 248
<212> PRT
<213> Klebsiella pneumoniae i243/94

<400> 684

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 685
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 2005/49

<400> 685

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

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Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 686
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 1754/49

<400> 686

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 687
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 1702/49

<400> 687

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

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Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 688
<211> 248
<212> PRT
<213> Klebsiella pneumoniae i202/94
<400> 688

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 689
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 1996/49

<400> 689

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

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Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 690
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 1680/49

<400> 690

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

eo1f-seq1.app

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 691
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 2002/49

<400> 691

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
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20 25 30

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Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

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<211> 248
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<400> 692

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20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Ile Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 693
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 5758

<400> 693

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

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Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 694
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 7824
<400> 694

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Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 695
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 6258

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<400> 695

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Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
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Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
 35      40      45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
 50      55      60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
 65      70      75      80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
 85      90      95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100      105      110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115      120      125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130      135      140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145      150      155      160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165      170      175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180      185      190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195      200      205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210      215      220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225      230      235      240

Lys Trp Phe Gly Thr Glu Pro Lys
245

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<210> 696

<211> 248

<212> PRT

<213> Klebsiella pneumoniae 6168

<400> 696

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
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Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
 20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
 35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
 50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
 65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
 85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
 100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
 115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
 130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
 145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
 165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
 180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
 195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
 210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
 225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
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<210> 697

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<211> 248

<212> PRT

<213> Klebsiella pneumoniae i256/94

<400> 697

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

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<210> 698
 <211> 248
 <212> PRT
 <213> Klebsiella pneumoniae 7749

<400> 698

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
 1 5 10 15

Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
 20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
 35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
 50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
 65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
 85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
 100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
 115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
 130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
 145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
 165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
 180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
 195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
 210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
 225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys

<210> 699
 <211> 248
 <212> PRT
 <213> Klebsiella pneumoniae 2482
 <400> 699
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 1 5 10 15
 Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
 20 25 30
 Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
 35 40 45
 Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
 50 55 60
 Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
 65 70 75 80
 Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
 85 90 95
 Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
 100 105 110
 Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
 115 120 125
 Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
 130 135 140
 Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
 145 150 155 160
 Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
 165 170 175
 Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
 180 185 190
 Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
 195 200 205
 Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
 210 215 220
 Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
 225 230 235 240

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Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 700
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 5281
<400> 700

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Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
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225					230					235					240
Lys	Trp	Phe	Gly	Thr	Glu	Pro	Lys								
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<211>	248														
<212>	PRT														
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Ala	Val	Ser	Ser	His	Ala	Ala	Asn	Lys	Thr	Leu	Val	Val	Ala	Thr	Asp
			20				25				30				
Thr	Ala	Phe	Val	Pro	Phe	Glu	Phe	Lys	Gln	Gly	Asp	Lys	Tyr	Val	Gly
		35			40			45			50			55	
Phe	Asp	Val	Asp	Leu	Trp	Ala	Ala	Ile	Ala	Lys	Glu	Leu	Lys	Leu	Asp
		50			55			60			65			70	
Tyr	Thr	Leu	Lys	Pro	Met	Asp	Phe	Ser	Gly	Ile	Ile	Pro	Ala	Leu	Gln
65				70				75				80			
Thr	Lys	Asn	Ile	Asp	Leu	Ala	Leu	Ala	Gly	Ile	Thr	Ile	Thr	Asp	Glu
				85				90				95			
Arg	Lys	Lys	Ala	Ile	Asp	Phe	Ser	Asp	Gly	Tyr	Tyr	Lys	Ser	Gly	Leu
			100				105				110				
Leu	Val	Met	Val	Asn	Ala	Asn	Asn	Asn	Asp	Ile	Lys	Asp	Val	Lys	Asp
		115				120				125					
Leu	Asn	Gly	Lys	Val	Val	Ala	Val	Lys	Ser	Gly	Thr	Gly	Ser	Val	Asp
		130				135				140					
Tyr	Ala	Lys	Ala	Asn	Ile	Lys	Thr	Lys	Asp	Leu	Arg	Gln	Phe	Pro	Asn
145				150				155				160			
Ile	Asp	Asn	Ala	Tyr	Met	Glu	Leu	Gly	Thr	Gly	Arg	Ala	Asp	Ala	Val
				165				170				175			
Leu	His	Asp	Thr	Pro	Asn	Ile	Leu	Tyr	Phe	Ile	Lys	Thr	Ala	Gly	Asn
			180				185				190				
Gly	Lys	Phe	Lys	Ala	Val	Gly	Glu	Ser	Leu	Glu	Ala	Gln	Asn	Tyr	Gly
		195				200				205					
Ile	Ala	Phe	Pro	Lys	Gly	Ser	Asp	Glu	Leu	Arg	Glu	Lys	Val	Asn	Gly
		210				215				220					

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Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
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Lys Trp Phe Gly Thr Glu Pro Lys
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<210> 702
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 1756/51

<400> 702

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Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly

210

215

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 703
<211> 248
<212> PRT
<213> Klebsiella pneumoniae Stanley

<400> 703

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Ala Val Ser Ser His Ala Ala Thr Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

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Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 704
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 3985/51
<400> 704

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20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
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195

200

205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 705

<211> 248

<212> PRT

<213> Klebsiella pneumoniae i221/94

<400> 705

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20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

eo1f-seq1.app

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

<210> 706

<211> 248

<212> PRT

<213> Klebsiella pneumoniae 4463/52

<400> 706

Met Lys Ser Val Phe Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
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Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
Page 900

180

185

190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

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Lys Trp Phe Gly Thr Glu Pro Lys
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Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
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Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
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Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
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Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
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Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
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Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

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Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

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Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
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Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
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Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
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Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
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Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
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Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
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170

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175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

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Lys Trp Phe Gly Thr Glu Pro Lys
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<400> 709

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Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

