

SEQUENCE LISTING

<110> BASF Plant Science GmbH

<120> Plants having enhanced yield-related traits and/or increased abiotic stress resistance, and a method for making the same

<130> PF58787

<160> 416

<170> PatentIn version 3.3

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<212> DNA

<213> Arabidopsis thaliana

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PF58787.ST25.txt

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PF58787.ST25.txt

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PF58787.ST25.txt

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PF58787.ST25.txt

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PF58787.ST25.txt

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Pro Phe Phe Glu Asp Ser Lys Leu Val Lys Thr Phe Thr Phe Leu Glu		
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Glu Gly Thr Thr Lys Leu Thr Ala Thr Pro Ile Lys Trp Lys Glu Gly		
145	150	155
Lys Gly Ile Pro Asn Gly Val Ile His Glu Lys Lys Gly Asn Lys Arg		
165	170	175
Ala Ala Ser Asp Ile Ser Phe Phe Thr Trp Phe Cys Asp Thr Glu Gln		
180	185	190
Lys Asp Glu Met Gly Asp Ile His Asp Glu Ile Ala Glu Met Ile Lys		
195	200	205
Asp Asp Leu Trp Pro Asn Pro Leu Asn Tyr Phe Asn Ser Glu Asp Pro		
210	215	220
Asp Glu Ala Glu Glu Glu Asp Asp Glu Ala Gly Asp Ala Gly Lys Asp		
225	230	235
Asp Asp Asp Ser Glu Asp Asp Asp Asp Gln Glu Asp Asp Asp Asp Asp		
245	250	255
Glu Glu Glu Glu		
260		

<210> 12
 <211> 907
 <212> DNA
 <213> Zea mays

<400> 12

gttcctacct	tcttccctcc	gtctcccagc	tcgcgcaggc	aggcgacaca	gcgacgctaa	60
aaaccctaga	gcgaggaggc	gtgccaggcc	agcggtttgc	gatgacggca	ccggcgggaca	120
aggggaagaa	ggccaagacc	gatgccgacg	gcggcgagga	gaacgagcaa	atcgacggcg	180
cccttgtctt	ctccatcgag	aagctccagg	agattcagga	cgagctcgag	aagggttaatg	240
aggaagcaag	tgacaagggt	atggaggtgg	agcagaaata	cagtgaagatt	cgcagacctg	300
tctatctcaa	gaggggtgac	attatcaaga	ccatcccggg	cttttggtct	acagcgtttt	360
tgagccatcc	tctactaagt	gagcttctga	ctgaagagga	tcagaagata	ttcaagtact	420
tggactccat	tgatgtcgat	gattctgatg	ttaaggcagg	atattccatt	taccttaact	480
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atggaaatgg	tattaacaag	aagggaaaca	agcggccatt	agtagtggaa	agttttttct	660
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agatcatcaa	ggaagacttg	tggcctaatc	ctttgaagta	cttcaacaat	gaggttgaag	780
atgaatttga	aggagatgaa	gaagatgatg	acgacgacga	cgacgatgat	aatttgatg	840
gtgatgacaa	tgacgatgat	ggggaccagg	agaactgagc	cctcgcgttt	aggcggggaa	900
ttatgtg						907

<210> 13
 <211> 258
 <212> PRT
 <213> Zea mays

<400> 13

Met Thr Ala Pro Ala Asp Lys Gly Lys Lys Ala Lys Thr Asp Ala Asp	
1	15
Gly Gly Glu Glu Asn Glu Gln Ile Asp Gly Ala Leu Val Phe Ser Ile	
20	30
Glu Lys Leu Gln Glu Ile Gln Asp Glu Leu Glu Lys Val Asn Glu Glu	
35	45
Ala Ser Asp Lys Val Met Glu Val Glu Gln Lys Tyr Ser Glu Ile Arg	
50	60
Arg Pro Val Tyr Leu Lys Arg Gly Asp Ile Ile Lys Thr Ile Pro Asp	
65	80

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Phe Trp Leu Thr Ala Phe Leu Ser His Pro Leu Leu Ser Glu Leu Leu
85 90 95
Thr Glu Glu Asp Gln Lys Ile Phe Lys Tyr Leu Asp Ser Ile Asp Val
100 105 110
Asp Asp Ser Asp Val Lys Ala Gly Tyr Ser Ile Tyr Leu Asn Phe Ser
115 120 125
Glu Asn Pro Tyr Phe Glu Asp Thr Lys Leu Thr Lys Thr Tyr Ser Phe
130 135 140
Val Asp Asp Gly Thr Thr Thr Ile Lys Ala Ser Gln Ile Lys Trp Lys
145 150 155 160
Asp Gly Met Gly Pro Ala Asn Gly Asn Gly Ile Asn Lys Lys Gly Asn
165 170 175
Lys Arg Pro Leu Val Val Glu Ser Phe Phe Ser Trp Phe Ser Asp Thr
180 185 190
Glu Leu Lys Ser Leu Ala Asp Gly Val Gln Asp Glu Val Ala Glu Ile
195 200 205
Ile Lys Glu Asp Leu Trp Pro Asn Pro Leu Lys Tyr Phe Asn Asn Glu
210 215 220
Val Glu Asp Glu Phe Glu Gly Asp Glu Glu Asp Asp Asp Asp Asp
225 230 235 240
Asp Asp Asp Asn Leu Asp Gly Asp Asp Asn Asp Asp Asp Gly Asp Gln
245 250 255
Glu Asn

