

SEQUENCE LISTING

<110> TECHNION RESEARCH & DEVELOPMENT FOUNDATION LIMITED

<120> MODIFIED CXCL10 FOR IMMUNOTHERAPY OF CANCER DISEASES

<130> TECH/017-PCT

<150> 63/041,936

<151> 2020-06-21

<150> 63/150,622

<151> 2021-02-18

<160> 47

<170> PatentIn version 3.5

<210> 1

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<220>

<221> misc_feature

<222> (22)..(22)

<223> Xaa can be any naturally occurring amino acid

<400> 1

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1				5				10				15			

Ser	Gly	Ile	Gln	Gly	Xaa	Val	Pro	Leu	Ser	Arg	Thr	Val	Arg	Cys	Thr
		20					25					30			

Cys	Ile	Ser	Ile	Ser	Asn	Gln	Pro	Val	Asn	Pro	Arg	Ser	Leu	Glu	Lys
		35				40					45				

Leu	Glu	Ile	Ile	Pro	Ala	Ser	Gln	Phe	Cys	Pro	Arg	Val	Glu	Ile	Ile
	50					55				60					

Ala Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys
85 90 95

Arg Ser Pro

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Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
1 5 10 15

Ser Gly Ile Gln Gly Gln Val Pro Leu Ser Arg Thr Val Arg Cys Thr
20 25 30

Cys Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys
35 40 45

Leu Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile
50 55 60

Ala Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys
85 90 95

Arg Ser Pro

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<400> 3

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1 5 10 15

Ser Gly Ile Gln Gly Asn Val Pro Leu Ser Arg Thr Val Arg Cys Thr
20 25 30

Cys Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys
35 40 45

Leu Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile
50 55 60

Ala Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys
85 90 95

Arg Ser Pro

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Ser Gly Ile Gln Gly Pro Val Pro Leu Ser Arg Thr Val Arg Cys Thr
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Cys Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys
35 40 45

Leu Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile
50 55 60

Ala Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys
85 90 95

Arg Ser Pro

<210> 5
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<400> 5

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10 15

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
35 40 45

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
50 55 60

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

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
85 90 95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
100 105 110

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
115 120 125

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
130 135 140

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
180 185 190

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
210 215 220

Ser Leu Ser Leu Ser Pro Gly Lys
225 230

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<212> DNA

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15

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<212> DNA

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<223> Synthetic Sequence

<400> 7

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5

<210> 8

<211> 98

<212> PRT

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<223> Synthetic Sequence

<400> 8

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Ser Gly Ile Gln Gly Val Pro Leu Ser Arg Thr Val Arg Cys Thr Cys
20 25 30

Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys Arg
85 90 95

Ser Pro

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<211> 294
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<220>
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aatccaaggt ctttagaaaa acttgaaatt attcctgcaa gccaattttg tccacgtgtt 180
gagatcattg ctacaatgaa aaagaagggt gagaagagat gtctgaatcc agaatcgaag 240
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<211> 297
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

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gttaatccaa ggtcttttaga aaaacttgaa attattcctg caagccaatt ttgtccacgt 180
gttgagatca ttgctacaat gaaaaagaag ggtgagaaga gatgtctgaa tccagaatcg 240
aaggccatca agaatttact gaaagcagtt agcaaggaaa ggtctaaaag atctcct 297

<210> 11
<211> 297

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

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ggaaacgtac ctctctctag aactgtacgc tgtacctgca tcagcattag taatcaacct 120
gttaatccaa ggtcttttaga aaaacttgaa attattcctg caagccaatt ttgtccacgt 180
gttgagatca ttgctacaat gaaaaagaag ggtgagaaga gatgtctgaa tccagaatcg 240
aaggccatca agaatttact gaaagcagtt agcaaggaaa ggtctaaaag atctcct 297

<210> 12
<211> 297
<212> DNA
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<220>
<223> Synthetic Sequence

<400> 12
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ggaccgtac ctctctctag aactgtacgc tgtacctgca tcagcattag taatcaacct 120
gttaatccaa ggtcttttaga aaaacttgaa attattcctg caagccaatt ttgtccacgt 180
gttgagatca ttgctacaat gaaaaagaag ggtgagaaga gatgtctgaa tccagaatcg 240
aaggccatca agaatttact gaaagcagtt agcaaggaaa ggtctaaaag atctcct 297