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Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
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Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
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Lys Trp Phe Gly Thr Glu Pro Lys
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<212> PRT

<213> Klebsiella pneumoniae NCTC8172

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20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
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Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
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145 150 155 160

Ile Asp Asn Ala Tyr₁₆₅ Met Glu Leu Gly Thr₁₇₀ Gly Arg Ala Asp Ala₁₇₅ Val

Leu His Asp Thr₁₈₀ Pro Asn Ile Leu Tyr₁₈₅ Phe Ile Lys Thr Ala₁₉₀ Gly Asn

Gly Lys Phe₁₉₅ Lys Ala Val Gly Glu₂₀₀ Ser Leu Glu Ala Gln₂₀₅ Asn Tyr Gly

Ile Ala₂₁₀ Phe Pro Lys Gly Ser₂₁₅ Asp Glu Leu Arg Glu₂₂₀ Lys Val Asn Gly

Ala₂₂₅ Leu Lys Thr Leu Arg₂₃₀ Asp Asn Gly Thr Tyr₂₃₅ Asn Glu Ile Tyr Lys₂₄₀

Lys Trp Phe Gly Thr₂₄₅ Glu Pro Lys

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<212> PRT
<213> klebsiella pneumoniae 264-1
<400> 711
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Thr	Ala	Phe 35	Val	Pro	Phe	Glu	Phe 40	Lys	Gln	Gly	Asp	Lys 45	Tyr	Val	Gly
Phe	Asp 50	Val	Asp	Leu	Trp	Ala 55	Ala	Ile	Ala	Lys	Glu 60	Leu	Lys	Leu	Asp
Tyr 65	Thr	Leu	Lys	Pro	Met 70	Asp	Phe	Ser	Gly	Ile 75	Ile	Pro	Ala	Leu	Gln 80
Thr	Lys	Asn	Ile	Asp 85	Leu	Ala	Leu	Ala	Gly 90	Ile	Thr	Ile	Thr	Asp 95	Glu
Arg	Lys	Lys	Ala 100	Ile	Asp	Phe	Ser	Asp 105	Gly	Tyr	Tyr	Lys	Ser 110	Gly	Leu
Leu	Val	Met 115	Val	Asn	Ala	Asn	Asn 120	Asn	Asp	Ile	Lys	Asp 125	Val	Lys	Asp
Leu	Asn 130	Gly	Lys	Val	Val	Ala 135	Val	Lys	Gly	Gly	Thr 140	Gly	Ser	Val	Asp

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Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
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Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Asp Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
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<211> 248

<212> PRT

<213> Klebsiella pneumoniae 265-1

<400> 712

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Ala Val Ser Ser Gln Ala Ala Glu Lys Gln Leu Ile Val Ala Thr Asp
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35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Ala Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Glu Glu
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Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Lys Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
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Leu Asn Gly Lys Val Val Ala Val Lys Gly Gly Thr Gly Ser Val Asp

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140

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135

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly His
180 185 190

Gly Gln Phe Lys Ala Val Gly Asp Ser Leu Glu Ala Gln Ser Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
245

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<211> 248
<212> PRT
<213> Klebsiella pneumoniae 889

<400> 713

Met Lys Ser Val Leu Lys Val Ser Leu Ala Ala Leu Thr Leu Ala Phe
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Ala Val Ser Ser Gln Ala Ala Glu Lys Gln Leu Ile Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Ala Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Glu Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Lys Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

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Leu Asn Gly Lys Val Val Ala Val Lys Gly Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly His
180 185 190

Gly Gln Phe Lys Ala Val Gly Asp Ser Leu Glu Ala Gln Ser Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Glu Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
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<210> 714
<211> 248
<212> PRT
<213> Klebsiella pneumoniae 708
<400> 714

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Ala Val Ser Ser His Ala Ala Asn Lys Thr Leu Val Val Ala Thr Asp
20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
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115

120

125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
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Lys Trp Phe Gly Thr Glu Pro Lys
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<210> 715

<211> 248

<212> PRT

<213> Klebsiella pneumoniae 370

<400> 715

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20 25 30

Thr Ala Phe Val Pro Phe Glu Phe Lys Gln Gly Asp Lys Tyr Val Gly
35 40 45

Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

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Leu Val Met Val Asn Ala Asn Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
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Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
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Lys Trp Phe Gly Thr Glu Pro Lys
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Phe Asp Val Asp Leu Trp Ala Ala Ile Ala Lys Glu Leu Lys Leu Asp
50 55 60

Tyr Thr Leu Lys Pro Met Asp Phe Ser Gly Ile Ile Pro Ala Leu Gln
65 70 75 80

Thr Lys Asn Ile Asp Leu Ala Leu Ala Gly Ile Thr Ile Thr Asp Glu
85 90 95

Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
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Arg Lys Lys Ala Ile Asp Phe Ser Asp Gly Tyr Tyr Lys Ser Gly Leu
100 105 110

Leu Val Met Val Asn Ala Asn Asn Asp Ile Lys Asp Val Lys Asp
115 120 125

Leu Asn Gly Lys Val Val Ala Val Lys Ser Gly Thr Gly Ser Val Asp
130 135 140

Tyr Ala Lys Ala Asn Ile Lys Thr Lys Asp Leu Arg Gln Phe Pro Asn
145 150 155 160

Ile Asp Asn Ala Tyr Met Glu Leu Gly Thr Gly Arg Ala Asp Ala Val
165 170 175

Leu His Asp Thr Pro Asn Ile Leu Tyr Phe Ile Lys Thr Ala Gly Asn
180 185 190

Gly Lys Phe Lys Ala Val Gly Glu Ser Leu Glu Ala Gln Asn Tyr Gly
195 200 205

Ile Ala Phe Pro Lys Gly Ser Asp Glu Leu Arg Glu Lys Val Asn Gly
210 215 220

Ala Leu Lys Thr Leu Arg Asp Asn Gly Thr Tyr Asn Glu Ile Tyr Lys
225 230 235 240

Lys Trp Phe Gly Thr Glu Pro Lys
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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90