<210> 14
<211> 780
<212> DNA
<213> Oryza sativa

<400> 14
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gtcgagcgcc cctgctgca gtccatcgag aagctccagg agatccagga cgagatcgag 120
aagggttaat aggaagcatg tgataaagtt ctggagttgg aacagaaata caacgaggtt 180
cgcagaccag tttatgttcg acggaataaa attatcaagc aaattcctga cttctggctg 240
acagcgtttc ttagccatcc tatgcttggg gaactattaa ctgaagatga tcaaaagatt 300
ttcaaact tggagtctat cgacgtggat gactcagaag atatcaaac aggctactcc 360
attactctca cattctccc caatccatat ttggaagata caaagcttac aaaaacatat 420
tccttttagtg acgatgaagc agtcaaagta aaggctacct ccatcaggtg gaagaaagga 480
atggatattg ccaatgatcg tgcgtacacg aagaaggagg acaagcgaat cttaattgat 540
gaaagtttct ttacttggtt caatagttaa aagaacagaa gttttgctca tggagctatg 600
gatgaggttg cagatgtcat caaggaagat ctgtggccta atcctttgaa gtacttcaac 660
aatgaatttg aagaagaatt agagctactg gatgacgatg acgaggtatc tgatgatgac 720
gatgaggagg aggatgatga agaccaaggt gaaggagagg aggatggaga ggagaactga 780

<210> 15
<211> 259
<212> PRT
<213> Oryza sativa

<400> 15
Met Ala Ala Ala Glu Gln Lys Gly Lys Lys Pro Arg Thr Asp Gly Ala
1 5 10 15
Glu Ala Glu Pro Val Asp Ala Ala Leu Leu Gln Ser Ile Glu Lys Leu
20 25 30
Gln Glu Ile Gln Asp Glu Ile Glu Lys Val Asn Glu Glu Ala Cys Asp
35 40 45
Lys Val Leu Glu Leu Glu Gln Lys Tyr Asn Glu Val Arg Arg Pro Val
50 55 60

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

<210> 16
<211> 1315
<212> DNA
<213> Oryza sativa

<400> 16
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gagcgagggc tctctgcttc cttgcatga cggcgccggc ggacaagggg aagaaggcca 180
agaccgacgc cgacggcggc gccgcccagg agaacgagca gatcgacggc gccctcgtcc 240
tctccatcga gaagctccag gagatccagg acgagctcga gaaggtcaat gaggaagcta 300
gtgacaagggt tttggagggtc gagcagaaat acagtgagat tcgcagacct gtctatctcc 360
gaaggagtga cgttatccaa acaatccccg acttctggct gacagcgttt ctgagtcac 420
ctctacttag tgagcttttg accgaagagg atcaaaagat gttcaagtac ctggagtctg 480
tcgacgtgga tgattctaaa gatgtcaagt caggctactc cataactctt accttctccg 540
agaaccogta ctttgaagac aaagagctca cgaagacata tgccttcgct gatgacggaa 600
caaccacaat aaatgctact agcattaagt ggaaagaagg aatggaaatt gcaaatggga 660
atgccaaaga gaaagggagc aagcgaccat tgggtgagga aagtttcttc acctggttta 720
ctgatacaga gcacaagagt cttgctgatg gtgtgcaaga tgaggtggct gagatcatca 780
aggaagacct gtggcccaat ccattgaagt atttcaataa tgaggctgaa gagttaggag 840
aggatgacga cgaagagggg tctgatgctg atgagggtga agaggatgag gaggaggaga 900
actgagtcta ggatgtcaga ttgcatgggt gccgacgctc tgcattttgt ggatgctgtc 960
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ttagctggaa cccttaggaa ctgtttaatg cttatggag tccgtcgtat tttcgactca 1080
aaggagacac ctctatatca taatctgcgt ataaccatgg aagacatttt aacctgctga 1140
tgtgtggttc attgcgctgc ctctggtgct gtagggtgtt cgttcctttg tgctctctgt 1200
cttttttttt tttttttgtg tgtgtgtggt cgcgctggca ttgttgccag tctgatgggc 1260
tgttatttct cccctagaa agagtgaana acctggcctg tgatcattgt ttacg 1315

<210> 17
<211> 252
<212> PRT

PF58787.ST25.txt

<213> Oryza sativa

<400> 17

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Met Thr Ala Pro Ala Asp Lys Gly Lys Lys Ala Lys Thr Asp Ala Asp
1      5      10      15
Gly Gly Ala Ala Glu Glu Asn Glu Gln Ile Asp Gly Ala Leu Val Leu
20     25     30
Ser Ile Glu Lys Leu Gln Glu Ile Gln Asp Glu Leu Glu Lys Val Asn
35     40     45
Glu Glu Ala Ser Asp Lys Val Leu Glu Val Glu Gln Lys Tyr Ser Glu
50     55     60
Ile Arg Arg Pro Val Tyr Leu Arg Arg Ser Asp Val Ile Gln Thr Ile
65     70     75     80
Pro Asp Phe Trp Leu Thr Ala Phe Leu Ser His Pro Leu Leu Ser Glu
85     90     95
Leu Leu Thr Glu Glu Asp Gln Lys Met Phe Lys Tyr Leu Glu Ser Val
100    105    110
Asp Val Asp Asp Ser Lys Asp Val Lys Ser Gly Tyr Ser Ile Thr Leu
115    120    125
Thr Phe Ser Glu Asn Pro Tyr Phe Glu Asp Lys Glu Leu Thr Lys Thr
130    135    140
Tyr Ala Phe Ala Asp Asp Gly Thr Thr Thr Ile Asn Ala Thr Ser Ile
145    150    155    160
Lys Trp Lys Glu Gly Met Glu Ile Ala Asn Gly Asn Ala Lys Lys Lys
165    170    175
Gly Ser Lys Arg Pro Leu Val Glu Glu Ser Phe Phe Thr Trp Phe Thr
180    185    190
Asp Thr Glu His Lys Ser Leu Ala Asp Gly Val Gln Asp Glu Val Ala
195    200    205
Glu Ile Ile Lys Glu Asp Leu Trp Pro Asn Pro Leu Lys Tyr Phe Asn
210    215    220
Asn Glu Ala Glu Glu Leu Gly Glu Asp Asp Asp Glu Glu Gly Ser Asp
225    230    235    240
Ala Asp Glu Gly Glu Glu Asp Glu Glu Glu Glu Asn
245    250