<210> 13
<211> 696
<212> DNA
<213> Artificial Sequence

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<400> 13
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accctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagttc 180
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tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat 300
ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagcccccat cgagaaaacc 360
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gaggagatga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatcccagc 480
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cccgtgctgg actccgacgg ctcttcttc ctctatagca agctcaccgt ggacaagagc 600
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<210> 14
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<223> Synthetic Sequence

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Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
1           5           10          15

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Ser Gly Ile Gln Gly Val Pro Leu Ser Lys Thr Val Arg Cys Thr Cys
          20          25          30

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Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys Leu
35          40          45

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```

Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile Ala
50          55          60

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```

Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser Lys
65          70          75          80

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Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys Arg
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Ser Pro

<210> 15
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 15

Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
1 5 10 15

Ser Gly Ile Gln Gly Val Pro Leu Ser His Thr Val Arg Cys Thr Cys
20 25 30

Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys Arg
85 90 95

Ser Pro

<210> 16
<211> 294

<212> DNA
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<220>
<223> Synthetic Sequence

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ggagtacctc tctctcacac tgtacgctgt acctgcatca gcattagtaa tcaacctgtt 120
aatccaaggt ctttagaaaa acttgaaatt attcctgcaa gccaattttg tccacgtgtt 180
gagatcattg ctacaatgaa aaagaagggt gagaagagat gtctgaatcc agaatcgaag 240
gccatcaaga atttactgaa agcagtttagc aaggaaagggt ctaaaagatc tcct 294

<210> 17
<211> 294
<212> DNA
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<220>
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aatccaaggt ctttagaaaa acttgaaatt attcctgcaa gccaattttg tccacgtgtt 180
gagatcattg ctacaatgaa aaagaagggt gagaagagat gtctgaatcc agaatcgaag 240
gccatcaaga atttactgaa agcagtttagc aaggaaagggt ctaaaagatc tcct 294

<210> 18
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 18

Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
1 5 10 15

Ser Gly Ile Gln Gly Val Pro Leu Ser Arg Thr Val Arg Cys Thr Cys
20 25 30

Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys Arg
85 90 95

Ser Pro Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser

<210> 19
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 19
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ggagtacctc tctctagaac tgtacgctgt acctgcatca gcattagtaa tcaacctgtt 120
aatccaaggt ctttagaaaa acttgaaaatt attcctgcaa gccaatTTtg tccacgtgtt 180
gagatcattg ctacaatgaa aaagaagggt gagaagagat gtctgaatcc agaatcgaag 240
gccatcaaga atttactgaa agcagttagc aaggaaagggt ctaaaagatc tcctggcgga 300
ggtggctctg gcggtggcgg atcgggcgga ggtggctct 339

<210> 20
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 20

Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15

Ser Gly Thr Gln Gly Ile Pro Leu Ala Arg Thr Val Arg Cys Asn Cys
20 25 30

Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys Arg
85 90 95

Ala Pro

<210> 21
<211> 227
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 21

Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
165 170 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
180 185 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
195 200 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
210 215 220

Pro Gly Lys
225

<210> 22
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 22

Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15

Ser Gly Thr Gln Gly Ile Pro Leu Ala His Thr Val Arg Cys Asn Cys
20 25 30

Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys Arg
85 90 95

Ala Pro

<210> 23
<211> 98

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 23

Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15

Ser Gly Thr Gln Gly Ile Pro Leu Ala Lys Thr Val Arg Cys Asn Cys
20 25 30

Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys Arg
85 90 95

Ala Pro

<210> 24
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 24

Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15

Ser Gly Thr Gln Gly Gln Ile Pro Leu Ala Arg Thr Val Arg Cys Asn
20 25 30

Cys Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys
35 40 45

Leu Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile
50 55 60

Ala Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys
85 90 95

Arg Ala Pro

<210> 25
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 25

Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15

Ser Gly Thr Gln Gly Ile Pro Leu Ala Arg Thr Val Arg Cys Asn Cys
20 25 30

Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys Arg
85 90 95

Ala Pro Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser

<210> 26
<211> 339
<212> DNA
<213> Artificial Sequence

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agaatgaggg ccatagggaa gcttgaaatc atccctgcga gcctatcctg cccacgtgtt 180
gagatcattg ccacgatgaa aaagaatgat gagcagagat gtctgaatcc ggaatctaag 240
accatcaaga atttaatgaa agcgtttagc caaaaaaggt ctaaaagggc tcctggcgga 300
ggtggctctg gcggtggcgg atcgggcgga ggtggctct 339