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95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
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Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
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Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
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Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
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Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
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 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
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 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
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 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
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 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
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 Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
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 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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 Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575
 Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
 580 585 590
 Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
 50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
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Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu

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250

245

255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
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Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
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Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
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Met Asn Lys Ala Leu Met Leu Leu Ile Asn Asp Gly Val Val Lys Val
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Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
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Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
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Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
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Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
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Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
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Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Val Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Gly Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Asp Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr

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410

405

415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Phe Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 721
<211> 633
<212> PRT
<213> Klebsiella pneumoniae B5055

<400> 721

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 20 25 30
 Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
 35 40 45
 Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
 50 55 60
 Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
 65 70 75 80
 Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95
 Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110
 Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125
 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140
 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Gln Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525
 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540
 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560
 Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
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Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 722
<211> 633
<212> PRT
<213> Klebsiella pneumoniae i225/94

<400> 722

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

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Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 723
<211> 633
<212> PRT
<213> Klebsiella pneumoniae D5050

<400> 723

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

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Pro 65 Pro Ser Arg Gly 70 Ile Ile Tyr Asp Arg Asn 75 Gly Thr Pro Leu Ala 80
 Leu Asn Arg Thr 85 Ile Tyr Gln Leu Glu 90 Met Met Pro Glu Lys Val 95 Asp
 Asn Val Gln 100 Gln Thr Leu Asp Ala 105 Leu Arg Asp Val Val 110 Asp Leu Thr
 Asp Asp 115 Asp Ile Ala Gly Phe 120 Lys Lys Glu Arg Ala 125 Arg Ser His Arg
 Phe Thr 130 Ser Ile Pro Val Lys 135 Val Asn Leu Ser Glu 140 Val Gln Val Ala
 Arg 145 Phe Ala Val Asn 150 Gln Tyr Arg Phe Pro Gly 155 Val Glu Val Lys Gly 160
 Tyr Lys Arg Arg 165 Tyr Tyr Pro Tyr Asn 170 Ser Ala Leu Thr His Val 175 Ile
 Gly Tyr Val 180 Ser Lys Ile Asn Asp 185 Lys Asp Val Asp Arg Leu 190 Asp Lys
 Glu Gly 195 Lys Leu Ala Asn Tyr 200 Ala Ser Thr His Asp 205 Ile Gly Lys Leu
 Gly Ile 210 Glu Arg Tyr Tyr 215 Glu Asp Val Leu His Gly 220 Gln Thr Gly Tyr
 Glu 225 Glu Val Glu Val 230 Asn Asn Arg Gly Arg 235 Val Ile Arg Gln Leu Lys 240
 Glu Val Pro Pro 245 Gln Ala Gly Arg Asp 250 Ile Tyr Leu Thr Leu Asp 255 Leu
 Lys Leu Gln 260 Gln Tyr Ile Glu Thr 265 Leu Leu Ala Gly Ser 270 Arg Ala Ala
 Val Val 275 Val Thr Asp Pro Arg 280 Thr Gly Ala Ile Leu 285 Ala Leu Val Ser
 Thr Pro 290 Ser Tyr Asp Pro 295 Asn Leu Phe Val Asp 300 Gly Ile Ser Ser Lys
 Asp 305 Tyr Ser Ala Leu 310 Leu Asn Asp Pro Asn 315 Thr Pro Leu Val Asn Arg 320
 Ala Thr Gln Gly 325 Val Tyr Pro Pro Ala 330 Ser Thr Val Lys Pro 335 Tyr Val

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Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Phe Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ala Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Ile Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

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Asp His Ile Met Leu Gly Asp Asn Asn Thr Asn Leu Pro Ser Glu Asn
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Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 724

<211> 633

<212> PRT

<213> Klebsiella pneumoniae E5051

<400> 724

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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Pro Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

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Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Asp His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495

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Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 725
<211> 633
<212> PRT
<213> Klebsiella pneumoniae Aerogenes4140

<400> 725

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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100

105

110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

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Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Gln Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525
 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540
 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560
 Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575
 Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
 580 585 590
 Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
 595 600 605
 Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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 Pro Ala Val Thr Ala Gly Glu Asp Gln
 625 630

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 <212> PRT

<213> Klebsiella pneumoniae 1015

<400> 726

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
 35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
 50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
 65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
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260

265

270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

eo1f-seq1.app

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 727
<211> 633
<212> PRT
<213> Klebsiella pneumoniae i262/94
<400> 727

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
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Gly Val Leu Val Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asn
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

eo1f-seq1.app

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Val Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Gly Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Asp Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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Glu Trp Lys₄₃₅ Leu Lys Arg Phe Lys₄₄₀ Lys Pro Trp Tyr Gln₄₄₅ Gly Asp Thr