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<210> 18

<211> 958

<212> DNA

<213> Zea mays

<400> 18

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gccagcggct ttgcgatgac agcaccagcg gacaagggga agaaggccaa gactgatgcc      180
gacggcggcg aggagaacga acagatcgac ggcgtcctcg tcctctccat cgagaagctc      240
caggagatac aggacgagct cgagaaggta aatgaggaag caagtgacaa ggttatggag      300
gtggagcaga aatacagtga gatccgcaga cctgtctatc tcaagagggg tgacattatc      360
aagaccatcc cggacttttg gctcacagcg tttatgagcc atcctctatt aagtgagctt      420
ctgactgaag aggaccagaa gatattcaag tacttagact ccattgatgt ggatgattct      480
gatgttaagg caggatactc cattcatctt aacttctctg agaaccgta ctttgaggac      540
acaaagcttg caaagaccta tatctttgct gatgatggaa caaccacaat aaaagcttcc      600
gaaattaagt ggaaggaagg aatgggacct gcaaattgaa atgggtattaa caagaagggg      660
agtaagcggc cattagtaga ggaaggtttt tttagctggg ttggtgatac agagctcaag      720
agtcttgctg atggtgtgca agatgaggtg gcggagatca taaaggaaga tttgtggcct      780
aatcctttga agtacttcaa caatgaggtt gacgatgaat ttgaaggaga tgaagatgat      840
gatgatattg atggtgatga tgacgatgaa ggcatgatt tggagaactg agcccttgcg      900
cttggttcag aatgttgtcc gtggatgatg tggctgggcg gaactgtgac ccttttgg      958

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PF58787.ST25.txt

<210> 19
 <211> 251
 <212> PRT
 <213> Zea mays

<400> 19
 Met Thr Ala Pro Ala Asp Lys Gly Lys Lys Ala Lys Thr Asp Ala Asp
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 20 25 30
 Glu Lys Leu Gln Glu Ile Gln Asp Glu Leu Glu Lys Val Asn Glu Glu
 35 40 45
 Ala Ser Asp Lys Val Met Glu Val Glu Gln Lys Tyr Ser Glu Ile Arg
 50 55 60
 Arg Pro Val Tyr Leu Lys Arg Gly Asp Ile Ile Lys Thr Ile Pro Asp
 65 70 75 80
 Phe Trp Leu Thr Ala Phe Met Ser His Pro Leu Leu Ser Glu Leu Leu
 85 90 95
 Thr Glu Glu Asp Gln Lys Ile Phe Lys Tyr Leu Asp Ser Ile Asp Val
 100 105 110
 Asp Asp Ser Asp Val Lys Ala Gly Tyr Ser Ile His Leu Asn Phe Ser
 115 120 125
 Glu Asn Pro Tyr Phe Glu Asp Thr Lys Leu Ala Lys Thr Tyr Ile Phe
 130 135 140
 Ala Asp Asp Gly Thr Thr Thr Ile Lys Ala Ser Glu Ile Lys Trp Lys
 145 150 155 160
 Glu Gly Met Gly Pro Ala Asn Gly Asn Gly Ile Asn Lys Lys Gly Ser
 165 170 175
 Lys Arg Pro Leu Val Glu Glu Ser Phe Phe Ser Trp Phe Gly Asp Thr
 180 185 190
 Glu Leu Lys Ser Leu Ala Asp Gly Val Gln Asp Glu Val Ala Glu Ile
 195 200 205
 Ile Lys Glu Asp Leu Trp Pro Asn Pro Leu Lys Tyr Phe Asn Asn Glu
 210 215 220
 Val Asp Asp Glu Phe Glu Gly Asp Glu Asp Asp Asp Asp Leu Asp Gly
 225 230 235 240
 Asp Asp Asp Asp Glu Gly Asp Asp Leu Glu Asn
 245 250

<210> 20
 <211> 1257
 <212> DNA
 <213> Arabidopsis thaliana

<400> 20
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 gagagaagag ggaagaggaa gtctaattcc tctgcgtttt ttgcaattag ggttttctca 120
 attggaatcg aaaatggtga cagacaagag caagaaggcg aaaaccgaag aagaaaacgt 180
 cgagcaaatc gatgcagagc ttgtcctctc aatcgaaaag cttcaagaga tccaagacga 240
 cctcgagaag ataaatgaaa aggctagtga tgaagtgttg gaagtggagc agaaatataa 300
 tgtgataagg aaacctgttt atgacaagcg taacgagatc atcaaaacca tccctgattt 360
 ctggttaact gctttcttga gtcaccctgc ttttagtgaa cttttgactg aagaagacca 420
 aaagattttc aaatatctta gctctcttga tgttgaggat gccaaagatg tgaaatctgg 480
 atactctatc actttttcct tcaatcccaa tccatttttt gaagatggaa aactgacaaa 540
 gactttttacc tttctcgaag aagggaacaac caaaatcaca gccacgccta tcaaatggaa 600
 agagggcaaaa ggcctggcga atggagtga tcatgagaag aatggaaaca aacgtgcact 660
 acctgaagag agcttcttta cctggtttag tgatgctcaa cacaaggagg atgttgagga 720
 tgagatgcaa gacgagcagg ttgcagatat catcaaggaa gatttgtggc ccaaccctct 780
 cacctacttc aacaatgacg ctgatgaaga ggactttgat ggagacgatg atggagatga 840