<210> 27
<211> 298
<212> DNA
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gtgagaatga gggccatagg gaagcttgaa atcatccctg cgagcctatc ctgcccacgt 180
gttgagatca ttgccacgat gaaaaagaat gatgagcaga gatgtctgaa tccggaatct 240
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<210> 28
<211> 326
<212> PRT
<213> Artificial Sequence

<220>
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<400> 28

Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
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Ser Gly Ile Gln Gly Gln Val Pro Leu Ser Arg Thr Val Arg Cys Thr
20 25 30

Cys Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys
35 40 45

Leu Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile
50 55 60

Ala Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys
85 90 95

Arg Ser Pro Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr
100 105 110

Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp
115 120 125

Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp
130 135 140

Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp
145 150 155 160

Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn
165 170 175

Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys
180 185 190

Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro
195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala
210 215 220

Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp
225 230 235 240

Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile
245 250 255

Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn
260 265 270

Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys
275 280 285

Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys
290 295 300

Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu
305 310 315 320

Ser His Ser Pro Gly Lys
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<220>
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gttaatccaa ggtcttttaga aaaacttgaa attattcctg caagccaatt ttgtccacgt 180
gttgagatca ttgtacaat gaaaaagaag ggtgagaaga gatgtctgaa tccagaatcg 240
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cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc 360
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gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt ttagatgat 480
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agggtcaaca gtgcagcttt ccctgcccc atcgagaaaa ccatctccaa aaccaaaggc 660
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat 720
aaagtcagtc tgacctgcat gataacagac ttcttcctg aagacattac tgtggagtgg 780
cagtggaatg ggagccagc ggagaactac aagaacactc agcccatcat ggacacagat 840
ggctcttact tcgtctacag caagctcaat gtgcagaaga gcaactggga ggagggaaat 900
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<210> 30
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<400> 30

Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
1 5 10 15

Ser Gly Ile Gln Gly Asn Val Pro Leu Ser Arg Thr Val Arg Cys Thr
20 25 30

Cys Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys
35 40 45

Leu Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile
50 55 60

Ala Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys
85 90 95

Arg Ser Pro Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr
100 105 110

Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp
115 120 125

Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp
130 135 140

Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp
145 150 155 160

Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn
165 170 175

Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys
180 185 190

Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro
195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala
210 215 220

Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp
225 230 235 240

Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile
245 250 255

Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn
260 265 270

Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys
275 280 285

Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys
290 295 300

Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu
305 310 315 320

Ser His Ser Pro Gly Lys
325

<210> 31
<211> 978
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 31
atgaatcaaa ctgccattct gatttgctgc cttatctttc tgactctaag tggcattcaa

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ggaaatgtac ctctctctag aactgtacgc tgtacctgca tcagcattag taatcaacct 120
gttaatccaa ggtctttaga aaaacttgaa attattcctg caagccaatt ttgtccacgt 180
gttgagatca ttgctacaat gaaaaagaag ggtgagaaga gatgtctgaa tccagaatcg 240
aaggccatca agaatttact gaaagcagtt agcaaggaaa ggtctaaaag atctcctgtg 300
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc 360
atcttcccc caaagcccaa ggatgtgctc accattactc tgactcctaa ggtcacgtgt 420
gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt ttagatgat 480
gtggaggtgc acacagctca gacgcaaccc cgggaggagc agttcaacag cactttccgc 540
tcagtcagtg aacttcccc catgcaccag gactgcctca atggcaagga gttcaaatgc 600
agggtcaaca gtgcagcttt ccctgcccc atcgagaaaa ccatctccaa aaccaaaggc 660
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat 720
aaagtcagtc tgacctgcat gataacagac ttcttccctg aagacattac tgtggagtgg 780
cagtggaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat 840
ggctcttact tcgtctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat 900
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc 960
tcccactctc ctggtaaa 978

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<210> 32
 <211> 340
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 32

Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
1 5 10 15

Ser Gly Ile Gln Gly Val Pro Leu Ser Arg Thr Val Arg Cys Thr Cys
20 25 30

Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys Arg
85 90 95

Ser Pro Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
115 120 125

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
130 135 140

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
145 150 155 160

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
165 170 175

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
180 185 190

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys Leu Asn
195 200 205

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
210 215 220

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
225 230 235 240

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
245 250 255

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
260 265 270

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
275 280 285

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn
290 295 300

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
305 310 315 320

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
325 330 335

Ser Pro Gly Lys
340

<210> 33
<211> 1020
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 33
atgaatcaaa ctgccattct gatttgctgc cttatctttc tgactctaag tggcattcaa 60
ggagtacctc tctctagaac tgtacgctgt acctgcatca gcattagtaa tcaacctgtt 120
aatccaaggt ctttagaaaa acttgaaatt attcctgcaa gccaattttg tccacgtgtt 180
gagatcattg ctacaatgaa aaagaagggt gagaagagat gtctgaatcc agaatcgaag 240
gccatcaaga atttactgaa agcagtttagc aaggaaagggt ctaaaagatc tcctggcgga 300

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ggtaggctctg gcggtaggcgg atcgggagga gtaggctctg tgcccaggga ttgtggtgt      360
aagccttgca tatgtacagt cccagaagta tcatctgtct tcatcttccc cccaaagccc      420
aaggatgtgc tcaccattac tctgactcct aaggtcacgt gtgttggtgt agacatcagc      480
aaggatgatc ccgagggtcca gttcagctgg tttgtagatg atgtggaggt gcacacagct      540
cagacgcaac cccgggagga gcagttcaac agcactttcc gctcagtcag tgaacttccc      600
atcatgcacc aggactgcct caatggcaag gagttcaa atgcagggtcaa cagtgcagct      660
ttccctgccc ccatcgagaa aaccatctcc aaaaccaaag gcagaccgaa ggctccacag      720
gtgtacacca ttccacctcc caaggagcag atggccaagg ataaagtcag tctgacctgc      780
atgataacag acttcttccc tgaagacatt actgtggagt ggcagtgga tgggcagcca      840
gcggagaact acaagaacac tcagcccatc atggacacag atggctctta cttcgtctac      900
agcaagctca atgtgcagaa gagcaactgg gaggcaggaa atactttcac ctgctctgtg      960
ttacatgagg gcctgcacaa ccaccatact gagaagagcc tctcccactc tcctggtaaa     1020

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<210> 34
<211> 326
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 34

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Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1           5           10          15

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Ser Gly Thr Gln Gly Gln Ile Pro Leu Ala Arg Thr Val Arg Cys Asn
20          25          30

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Cys Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys
35          40          45

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Leu Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile
50          55          60

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Ala Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys
85 90 95

Arg Ala Pro Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr
100 105 110

Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp
115 120 125

Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp
130 135 140

Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp
145 150 155 160

Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn
165 170 175

Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys
180 185 190

Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro
195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala
210 215 220

Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp
225 230 235 240

Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile
245 250 255

Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn
260 265 270

Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys
275 280 285

Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys
290 295 300

Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu
305 310 315 320

Ser His Ser Pro Gly Lys
325

<210> 35
<211> 978
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 35
atgaacccaa gtgctgccgt cattttctgc ctcatcctgc tgggtctgag tgggactcaa 60
gggcaaatcc ctctcgcaag gacgggccgc tgcaactgca tccatatcga tgacggggcca 120
gtgagaatga gggccatagg gaagcttgaa atcatccctg cgagcctatc ctgcccacgt 180
gttgagatca ttgccacgat gaaaaagaat gatgagcaga gatgtctgaa tccggaatct 240
aagaccatca agaatttaat gaaagcggtt agccaaaaaa ggtctaaaag ggctcctgtg 300
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc 360
atcttcccc caaagcccaa ggatgtgctc accattactc tgactcctaa ggtcacgtgt 420
gttggtgtag acatcagcaa ggatgatccc gaggtccagt tcagctgggt ttagatgat 480
gtggaggtgc acacagctca gacgcaaccc cgggaggagc agttcaacag cactttccgc 540
tcagtcagtg aacttcccat catgcaccag gactgcctca atggcaagga gttcaaatgc 600
agggtcaaca gtgcagcttt ccctgcccc atcgagaaaa ccatctccaa aaccaaaggc 660