Ile Pro Val Gly Ile Gly Gln₄₅₅ Gly Tyr Trp Thr Ala₄₆₀ Thr Pro Ile Gln

Met Asn Lys Ala Leu Met₄₇₀ Ile Leu Ile Asn Asp₄₇₅ Gly Val Val Lys Val₄₈₀

Pro His Leu Leu Gln₄₈₅ Ser Thr Val Glu Asp₄₉₀ Gly Lys Pro Val Pro₄₉₅ Trp

Val Gln Pro His₅₀₀ Glu Pro Pro Val Gly₅₀₅ Asp Ile His Ser Gly₅₁₀ Tyr Trp

Glu Ile Ala₅₁₅ Lys Asp Gly Met Phe₅₂₀ Gly Val Ala Asn Arg₅₂₅ Gly Asn Gly

Thr Ala₅₃₀ His Lys Tyr Phe Ala₅₃₅ Ser Ala Pro Tyr Lys₅₄₀ Ile Ala Ala Lys

Ser Gly Thr Ala Gln Val₅₅₀ Phe Gly Leu Lys Ala₅₅₅ Asn Glu Thr Tyr Asn₅₆₀

Ala His Arg Ile Ser₅₆₅ Glu Arg Leu Arg Asp₅₇₀ His Lys Leu Met Thr₅₇₅ Ala

Phe Ala Pro Tyr₅₈₀ Asn Asn Pro Gln Val₅₈₅ Ala Val Ala Met Ile₅₉₀ Leu Glu

Asn Gly Gly₅₉₅ Ala Gly Pro Ala Val₆₀₀ Gly Thr Ile Met Arg₆₀₅ Gln Ile Leu

Asp His₆₁₀ Ile Met Leu Gly Asp₆₁₅ Asn Asn Thr Thr Leu₆₂₀ Pro Ser Glu Asn

Pro Ala Val Thr Ala Gly₆₃₀ Glu Asp Gln

<210> 728
<211> 633
<212> PRT
<213> Klebsiella pneumoniae 919

<400> 728

Met Lys Leu Gln₅ Asn Ser Phe Arg Asp Tyr₁₀ Thr Ala Glu Ser₁₅ Ser Leu

Phe Val Arg Arg Ala Leu Val Ala Phe₂₅ Leu Gly Ile Leu₃₀ Leu Leu Thr

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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

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Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
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580

585

590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 729

<211> 633

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<213> Klebsiella pneumoniae 313

<400> 729

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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

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Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

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610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 730
<211> 633
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<213> Klebsiella pneumoniae 1470

<400> 730

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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95
 Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110
 Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125
 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140
 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Gln Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350

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Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525
 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540
 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560
 Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575
 Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
 580 585 590
 Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Pro Ala Val Thr Ala Gly Glu Asp Gln
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<211> 633

<212> PRT

<213> Klebsiella pneumoniae 1193

<400> 731

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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

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Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510

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Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

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<213> Klebsiella pneumoniae Mich61

<400> 732

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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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115

120

125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

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Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

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Pro Ala Val Thr Ala Gly Glu Asp Gln
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser

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275

280

285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560

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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

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<213> Klebsiella pneumoniae i243/94

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Gly Val Leu Val Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asn
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

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Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Val Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Gly Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Asp Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445 450

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435

440

445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Phe Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 735

<211> 633

<212> PRT

<213> Klebsiella pneumoniae 2005/49

<400> 735

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
1 5 10 15

Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
 50 55 60
 Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
 65 70 75 80
 Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95
 Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110
 Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125
 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140
 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320

Ala	Thr	Gln	Gly	Val 325	Tyr	Pro	Pro	Ala	Ser 330	Thr	Val	Lys	Pro	Tyr 335	Val
Ala	Val	Ser	Ala 340	Leu	Ser	Ala	Gly	Val 345	Ile	Thr	Arg	Asn	Thr 350	Ser	Leu
Phe	Asp	Pro 355	Gly	Trp	Trp	Gln	Leu 360	Pro	Gly	Ser	Glu	Lys 365	Arg	Tyr	Arg
Asp	Trp 370	Lys	Lys	Trp	Gly	His 375	Gly	His	Leu	Asn	Val 380	Thr	Lys	Ala	Leu
Glu 385	Glu	Ser	Ala	Asp	Thr 390	Tyr	Phe	Tyr	Gln	Val 395	Ala	Tyr	Asp	Met	Gly 400
Ile	Asp	Arg	Leu	Ser 405	Glu	Trp	Met	Ser	Lys 410	Phe	Gly	Tyr	Gly	His 415	Tyr
Thr	Gly	Ile	Asp 420	Leu	Ser	Glu	Glu	Arg 425	Ser	Gly	Asn	Met	Pro 430	Thr	Arg
Glu	Trp	Lys 435	Leu	Lys	Arg	Phe	Lys 440	Lys	Pro	Trp	Tyr	Gln 445	Gly	Asp	Thr
Ile	Pro 450	Val	Gly	Ile	Gly	Gln 455	Gly	Tyr	Trp	Thr	Ala 460	Thr	Pro	Ile	Gln
Met 465	Asn	Lys	Ala	Leu	Met 470	Ile	Leu	Ile	Asn	Asp 475	Gly	Val	Val	Lys	Val 480
Pro	His	Leu	Leu	Gln 485	Ser	Thr	Val	Glu	Asp 490	Gly	Lys	Pro	Val	Pro 495	Trp
Val	Gln	Pro	His 500	Glu	Pro	Pro	Val	Gly 505	Asp	Ile	His	Ser	Gly 510	Tyr	Trp
Glu	Ile	Ala 515	Lys	Asp	Gly	Met	Tyr 520	Gly	Val	Ala	Asn	Arg 525	Gly	Asn	Gly
Thr	Ala 530	His	Lys	Tyr	Phe	Ala 535	Ser	Ala	Pro	Tyr	Lys 540	Ile	Ala	Ala	Lys
Ser 545	Gly	Thr	Ala	Gln	Val 550	Phe	Gly	Leu	Lys	Ala 555	Asn	Glu	Thr	Tyr	Asn 560
Ala	His	Arg	Ile	Ser 565	Glu	Arg	Leu	Arg	Asp 570	His	Lys	Leu	Met	Thr 575	Ala
Phe	Ala	Pro	Tyr 580	Asn	Asn	Pro	Gln	Val 585	Ala	Val	Ala	Met	Ile 590	Leu	Glu
Asn	Gly	Gly	Ala	Gly	Pro	Ala	Val	Gly	Thr	Ile	Met	Arg	Gln	Ile	Leu

595

600

605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
 610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
 625 630