PF58787.ST25.txt

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agaggagaaa gaaggtgact ctgatgaaga tgatgacgaa gaagacgaag ttggtgagga      900
atgatggcag ggatacccag aaaccacatt tgcttacatg tcttctctat aacagagtgt      960
gtaaagtttt gtgtgttgaa aggttttttaa ttttaagcaa aagtggatta tgacgacaac    1020
agacaagctt ttaattttat tttaccgtaa tagttatatc ttgttgtaag aaaccatttt      1080
cagccttttg ttgaaaaatc ctgcttaaat ggtttttgag tcttacataa tagcttcttc      1140
atcttttgtc ttcttaaaga gaattatatt tgtaatttca tgtctgttgt gtttctttga      1200
ctttactgaa tagagaattt gtgtgtttat ggtgaaaata tagccgatct gcttgac        1257

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<210> 21
 <211> 256
 <212> PRT
 <213> *Arabidopsis thaliana*

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<400> 21
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20     25     30
Ile Gln Asp Asp Leu Glu Lys Ile Asn Glu Lys Ala Ser Asp Glu Val
35     40     45
Leu Glu Val Glu Gln Lys Tyr Asn Val Ile Arg Lys Pro Val Tyr Asp
50     55     60
Lys Arg Asn Glu Ile Ile Lys Thr Ile Pro Asp Phe Trp Leu Thr Ala
65     70     75     80
Phe Leu Ser His Pro Ala Leu Gly Glu Leu Leu Thr Glu Glu Asp Gln
85     90     95
Lys Ile Phe Lys Tyr Leu Ser Ser Leu Asp Val Glu Asp Ala Lys Asp
100    105    110
Val Lys Ser Gly Tyr Ser Ile Thr Phe Ser Phe Asn Pro Asn Pro Phe
115    120    125
Phe Glu Asp Gly Lys Leu Thr Lys Thr Phe Thr Phe Leu Glu Glu Gly
130    135    140
Thr Thr Lys Ile Thr Ala Thr Pro Ile Lys Trp Lys Glu Gly Lys Gly
145    150    155    160
Leu Ala Asn Gly Val Asn His Glu Lys Asn Gly Asn Lys Arg Ala Leu
165    170    175
Pro Glu Glu Ser Phe Phe Thr Trp Phe Ser Asp Ala Gln His Lys Glu
180    185    190
Asp Val Glu Asp Glu Met Gln Asp Glu Gln Val Ala Asp Ile Ile Lys
195    200    205
Glu Asp Leu Trp Pro Asn Pro Leu Thr Tyr Phe Asn Asn Asp Ala Asp
210    215    220
Glu Glu Asp Phe Asp Gly Asp Asp Asp Gly Asp Glu Glu Glu Lys Glu
225    230    235    240
Gly Asp Ser Asp Glu Asp Asp Asp Glu Glu Asp Glu Val Gly Glu Glu
245    250    255