agaccgaagg ctccacaggt gtacaccatt ccacctccca aggagcagat ggccaaggat 720
aaagtcagtc tgacctgcat gataacagac ttcttccctg aagacattac tgtggagtgg 780
cagtggaaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat 840
ggctcttact tcgtctacag caagctcaat gtgcagaaga gcaactggga ggcaggaaat 900
actttcacct gctctgtgtt acatgagggc ctgcacaacc accataactga gaagagcctc 960
tcccactctc ctggtaaa 978

<210> 36
<211> 326
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 36

Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15

Ser Gly Thr Gln Gly Asn Ile Pro Leu Ala Arg Thr Val Arg Cys Asn
20 25 30

Cys Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys
35 40 45

Leu Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile
50 55 60

Ala Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser
65 70 75 80

Lys Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys
85 90 95

Arg Ala Pro Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr
100 105 110

Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp
115 120 125

Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp
130 135 140

Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp
145 150 155 160

Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn
165 170 175

Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys
180 185 190

Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro
195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala
210 215 220

Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp
225 230 235 240

Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile
245 250 255

Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn
260 265 270

Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys
275 280 285

Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys
290 295 300

Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu
305 310 315 320

Ser His Ser Pro Gly Lys
325

<210> 37
<211> 978
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 37
atgaacccaa gtgtgtccgt cattttctgc ctcacctgc tgggtctgag tgggactcaa 60
gggaatatcc ctctcgcaag gacgggtccgc tgcaactgca tccatatcga tgacggggcca 120
gtgagaatga gggccatagg gaagcttgaa atcatccctg cgagcctatc ctgcccacgt 180
gttgagatca ttgccacgat gaaaaagaat gatgagcaga gatgtctgaa tccggaatct 240
aagaccatca agaatttaat gaaagcgttt agccaaaaaa ggtctaaaag ggctcctgtg 300
cccagggatt gtggttgtaa gccttgcata tgtacagtcc cagaagtatc atctgtcttc 360
atcttcccc caaagcccaa ggatgtgctc accattactc tgactcctaa ggtcacgtgt 420
gttgtggtag acatcagcaa ggatgatccc gaggtccagt tcagctgggtt tgtagatgat 480
gtggagggtgc acacagctca gacgcaaccc cgggaggagc agttcaacag cactttccgc 540
tcagtcatg aacttcccat catgcaccag gactgcctca atggcaagga gttcaaatgc 600
agggtcaaca gtgcagcttt ccctgcccc atcgagaaaa ccatctccaa aaccaaaggc 660
agaccgaagg ctccacaggt gtacaccatt ccacctcca aggagcagat ggccaaggat 720
aaagtcagtc tgacctgcat gataacagac ttcttccttg aagacattac tgtggagtgg 780
cagtggaatg ggcagccagc ggagaactac aagaacactc agcccatcat ggacacagat 840
ggctcttact tcgtctacag caagctcaat gtgcagaaga gcaactggga ggagggaaat 900
actttcacct gctctgtgtt acatgagggc ctgcacaacc accatactga gaagagcctc 960
tcccactctc ctggtaaa 978