<210> 736

<211> 633

<212> PRT

<213> Klebsiella pneumoniae 1754/49

<400> 736

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
 20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
 35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
 50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
 65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205

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Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 737
<211> 633
<212> PRT
<213> Klebsiella pneumoniae 1702/49
<400> 737

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
1 5 10 15

Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110
 Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125
 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140
 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365

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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525
 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540
 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560
 Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575
 Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
 580 585 590
 Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
 595 600 605
 Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
 610 615 620
 Pro Ala Val Thr Ala Gly Glu Asp Gln
 625 630

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<210> 738

<211> 633

<212> PRT

<213> Klebsiella pneumoniae i202/94

<400> 738

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
1 5 10 15

Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln His Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Glu Ile Ala Gly Phe Lys Lys Glu Arg Ala Pro Ser His Ala
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Val
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys His Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Asp Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

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Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 300
 Asp Tyr Ser Gly Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ala Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ala Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Phe Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525

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Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 739
<211> 633
<212> PRT
<213> Klebsiella pneumoniae 1996/49

<400> 739

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
1 5 10 15

Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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140

130

135

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

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Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 740

<211> 633

<212> PRT

<213> Klebsiella pneumoniae 1680/49

<400> 740

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
1 5 10 15

Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
 20 25 30
 Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
 35 40 45
 Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
 50 55 60
 Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
 65 70 75 80
 Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95
 Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110
 Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125
 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140
 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
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300

290

295

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

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Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 741
<211> 633
<212> PRT
<213> Klebsiella pneumoniae 2002/49
<400> 741

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460 465 470 475 480 485 490 495

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460

450

455

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 742

<211> 633

<212> PRT

<213> Klebsiella pneumoniae 6613

<400> 742

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

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Pro 65 Pro Ser Arg Gly 70 Ile 70 Ile Tyr Asp Arg Asn 75 Gly Thr Pro Leu Ala 80
 Leu Asn Arg Thr 85 Ile 85 Tyr Gln Leu Glu 90 Met 90 Met Pro Glu Lys Val 95 Asp
 Asn Val Gln 100 Gln 100 Thr Leu Asp Ala 105 Leu Arg Asp Val Val 110 Asp Leu Thr
 Asp Asp 115 Asp 115 Ile Ala Gly Phe 120 Lys 120 Lys Glu Arg Ala 125 Arg Ser His Arg
 Phe Thr 130 Ser Ile Pro Val 135 Lys 135 Val Asn Leu Ser Glu 140 Val Gln Val Ala
 Arg Phe 145 Ala Val Asn 150 Gln 150 Tyr Arg Phe Pro Gly 155 Val Glu Val Lys Gly 160
 Tyr Lys Arg Arg 165 Tyr 165 Tyr Pro Tyr Asn 170 Ser 170 Ala Leu Thr His Val 175 Ile
 Gly Tyr Val 180 Ser 180 Lys Ile Asn Asp 185 Lys 185 Asp Val Asp Arg Leu 190 Asp Lys
 Glu Gly 195 Lys 195 Leu Ala Asn Tyr 200 Ala 200 Ser Thr His Asp 205 Ile Gly Lys Leu
 Gly Ile 210 Glu Arg Tyr Tyr 215 Glu 215 Asp Val Leu His Gly 220 Gln Thr Gly Tyr
 Glu 225 Glu Val Glu Val 230 Asn 230 Asn Arg Gly Arg Val 235 Ile Arg Gln Leu Lys 240
 Glu Val Pro Pro 245 Gln 245 Ala Gly Arg Asp 250 Ile 250 Tyr Leu Thr Leu Asp 255 Leu
 Lys Leu Gln 260 Gln 260 Tyr Ile Glu Thr 265 Leu 265 Leu Ala Gly Ser Arg 270 Ala Ala
 Val Val 275 Val 275 Thr Asp Pro Arg 280 Thr 280 Gly Ala Ile Leu 285 Ala Leu Val Ser
 Thr Pro 290 Ser Tyr Asp Pro 295 Asn 295 Leu Phe Val Asp 300 Gly 300 Ile Ser Ser Lys
 Asp Tyr 305 Ser Ala Leu 310 Leu 310 Asn Asp Pro Asn 315 Thr 315 Pro Leu Val Asn Arg 320
 Ala Thr Gln Gly 325 Val 325 Tyr Pro Pro Ala 330 Ser 330 Thr Val Lys Pro Tyr Val 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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610

615

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 743

<211> 633

<212> PRT

<213> Klebsiella pneumoniae 5758

<400> 743

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

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Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

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<211> 633
<212> PRT
<213> Klebsiella pneumoniae 5725y

<400> 744

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
1 5 10 15

Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125
 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140
 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380

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Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Ser His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Phe Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Phe Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525
 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540
 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560
 Ala His Arg Ile Ala Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575
 Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Ile Ile Leu Glu
 580 585 590
 Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
 595 600 605
 Asp His Ile Met Leu Gly Asp Asn Asn Thr Asn Leu Pro Ser Glu Asn
 610 615 620
 Pro Ala Val Thr Ala Gly Glu Asp Gln
 625 630

<210> 745
 <211> 633
 <212> PRT
 <213> Klebsiella pneumoniae 7824

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<400> 745

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

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Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 746
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<212> PRT
<213> Klebsiella pneumoniae 6258
<400> 746