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<210> 22
 <211> 1003
 <212> DNA
 <213> *Lycopersicon esculentum*

```

<400> 22
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aatgggtggtt gacaaaggga agaagcagaa agtgggaagag gaaagctaca ttgatgaaaa    120
gctcatTTTT tccattgaaa aattgcaaga aatacaagac gaccttgaca agatcaatga    180
gaaagcaagt gaggaagtgt tggaaataga acagaagtac aacaagatcc gcaagcctgt    240
ttatgataag cggaatgata tcattaactc tatttctgac ttctggttga ctgctttttt    300
gagtcatoct gttcttggtg accttctaac tgaagaggac caaaagattt tcaaattctt    360

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PF58787.ST25.txt

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aagttctatt gaagtggaag actcgaaaga tgtgaaattht ggthactcaa tcacgtttaa 420
ctttaagccc aatcctttct ttgaaaattc aaagctctca aagacctata ccttccttga 480
agatggacct acaaaaatca cagctacacc aataaaatgg aaagaaggca aaggcattcc 540
taatggcggt gctcaggaga agaaaggaaa caagcgatcc catgctgaag agagcttctt 600
cacctggttc agtgaagtca ataaaaaaga tgatagcgat gatgatgaaa atgaggttct 660
ggagattcag gatgaggttg ctgaaataat caaggatgac ttgtggccaa accctttaac 720
ttattttacc aatgaacctg atgaagaaga ttttgagggg gatgaagggt gtgatgaggg 780
ggaggactct gaagatgaag gtgatgagga ggaagaggaa gacgacgaag atgaagatga 840
caaatgaact gttaatggac ctcatattht atttgatttc tcttcttcaa tgthttcaatt 900
atcatagttg gtatctgtaa agaagcttaa tattgcagat aaaatcgaat tatatatagt 960
ggtgactgct ttttttctaa aaaaaaaaaa aaaaaaaaaa aaa 1003

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<210> 23
 <211> 261
 <212> PRT
 <213> *Lycopersicon esculentum*

<400> 23

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Ile	Asp	Glu	Lys	Leu	Ile	Phe	Ser	Ile	Glu	Lys	Leu	Gln	Glu	Ile	Gln
			20					25					30		
Asp	Asp	Leu	Asp	Lys	Ile	Asn	Glu	Lys	Ala	Ser	Glu	Glu	Val	Leu	Glu
			35				40					45			
Ile	Glu	Gln	Lys	Tyr	Asn	Lys	Ile	Arg	Lys	Pro	Val	Tyr	Asp	Lys	Arg
			50			55					60				
Asn	Asp	Ile	Ile	Asn	Ser	Ile	Ser	Asp	Phe	Trp	Leu	Thr	Ala	Phe	Leu
65					70					75				80	
Ser	His	Pro	Val	Leu	Gly	Asp	Leu	Leu	Thr	Glu	Glu	Asp	Gln	Lys	Ile
				85				90						95	
Phe	Lys	Phe	Leu	Ser	Ser	Ile	Glu	Val	Glu	Asp	Ser	Lys	Asp	Val	Lys
			100					105					110		
Phe	Gly	Tyr	Ser	Ile	Thr	Phe	Asn	Phe	Lys	Pro	Asn	Pro	Phe	Phe	Glu
			115				120					125			
Asn	Ser	Lys	Leu	Ser	Lys	Thr	Tyr	Thr	Phe	Leu	Glu	Asp	Gly	Pro	Thr
			130			135					140				
Lys	Ile	Thr	Ala	Thr	Pro	Ile	Lys	Trp	Lys	Glu	Gly	Lys	Gly	Ile	Pro
145					150					155				160	
Asn	Gly	Val	Ala	Gln	Glu	Lys	Lys	Gly	Asn	Lys	Arg	Ser	His	Ala	Glu
				165				170						175	
Glu	Ser	Phe	Phe	Thr	Trp	Phe	Ser	Glu	Val	Asn	Lys	Lys	Asp	Asp	Ser
			180					185					190		
Asp	Asp	Asp	Glu	Asn	Glu	Val	Leu	Glu	Ile	Gln	Asp	Glu	Val	Ala	Glu
			195				200					205			
Ile	Ile	Lys	Asp	Asp	Leu	Trp	Pro	Asn	Pro	Leu	Thr	Tyr	Phe	Thr	Asn
			210			215					220				
Glu	Pro	Asp	Glu	Glu	Asp	Phe	Glu	Gly	Asp	Glu	Gly	Gly	Asp	Glu	Gly
225					230					235				240	
Glu	Asp	Ser	Glu	Asp	Glu	Gly	Asp	Glu	Glu	Glu	Glu	Glu	Asp	Asp	Glu
				245				250						255	
Asp	Glu	Asp	Asp	Lys											
			260												

<210> 24
 <211> 1557
 <212> DNA
 <213> *Arabidopsis thaliana*

<400> 24

PF58787.ST25.txt

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ggatcgagct ggccttgtca atgctctaaa gaacaagctg cagaatctgg ctggtcagcg    180
ttctgatgtg ctcgagaatc tgactcccaa tgtgagaaaag cgcgttgatg ccttgagggga    240
tatacagagc caacatgatg aactagaggc aaaattccgt gaggagagag ctattcttga    300
agccaagtat caaacgctgt atcagccttt gtatgtcaag cgttatgaga ttgtgaatgg    360
cactactgaa gttgaactgg ctccagagga tgataccaag gtggaccaag gagaggagaa    420
aactgcagaa gagaaaggag ttccaagttt ctggctgaca gctctgaaaa ataacgatgt    480
tatttccgag gaggtcacag agcgtgatga aggggctctc aaatatctta aagatattaa    540
gtggtgcaag attgaagagc ctaaaggatt caaacttgag tttttctttg acacgaatcc    600
gtatttttaag aacactgtct tgacaaagtc ttatcatatg attgatgaag atgagccact    660
gcttgagaag gctatgggga cagaaattga ttggtatcct ggaaagtgtc taactcagaa    720
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agattgtgaa agcttcttca acttcttttag tcctccagaa gttccggatg aagatgaaga    840
tatcgacgag gaaagagctg aggatcttca aaacctgatg gaacaagatt atgacatcgg    900
atctactatt cgggaaaaga ttattcctcg tgctgtctca tggtttactg gtgaggctat    960
ggaagcagag gattttgaaa tagatgacga tgaggaagat gacattgatg aggatgaaga   1020
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caaaaagaag ccatcaatcg gcaacaagaa gggagggaga tctcagatag ttggtgaagg   1140
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gacataaaag gattgctgta aaatataatt caggtcattc tctgttcac aagaatgagg   1260
attgagaaaa ggttttggga tttttaaaag tgaaattcat cttgtaggag tttcgttcgt   1320
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 <211> 372
 <212> PRT
 <213> Arabidopsis thaliana

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 20 25 30
 Leu Gln Asn Leu Ala Gly Gln Arg Ser Asp Val Leu Glu Asn Leu Thr
 35 40 45
 Pro Asn Val Arg Lys Arg Val Asp Ala Leu Arg Asp Ile Gln Ser Gln
 50 55 60
 His Asp Glu Leu Glu Ala Lys Phe Arg Glu Glu Arg Ala Ile Leu Glu
 65 70 75 80