<210> 38
<211> 340
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 38

Met Asn Pro Ser Ala Ala Val Ile Phe Cys Leu Ile Leu Leu Gly Leu
1 5 10 15

Ser Gly Thr Gln Gly Ile Pro Leu Ala Arg Thr Val Arg Cys Asn Cys
20 25 30

Ile His Ile Asp Asp Gly Pro Val Arg Met Arg Ala Ile Gly Lys Leu
35 40 45

Glu Ile Ile Pro Ala Ser Leu Ser Cys Pro Arg Val Glu Ile Ile Ala
50 55 60

Thr Met Lys Lys Asn Asp Glu Gln Arg Cys Leu Asn Pro Glu Ser Lys
65 70 75 80

Thr Ile Lys Asn Leu Met Lys Ala Phe Ser Gln Lys Arg Ser Lys Arg
85 90 95

Ala Pro Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro
115 120 125

Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu
130 135 140

Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser
145 150 155 160

Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu
165 170 175

Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr
180 185 190

Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys Leu Asn
195 200 205

Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro
210 215 220

Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln
225 230 235 240

Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val
245 250 255

Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val
260 265 270

Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln
275 280 285

Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn
290 295 300

Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
305 310 315 320

Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
325 330 335

Ser Pro Gly Lys
340

<210> 39
<211> 1020
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 39
atgaacccaa gtgctgccgt cattttctgc ctcatcctgc tgggtctgag tgggactcaa 60
gggatccctc tcgcaaggac ggtccgctgc aactgcatcc atatcgatga cgggccagtg 120
agaatgaggg ccatagggaa gcttgaaatc atccctgcga gcctatcctg cccacgtgtt 180
gagatcattg ccacgatgaa aaagaatgat gagcagagat gtctgaatcc ggaatctaag 240
accatcaaga atttaatgaa agcgtttagc caaaaaaggt ctaaaagggc tcctggcgga 300
ggtggctctg gcggtgggcg atcgggcgga ggtggctctg tgcccaggga ttgtggttgt 360
aagccttgca tatgtacagt cccagaagta tcatctgtct tcatcttccc cccaaagccc 420
aaggatgtgc tcaccattac tctgactcct aaggtcacgt gtgttggtgt agacatcagc 480
aaggatgatc ccgagggtcca gttcagctgg tttgtagatg atgtggaggt gcacacagct 540
cagacgcaac cccgggagga gcagttcaac agcactttcc gctcagtcag tgaacttccc 600
atcatgcacc aggactgcct caatggcaag gaggttcaaat gcagggtcaa cagtcagct 660
ttccctgccc ccatcgagaa aaccatctcc aaaaccaaag gcagaccgaa ggctccacag 720
gtgtacacca ttccacctcc caaggagcag atggccaagg ataaagtcag tctgacctgc 780
atgataacag acttcttccc tgaagacatt actgtggagt ggcagtggaa tgggcagcca 840
gcggagaact acaagaacac tcagcccatc atggacacag atggctctta cttcgtctac 900
agcaagctca atgtgcagaa gagcaactgg gaggcaggaa atactttcac ctgctctgtg 960
ttacatgagg gcctgcacaa ccaccatact gagaagagcc tctcccactc tcctggtaaa 1020

<210> 40
<211> 227
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 40

Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Cys Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
165 170 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
180 185 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
195 200 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
210 215 220

Pro Gly Lys
225

<210> 41
<211> 681
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 41
gtgcccaggg attgtggttg taagccttgc atatgtacag tcccagaagt atcatctgtc 60
ttcatcttcc ccccaaagcc caaggatgtg ctcaccatta ctctgactcc taagggtcacg 120
tgtgttgtgg tagacatcag caaggatgat cccgagggtcc agttcagctg gttttagat 180
gatgtggagg tgcacacagc tcagacgcaa ccccgaggagg agcagttcaa cagcactttc 240
cgctcagtca gtgaacttcc catcatgcac caggactgcc tcaatggcaa ggagttcaaa 300
tgcagggtca acagtgcagc tttccctgcc cccatcgaga aaaccatctc caaaacaaa 360
ggcagaccga aggctccaca ggtgtacacc attccacctc ccaaggagca gatggccaag 420
gataaagtca gtctgacctg catgataaca gacttcttcc ctgaagacat tactgtggag 480
tggcagtgga atgggcagcc agcggagaac tacaagaaca ctgagcccat catggacaca 540
gatggctctt acttcgtcta cagcaagctc aatgtgcaga agagcaactg ggaggcagga 600
aatactttca cctgctctgt gttacatgag ggctgcaca accaccatac tgagaagagc 660
ctctcccact ctcttggtta a 681

<210> 42
<211> 26

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 42
ctcgaggtgc ccagggattg tggttg 26

<210> 43
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 43
gggcccttta ccaggagagt gggaga 26

<210> 44
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 44
gctagc 6

<210> 45
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 45
ctcgag 6

<210> 46
<211> 0
<212> DNA
<213> Artificial Sequence

<220>
<223> gctagcATGAACCCAAGTGCTGCCGTCATTTT

<400> 46
000

<210> 47
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 47
ctcgagagga gcccttttag accttttttg

30