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
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				eolf-seql.app													
145				150				155				160					
Tyr	Lys	Arg	Arg	Tyr ₁₆₅	Tyr	Pro	Tyr	Asn	Ser ₁₇₀	Ala	Leu	Thr	His	Val ₁₇₅	Ile		
Gly	Tyr	Val	Ser ₁₈₀	Lys	Ile	Asn	Asp	Lys ₁₈₅	Asp	Val	Asp	Arg	Leu ₁₉₀	Asp	Lys		
Glu	Gly	Lys ₁₉₅	Leu	Ala	Asn	Tyr	Ala ₂₀₀	Ser	Thr	His	Asp	Ile ₂₀₅	Gly	Lys	Leu		
Gly	Ile ₂₁₀	Glu	Arg	Tyr	Tyr	Glu ₂₁₅	Asp	Val	Leu	His	Gly ₂₂₀	Gln	Thr	Gly	Tyr		
Glu ₂₂₅	Glu	Val	Glu	Val	Asn ₂₃₀	Asn	Arg	Gly	Arg	Val ₂₃₅	Ile	Arg	Gln	Leu	Lys ₂₄₀		
Glu	Val	Pro	Pro	Gln ₂₄₅	Ala	Gly	Arg	Asp	Ile ₂₅₀	Tyr	Leu	Thr	Leu	Asp ₂₅₅	Leu		
Lys	Leu	Gln	Gln ₂₆₀	Tyr	Ile	Glu	Thr	Leu ₂₆₅	Leu	Ala	Gly	Ser	Arg ₂₇₀	Ala	Ala		
Val	Val	Val ₂₇₅	Thr	Asp	Pro	Arg	Thr ₂₈₀	Gly	Ala	Ile	Leu	Ala ₂₈₅	Leu	Val	Ser		
Thr	Pro ₂₉₀	Ser	Tyr	Asp	Pro	Asn ₂₉₅	Leu	Phe	Val	Asp	Gly ₃₀₀	Ile	Ser	Ser	Lys		
Asp ₃₀₅	Tyr	Ser	Ala	Leu	Leu ₃₁₀	Asn	Asp	Pro	Asn	Thr ₃₁₅	Pro	Leu	Val	Asn	Arg ₃₂₀		
Ala	Thr	Gln	Gly	Val ₃₂₅	Tyr	Pro	Pro	Ala	Ser ₃₃₀	Thr	Val	Lys	Pro	Tyr ₃₃₅	Val		
Ala	Val	Ser	Ala ₃₄₀	Leu	Ser	Ala	Gly	Val ₃₄₅	Ile	Thr	Arg	Asn	Thr ₃₅₀	Ser	Leu		
Phe	Asp	Pro ₃₅₅	Gly	Trp	Trp	Gln	Leu ₃₆₀	Pro	Gly	Ser	Glu	Lys ₃₆₅	Arg	Tyr	Arg		
Asp	Trp ₃₇₀	Lys	Lys	Trp	Gly	His ₃₇₅	Gly	His	Leu	Asn	Val ₃₈₀	Thr	Lys	Ala	Leu		
Glu ₃₈₅	Glu	Ser	Ala	Asp	Thr ₃₉₀	Tyr	Phe	Tyr	Gln	Val ₃₉₅	Ala	Tyr	Asp	Met	Gly ₄₀₀		
Ile	Asp	Arg	Leu	Ser ₄₀₅	Glu	Trp	Met	Ser	Lys ₄₁₀	Phe	Gly	Tyr	Gly	His ₄₁₅	Tyr		
Thr	Gly	Ile	Asp ₄₂₀	Leu	Ser	Glu	Glu	Arg ₄₂₅	Ser	Gly	Asn	Met	Pro ₄₃₀	Thr	Arg		

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Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

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<212> PRT
<213> Klebsiella pneumoniae 6168

<400> 747

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg

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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 748
<211> 633
<212> PRT
<213> Klebsiella pneumoniae i256/94

<400> 748

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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
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Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
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Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
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Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
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Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
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465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
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Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
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Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
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Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
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Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
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Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
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Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
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Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
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Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
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Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
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Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
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Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
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485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
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515 520 525

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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
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Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
 65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
 85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
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Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240

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 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
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 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
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 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
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 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
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 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
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 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
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 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
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 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
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 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
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 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
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 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
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 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400

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Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
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Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
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Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile	50	55	60
Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala	65	70	75
Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp	85	90	95
Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr	100	105	110
Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg	115	120	125
Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala	130	135	140
Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly	145	150	155
Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile	165	170	175
Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys	180	185	190
Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu	195	200	205
Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr	210	215	220
Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys	225	230	235
Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu	245	250	255
Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala	260	265	270
Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser	275	280	285

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Asp	Trp	Lys	Lys	Trp	Gly	His	Gly	His	Leu	Asn	Val	Thr	Lys	Ala	Leu
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Ile	Asp	Arg	Leu	Ser	Glu	Trp	Met	Ser	Lys	Phe	Gly	Tyr	Gly	His	Tyr
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Thr	Gly	Ile	Asp	Leu	Ser	Glu	Glu	Arg	Ser	Gly	Asn	Met	Pro	Thr	Arg
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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
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170

165

175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
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Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
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Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
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Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
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Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
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Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
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Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
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Asp Tyr Ser Gly Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
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Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
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Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Val Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Arg Lys
290 295 300

Asp Tyr Ser Gly Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
Page 1000

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325

330

335

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Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Asp Lys Arg Tyr Arg
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Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
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Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
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Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Phe Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

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Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

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<212> PRT
<213> Klebsiella pneumoniae 3985/51

<400> 755

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
Page 1003

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490

485

495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 756
<211> 633
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<213> Klebsiella pneumoniae i221/94

<400> 756

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
 100 105 110
 Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
 115 120 125
 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
 130 135 140
 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
 195 200 205
 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365

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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
 580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
 595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
 610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
 625 630

<210> 757

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<211> 633

<212> PRT

<213> Klebsiella pneumoniae 4463/52

<400> 757

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

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Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Gly Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ala Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ala Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Phe Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 758
<211> 633
<212> PRT
<213> Klebsiella pneumoniae 5710/52

<400> 758

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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
20 25 30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

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Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

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Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

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<212> PRT
<213> Klebsiella pneumoniae 5711/52