 Ala Lys Tyr Gln Thr Leu Tyr Gln Pro Leu Tyr Val Lys Arg Tyr Glu
 85 90 95
 Ile Val Asn Gly Thr Thr Glu Val Glu Leu Ala Pro Glu Asp Asp Thr
 100 105 110
 Lys Val Asp Gln Gly Glu Glu Lys Thr Ala Glu Glu Lys Gly Val Pro
 115 120 125
 Ser Phe Trp Leu Thr Ala Leu Lys Asn Asn Asp Val Ile Ser Glu Glu
 130 135 140
 Val Thr Glu Arg Asp Glu Gly Ala Leu Lys Tyr Leu Lys Asp Ile Lys
 145 150 155 160
 Trp Cys Lys Ile Glu Glu Pro Lys Gly Phe Lys Leu Glu Phe Phe Phe
 165 170 175
 Asp Thr Asn Pro Tyr Phe Lys Asn Thr Val Leu Thr Lys Ser Tyr His
 180 185 190
 Met Ile Asp Glu Asp Glu Pro Leu Leu Glu Lys Ala Met Gly Thr Glu
 195 200 205

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Ile Asp Trp Tyr Pro Gly Lys Cys Leu Thr Gln Lys Ile Leu Lys Lys
 210 215 220
 Lys Pro Lys Lys Gly Ser Lys Asn Thr Lys Pro Ile Thr Lys Leu Glu
 225 230 235 240
 Asp Cys Glu Ser Phe Phe Asn Phe Phe Ser Pro Pro Glu Val Pro Asp
 245 250 255
 Glu Asp Glu Asp Ile Asp Glu Glu Arg Ala Glu Asp Leu Gln Asn Leu
 260 265 270
 Met Glu Gln Asp Tyr Asp Ile Gly Ser Thr Ile Arg Glu Lys Ile Ile
 275 280 285
 Pro Arg Ala Val Ser Trp Phe Thr Gly Glu Ala Met Glu Ala Glu Asp
 290 295 300
 Phe Glu Ile Asp Asp Asp Glu Glu Asp Asp Ile Asp Glu Asp Glu Asp
 305 310 315 320
 Glu Glu Asp Glu Glu Asp Glu Glu Asp Asp Asp Glu Asp Glu Glu
 325 330 335
 Glu Ser Lys Thr Lys Lys Lys Pro Ser Ile Gly Asn Lys Lys Gly Gly
 340 345 350
 Arg Ser Gln Ile Val Gly Glu Gly Lys Gln Asp Glu Arg Pro Pro Glu
 355 360 365
 Cys Lys Gln Gln
 370

<210> 26
 <211> 1575
 <212> DNA
 <213> Arabidopsis thaliana

<400> 26
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 gaagcgtgtc gagtttctaa gagagattca gaaccaatat gatgagatgg aagcaaaatt 360
 ctttgaggag agagcagctc ttgaagctaa gtatcaaaag ttatatcagc ctttatatac 420
 caagcgatat gagattgtga atggtgtggt cgaagtgtga ggtgcagctg aagaagtaaa 480
 atccgaacaa ggagaagata aatcagctga agagaaagga gtaccagatt tctggcttat 540
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 caagtatctc aaagatatca agtggagtag ggttgaagaa ccaaagggt tcaagcttga 660
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<210> 27
 <211> 379

PF58787.ST25.txt

<212> PRT

<213> Arabidopsis thaliana

<400> 27

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      20      25      30
Leu Gln Asn Leu Ala Gly Gln His Ser Asp Val Leu Glu Asn Leu Thr
      35      40      45
Pro Pro Val Arg Lys Arg Val Glu Phe Leu Arg Glu Ile Gln Asn Gln
      50      55      60
Tyr Asp Glu Met Glu Ala Lys Phe Phe Glu Glu Arg Ala Ala Leu Glu
65      70      75      80
Ala Lys Tyr Gln Lys Leu Tyr Gln Pro Leu Tyr Thr Lys Arg Tyr Glu
      85      90      95
Ile Val Asn Gly Val Val Glu Val Glu Gly Ala Ala Glu Glu Val Lys
      100      105      110
Ser Glu Gln Gly Glu Asp Lys Ser Ala Glu Glu Lys Gly Val Pro Asp
      115      120      125
Phe Trp Leu Ile Ala Leu Lys Asn Asn Glu Ile Thr Ala Glu Glu Ile
      130      135      140
Thr Glu Arg Asp Glu Gly Ala Leu Lys Tyr Leu Lys Asp Ile Lys Trp
145      150      155      160
Ser Arg Val Glu Glu Pro Lys Gly Phe Lys Leu Glu Phe Phe Phe Asp
      165      170      175
Gln Asn Pro Tyr Phe Lys Asn Thr Val Leu Thr Lys Thr Tyr His Met
      180      185      190
Ile Asp Glu Asp Glu Pro Ile Leu Glu Lys Ala Leu Gly Thr Glu Ile
      195      200      205
Glu Trp Tyr Pro Gly Lys Cys Leu Thr Gln Lys Ile Leu Lys Lys Lys
210      215      220
Pro Lys Lys Gly Ser Lys Asn Thr Lys Pro Ile Thr Lys Thr Glu Asp
225      230      235      240
Cys Glu Ser Phe Phe Asn Phe Phe Ser Pro Pro Gln Val Pro Asp Asp
      245      250      255
Asp Glu Asp Leu Asp Asp Asp Met Ala Asp Glu Leu Gln Gly Gln Met
      260      265      270
Glu His Asp Tyr Asp Ile Gly Ser Thr Ile Lys Glu Lys Ile Ile Ser
      275      280      285
His Ala Val Ser Trp Phe Thr Gly Glu Ala Val Glu Ala Asp Asp Leu
290      295      300
Asp Ile Glu Asp Asp Asp Asp Glu Ile Asp Glu Asp Asp Asp Glu Glu
305      310      315      320
Asp Glu Glu Asp Asp Glu Asp Asp Glu Glu Glu Asp Asp Glu Asp Asp
      325      330      335
Asp Glu Glu Glu Glu Ala Asp Gln Gly Lys Lys Ser Lys Lys Lys Ser
      340      345      350
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      355      360      365
Ala Gly Glu Arg Pro Pro Glu Cys Lys Gln Gln
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<210> 28

<211> 1624

<212> DNA

<213> Arabidopsis thaliana

<400> 28

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ctctaaatth ccagaaaatg agcaacgata aggacagttt caatgtcagc gatctcaact    180
ctgctcttaa agatgaggat cgagctgggc ttgtcaacgc tcttaagaac aagctccaga    240
atctagctgg acaacattct gatgtgctcg agaatctgac tcctaaaatt agaaggcgtg    300
ttgaggthtt gcgggagatt cagggcaaac atgatgaaat agagacaaaa ttccgcgagg    360
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atgagattgt gaatggagct actgaagttg aaggggctcc agaggatgct aagatggacc    480
aaggagacga gaaaactgca gaagagaaag gaggccctag tttctggctg actgctctga    540
aaaataatga tgttatatct gaagagatca cagagcgtga tgaaggagcc cttatatatc    600
ttaagatat caagtgggtg aagattgaag aaccaaaggg attcaaactt gaggthttct    660