<400> 759

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Phe Val Arg Arg Ala Leu Val Ala Phe Leu Gly Ile Leu Leu Leu Thr
Page 1011

20

25

30

Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

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Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
 340 345 350
 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
 355 360 365
 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
 370 375 380
 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
 385 390 395 400
 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430
 Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
 435 440 445
 Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
 450 455 460
 Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
 465 470 475 480
 Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
 485 490 495
 Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
 500 505 510
 Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
 515 520 525
 Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
 530 535 540
 Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
 545 550 555 560
 Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
 565 570 575

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Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 760

<211> 633

<212> PRT

<213> Klebsiella pneumoniae 5845/52

<400> 760

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
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180

185

190

Glu Gly Lys₁₉₅ Leu Ala Asn Tyr Ala₂₀₀ Ser Thr His Asp Ile₂₀₅ Gly Lys Leu

Gly Ile₂₁₀ Glu Arg Tyr Tyr Glu₂₁₅ Asp Val Leu His Gly₂₂₀ Gln Thr Gly Tyr

Glu₂₂₅ Glu Val Glu Val Asn₂₃₀ Asn Arg Gly Arg Val₂₃₅ Ile Arg Gln Leu Lys₂₄₀

Glu Val Pro Pro Gln₂₄₅ Ala Gly Arg Asp Ile₂₅₀ Tyr Leu Thr Leu Asp₂₅₅ Leu

Lys Leu Gln₂₆₀ Gln Tyr Ile Glu Thr Leu₂₆₅ Leu Ala Gly Ser Arg₂₇₀ Ala Ala

Val Val Val₂₇₅ Thr Asp Pro Arg Thr₂₈₀ Gly Ala Ile Leu Ala₂₈₅ Leu Val Ser

Thr Pro₂₉₀ Ser Tyr Asp Pro Asn₂₉₅ Leu Phe Val Asp Gly₃₀₀ Ile Ser Ser Lys

Asp Tyr Ser Ala Leu Leu₃₁₀ Asn Asp Pro Asn Thr₃₁₅ Pro Leu Val Asn Arg₃₂₀

Ala Thr Gln Gly Val₃₂₅ Tyr Pro Pro Ala Ser₃₃₀ Thr Val Lys Pro Tyr Val₃₃₅

Ala Val Ser Ala₃₄₀ Leu Ser Ala Gly Val₃₄₅ Ile Thr Arg Asn Thr₃₅₀ Ser Leu

Phe Asp Pro₃₅₅ Gly Trp Trp Gln Leu₃₆₀ Pro Gly Ser Glu Lys₃₆₅ Arg Tyr Arg

Asp Trp₃₇₀ Lys Lys Trp Gly His₃₇₅ Gly His Leu Asn Val₃₈₀ Thr Lys Ala Leu

Glu₃₈₅ Glu Ser Ala Asp Thr₃₉₀ Tyr Phe Tyr Gln Val₃₉₅ Ala Tyr Asp Met Gly₄₀₀

Ile Asp Arg Leu Ser₄₀₅ Glu Trp Met Ser Lys₄₁₀ Phe Gly Tyr Gly His₄₁₅ Tyr

Thr Gly Ile Asp₄₂₀ Leu Ser Glu Glu Arg₄₂₅ Ser Gly Asn Met Pro₄₃₀ Thr Arg

Glu Trp Lys₄₃₅ Leu Lys Arg Phe Lys₄₄₀ Lys Pro Trp Tyr Gln₄₄₅ Gly Asp Thr

Ile Pro₄₅₀ Val Gly Ile Gly Gln₄₅₅ Gly Tyr Trp Thr Ala₄₆₀ Thr Pro Ile Gln

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Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
595 600 605

Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
610 615 620

Pro Ala Val Thr Ala Gly Glu Asp Gln
625 630

<210> 761
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<212> PRT
<213> Klebsiella pneumoniae NCTC8172

<400> 761

Met Lys Leu Gln Asn Ser Phe Arg Asp Tyr Thr Ala Glu Ser Ser Leu
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
35 40 45

Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
50 55 60

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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
65 70 75 80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
85 90 95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
100 105 110

Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
115 120 125

Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
130 135 140

Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu

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340

345

350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
355 360 365

Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Ile Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
530 535 540

Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
145 150 155 160

Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
165 170 175

Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
180 185 190

Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
195 200 205

Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
210 215 220

Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
225 230 235 240

Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
245 250 255

Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
260 265 270

Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
275 280 285

Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
290 295 300

Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
305 310 315 320

Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
325 330 335

Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
340 345 350

Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
370 375 380

Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
385 390 395 400

Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
405 410 415

Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
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Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
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Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
Page 1020

500

505

510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
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Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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 Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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 Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
 145 150 155 160
 Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
 165 170 175
 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
 180 185 190
 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
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 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
 210 215 220
 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
 245 250 255
 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
 260 265 270
 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
 275 280 285
 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
 290 295 300
 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
 305 310 315 320
 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
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 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
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Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
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Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
420 425 430

Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
435 440 445

Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
450 455 460

Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
465 470 475 480

Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
485 490 495

Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
500 505 510

Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
515 520 525

Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
545 550 555 560

Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
565 570 575

Phe Ala Pro Tyr Asn Asn Pro Gln Val Ala Val Ala Met Ile Leu Glu
580 585 590

Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp His Ile Met Leu Gly Asp Asn Asn Thr Thr Leu Pro Ser Glu Asn
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Gly Val Leu Ile Ala Asn Leu Tyr Asn Val Gln Ile Val Arg Phe Asp
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
      65      70      75      80

Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
      85      90      95

Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
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Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
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Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
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Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
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Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
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Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
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Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
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Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
      260      265      270