tcgaccagaa tccttacttc aaaaacaccc tattaacaaa ggcgtatcat atgattgatg    720
aagatgagcc tctgcttgag aaggctattg ggacagagat tgattggtat cctggaaaat    780
gcttaactca gaagattctt aagaagaagc ctaagaaagg tgcaaagaat gccaagccaa    840
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ctggtgaggg tattgagga gaggagthtg aaatagacaa tgacgatgaa gatgatatcg   1080
atgaggatga agatgaggat gaagaagatg aagacgaaga tgaggaagaa gacgacgaag   1140
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cgtcaaaatt atatctthth accacttgaa thaatgtctt thtggthtct thaatthaaa   1560
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aacc                                         1624

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<210> 29
 <211> 374
 <212> PRT
 <213> Arabidopsis thaliana

<400> 29

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

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Ile Asp Glu Asp Glu Pro Leu Leu Glu Lys Ala Ile Gly Thr Glu Ile
195 200 205
Asp Trp Tyr Pro Gly Lys Cys Leu Thr Gln Lys Ile Leu Lys Lys Lys
210 215 220
Pro Lys Lys Gly Ala Lys Asn Ala Lys Pro Ile Thr Lys Thr Glu Asp
225 230 235 240
Cys Glu Ser Phe Phe Asn Phe Phe Asn Pro Pro Gln Val Pro Asp Asp
245 250 255
Asp Glu Asp Ile Asp Glu Glu Arg Ala Glu Glu Leu Gln Asn Leu Met
260 265 270
Glu Gln Asp Tyr Asp Ile Gly Ser Thr Ile Arg Glu Lys Ile Ile Pro
275 280 285
His Ala Val Ser Trp Phe Thr Gly Glu Ala Ile Glu Gly Glu Glu Phe
290 295 300
Glu Ile Asp Asn Asp Asp Glu Asp Asp Ile Asp Glu Asp Glu Asp Glu
305 310 315 320
Asp Glu Glu Asp Glu Asp Glu Asp Glu Glu Asp Asp Glu Asp Glu
325 330 335
Glu Glu Glu Val Ser Lys Thr Lys Lys Lys Pro Ser Val Leu His Lys
340 345 350
Lys Gly Gly Arg Pro Gln Val Thr Asp Asp Gln Gln Gly Glu Arg Pro
355 360 365
Pro Glu Cys Lys Gln Gln
370

<210> 30
<211> 990
<212> DNA
<213> Arabidopsis thaliana

<400> 30
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gtgaaaaaac tctcacctaa agttaccaaa cgtgttctgt tcctcaaaga cattcagggt 240
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gataatctct acaagccgct ttttgctaag aggtatgaaa ttgtgaatgg tgtggtcgaa 360
gctgaagcag agaaagaagg agttcccaat ttctggttga ttgcaatgaa aaccaatgaa 420
atgctcgcaa atgagataac ggaaagagat gaggcagcat tgaagtatct taaggacatc 480
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aatctttact tcaagaactc ggttctgtct aaaacttacc atgtgaacga tgaagatggt 600
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cataagggtt ttgtgaagaa gaaaacaaag aaagggccaa agaaggtcaa caacatcccc 720
atgaccaaaa cagaaaactg cgagagtttc ttcaatttct tcaagccacc tgagattcct 780
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aacctgatgg accaagacta tgacattgct gtgacaatcc gagataaact gatccctcat 900
gcagtttcat ggtttacggg agaggctctt gttgatgaag acgattctga tgataatgat 960
gatgatgata atgatgagaa gaggtagctaa 990

<210> 31
<211> 329
<212> PRT
<213> Arabidopsis thaliana

<400> 31
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20 25 30

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Asp Leu Leu Ala Glu Leu Lys Ala Ser His Phe Lys Leu Leu Ile Lys
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Ile His Thr Asn Leu Thr Leu Lys Arg Pro Phe Asp Val Lys Lys Leu
    50              55              60
Ser Pro Lys Val Thr Lys Arg Val Leu Phe Leu Lys Asp Ile Gln Val
    65              70              75              80
Thr His Asp Glu Leu Glu Glu Lys Phe Leu Ala Glu Lys Ser Ala Leu
    85              90              95
Glu Ala Thr Tyr Asp Asn Leu Tyr Lys Pro Leu Phe Ala Lys Arg Tyr
    100             105             110
Glu Ile Val Asn Gly Val Val Glu Ala Glu Ala Glu Lys Glu Gly Val
    115             120             125
Pro Asn Phe Trp Leu Ile Ala Met Lys Thr Asn Glu Met Leu Ala Asn
    130             135             140
Glu Ile Thr Glu Arg Asp Glu Ala Ala Leu Lys Tyr Leu Lys Asp Ile
    145             150             155             160
Arg Ser Cys Arg Val Glu Asp Thr Ser Arg Asn Phe Lys Leu Glu Phe
    165             170             175
Leu Phe Asp Ser Asn Leu Tyr Phe Lys Asn Ser Val Leu Ser Lys Thr
    180             185             190
Tyr His Val Asn Asp Glu Asp Gly Pro Val Leu Glu Lys Val Ile Gly
    195             200             205
Thr Asp Ile Glu Trp Phe Pro Gly Lys Cys Leu Thr His Lys Val Val
    210             215             220
Val Lys Lys Lys Thr Lys Lys Gly Pro Lys Lys Val Asn Asn Ile Pro
    225             230             235             240
Met Thr Lys Thr Glu Asn Cys Glu Ser Phe Phe Asn Phe Phe Lys Pro
    245             250             255
Pro Glu Ile Pro Glu Ile Asp Glu Val Asp Asp Tyr Asp Asp Phe Asp
    260             265             270
Thr Ile Met Thr Glu Glu Leu Gln Asn Leu Met Asp Gln Asp Tyr Asp
    275             280             285
Ile Ala Val Thr Ile Arg Asp Lys Leu Ile Pro His Ala Val Ser Trp
    290             295             300
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    305             310             315             320
Asp Asp Asp Asn Asp Glu Lys Ser Asp
    325

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<210> 32