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Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
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Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
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Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
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Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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Glu Glu Ser Ala Gly Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
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Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
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Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
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Glu Trp Lys Leu Lys Arg Phe Lys Lys Pro Trp Tyr Gln Gly Asp Thr
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Ile Pro Val Gly Ile Gly Gln Gly Tyr Trp Thr Ala Thr Pro Ile Gln
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Met Asn Lys Ala Leu Met Ile Leu Ile Asn Asp Gly Val Val Lys Val
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Pro His Leu Leu Gln Ser Thr Val Glu Asp Gly Lys Pro Val Pro Trp
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Val Gln Pro His Glu Pro Pro Val Gly Asp Ile His Ser Gly Tyr Trp
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Glu Ile Ala Lys Asp Gly Met Tyr Gly Val Ala Asn Arg Gly Asn Gly
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Thr Ala His Lys Tyr Phe Ala Ser Ala Pro Tyr Lys Ile Ala Ala Lys
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Ser Gly Thr Ala Gln Val Phe Gly Leu Lys Ala Asn Glu Thr Tyr Asn
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Ala His Arg Ile Ser Glu Arg Leu Arg Asp His Lys Leu Met Thr Ala
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Asn Gly Gly Ala Gly Pro Ala Val Gly Thr Ile Met Arg Gln Ile Leu
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Asp Tyr Gln Thr Arg Ser Asn Glu Asn Arg Ile Lys Leu Val Pro Ile
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Pro Pro Ser Arg Gly Ile Ile Tyr Asp Arg Asn Gly Thr Pro Leu Ala
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Leu Asn Arg Thr Ile Tyr Gln Leu Glu Met Met Pro Glu Lys Val Asp
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Asn Val Gln Gln Thr Leu Asp Ala Leu Arg Asp Val Val Asp Leu Thr
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Asp Asp Asp Ile Ala Gly Phe Lys Lys Glu Arg Ala Arg Ser His Arg
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Phe Thr Ser Ile Pro Val Lys Val Asn Leu Ser Glu Val Gln Val Ala
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Arg Phe Ala Val Asn Gln Tyr Arg Phe Pro Gly Val Glu Val Lys Gly
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Tyr Lys Arg Arg Tyr Tyr Pro Tyr Asn Ser Ala Leu Thr His Val Ile
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 Gly Tyr Val Ser Lys Ile Asn Asp Lys Asp Val Asp Arg Leu Asp Lys
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 Glu Gly Lys Leu Ala Asn Tyr Ala Ser Thr His Asp Ile Gly Lys Leu
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 Gly Ile Glu Arg Tyr Tyr Glu Asp Val Leu His Gly Gln Thr Gly Tyr
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 Glu Glu Val Glu Val Asn Asn Arg Gly Arg Val Ile Arg Gln Leu Lys
 225 230 235 240
 Glu Val Pro Pro Gln Ala Gly Arg Asp Ile Tyr Leu Thr Leu Asp Leu
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 Lys Leu Gln Gln Tyr Ile Glu Thr Leu Leu Ala Gly Ser Arg Ala Ala
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 Val Val Val Thr Asp Pro Arg Thr Gly Ala Ile Leu Ala Leu Val Ser
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 Thr Pro Ser Tyr Asp Pro Asn Leu Phe Val Asp Gly Ile Ser Ser Lys
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 Asp Tyr Ser Ala Leu Leu Asn Asp Pro Asn Thr Pro Leu Val Asn Arg
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 Ala Thr Gln Gly Val Tyr Pro Pro Ala Ser Thr Val Lys Pro Tyr Val
 325 330 335
 Ala Val Ser Ala Leu Ser Ala Gly Val Ile Thr Arg Asn Thr Ser Leu
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 Phe Asp Pro Gly Trp Trp Gln Leu Pro Gly Ser Glu Lys Arg Tyr Arg
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 Asp Trp Lys Lys Trp Gly His Gly His Leu Asn Val Thr Lys Ala Leu
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 Glu Glu Ser Ala Asp Thr Tyr Phe Tyr Gln Val Ala Tyr Asp Met Gly
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 Ile Asp Arg Leu Ser Glu Trp Met Ser Lys Phe Gly Tyr Gly His Tyr
 405 410 415
 Thr Gly Ile Asp Leu Ser Glu Glu Arg Ser Gly Asn Met Pro Thr Arg
 420 425 430

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Glu Trp Lys₄₃₅ Leu Lys Arg Phe Lys₄₄₀ Lys Pro Trp Tyr Gln₄₄₅ Gly Asp Thr
 Ile Pro Val₄₅₀ Gly Ile Gly Gln₄₅₅ Gly Tyr Trp Thr Ala₄₆₀ Thr Pro Ile Gln
 Met₄₆₅ Asn Lys Ala Leu Met₄₇₀ Ile Leu Ile Asn Asp₄₇₅ Gly Val Val Lys Val₄₈₀
 Pro His Leu Leu Gln₄₈₅ Ser Thr Val Glu Asp₄₉₀ Gly Lys Pro Val Pro₄₉₅ Trp
 Val Gln Pro His₅₀₀ Glu Pro Pro Val Gly₅₀₅ Asp Ile His Ser Gly₅₁₀ Tyr Trp
 Glu Ile Ala₅₁₅ Lys Asp Gly Met Tyr₅₂₀ Gly Val Ala Asn Arg₅₂₅ Gly Asn Gly
 Thr Ala₅₃₀ His Lys Tyr Phe Ala₅₃₅ Ser Ala Pro Tyr Lys₅₄₀ Ile Ala Ala Lys
 Ser₅₄₅ Gly Thr Ala Gln Val₅₅₀ Phe Gly Leu Lys Ala₅₅₅ Asn Glu Thr Tyr Asn₅₆₀
 Ala His Arg Ile Ser₅₆₅ Glu Arg Leu Arg Asp₅₇₀ His Lys Leu Met Thr₅₇₅ Ala
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 Pro₆₂₅ Ala Val Thr Ala Gly₆₃₀ Glu Asp Gln