 <211> 199
 <212> PRT
 <213> Artificial sequence

<220>
 <223> NAP domain of SEQ ID NO: 2

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<400> 32
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Arg Lys Pro Val Tyr Asp Lys Arg Asn Glu Val Ile Gln Ser Ile Pro
    35              40              45
Gly Phe Trp Met Thr Ala Phe Leu Ser His Pro Ala Leu Gly Asp Leu
    50              55              60
Leu Thr Glu Glu Asp Gln Lys Ile Phe Lys Tyr Leu Asn Ser Leu Glu
    65              70              75              80
Val Glu Asp Ala Lys Asp Val Lys Ser Gly Tyr Ser Ile Thr Phe His

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      85      90      95
Phe Thr Ser Asn Pro Phe Phe Glu Asp Ala Lys Leu Thr Lys Thr Phe
      100      105      110
Thr Phe Leu Glu Glu Gly Thr Thr Lys Ile Thr Ala Thr Pro Ile Lys
      115      120      125
Trp Lys Glu Gly Lys Gly Leu Pro Asn Gly Val Asn His Asp Asp Lys
      130      135      140
Lys Gly Asn Lys Arg Ala Leu Pro Glu Glu Ser Phe Phe Thr Trp Phe
      145      150      155      160
Thr Asp Ala Gln His Lys Glu Asp Ala Gly Asp Glu Ile His Asp Glu
      165      170      175
Val Ala Asp Ile Ile Lys Glu Asp Leu Trp Ser Asn Pro Leu Thr Tyr
      180      185      190
Phe Asn Asn Asp Ala Asp Glu
      195

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<210> 33
<211> 6
<212> PRT
<213> Artificial sequence

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<220>
<223> signature

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<220>
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<222> (1)..(1)
<223> /replace = "Ser"

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<220>
<221> VARIANT
<222> (4)..(4)
<223> /replace = "Asn" /replace = "Ser" /replace = "Glu" /replace =
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<220>
<221> VARIANT
<222> (5)..(5)
<223> /replace = "Phe"

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<220>
<221> VARIANT
<222> (6)..(6)
<223> /replace = "Phe"

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<400> 33
Thr Phe Phe Thr Trp Leu
1      5

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<210> 34
<211> 10
<212> PRT
<213> Artificial sequence

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<220>
<223> artificial sequence

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<400> 34
Ser Ile Glu Lys Leu Gln Glu Ile Gln Asp

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1

5

10

<210> 35
<211> 1597
<212> DNA
<213> Pisum sativum

<400> 35
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gacgaacaac aaggaagctt tcaacatctc agatctcagt tccgctctca atgaagagga 180
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<210> 36
<211> 366
<212> PRT
<213> Pisum sativum

<400> 36
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Leu Asn Glu Glu Asp Arg Ala Asp Leu Val Asn Ala Leu Lys Ser Lys
20 25 30
Ile Gln Ser Leu Ala Gly Gln His Ser Asp Val Leu Glu Ser Leu Ser
35 40 45
Pro Val Val Arg Lys Arg Val Glu Val Leu Arg Glu Ile Gln Gly Glu
50 55 60
His Asp Glu Leu Glu Ala Lys Phe Leu Glu Glu Arg Ala Ala Leu Glu
65 70 75 80
Ala Lys Tyr Gln Ile Leu Tyr Gln Pro Leu Tyr Thr Lys Arg Tyr Asp
85 90 95
Ile Val Asn Gly Val Ala Glu Val Val Gly Val Arg Val Glu Thr Ala
100 105 110
Val Ala Glu Glu Asp Lys Glu Lys Gly Val Pro Ser Phe Trp Leu Asn
115 120 125
Ala Met Lys Asn Asn Asp Val Gly Gly Glu Glu Ile Thr Glu Arg Asp

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130		135		140	
Glu Gly Ala Leu Lys Phe	Leu Lys Asp Ile Lys	Trp Thr Arg Ile Glu			
145		150		155	160
Glu Pro Lys Gly Phe	Lys Leu Glu Phe Phe	Asp Ser Asn Pro Tyr			
	165		170		175
Phe Ser Asn Ser Val	Leu Thr Lys Ile Tyr	His Met Val Asp Glu Asp			
	180		185		190
Glu Pro Ile Leu Glu Lys	Ala Ile Gly Thr Glu Ile	Gln Trp Leu Pro			
	195		200		205
Gly Lys Cys Leu Thr Gln	Lys Val Leu Lys Lys	Lys Pro Lys Lys Gly			
	210		215		220
Ala Lys Asn Ala Lys Pro	Ile Thr Lys Thr Glu Thr	Cys Glu Ser Phe			
225		230		235	240
Phe Asn Phe Phe Asn	Pro Pro Glu Val Pro	Glu Asp Asp Glu Asp Ile			
	245		250		255
Asp Glu Asp Met Ala	Glu Glu Leu Gln Asn	Gln Met Glu Gln Asp Tyr			
	260		265		270
Asp Ile Gly Ser Thr	Ile Arg Asp Lys Ile	Ile Pro Met Ser Trp Phe			
	275		280		285
Thr Gly Glu Ala Ala	Gln Gly Glu Glu Phe	Gly Asp Leu Asp Asp Glu			
	290		295		300
Asp Glu Asp Glu Asp	Asp Asp Ala Glu Glu	Asp Asp Glu Glu Glu Asp			
305		310		315	320
Glu Asp Glu Asp Asp	Asp Asp Glu Glu Glu	Glu Glu Thr Lys Thr Lys			
	325		330		335
Lys Lys Ser Ser Ala	Ser Lys Lys Arg Ile	Gly Ile Ala Gln Leu Gly			
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<210> 37
 <211> 1442
 <212> DNA
 <213> Glycine max

<400> 37

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cttgattcat	tttctccctc	agatccgata	gtctgaattt	attgagtcaa	tttctccttt	1320
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ct 1442

<210> 38
<211> 358
<212> PRT
<213> Glycine max

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35 40 45
Val Arg Lys Arg Val Glu Ser Leu Arg Glu Ile Gln Gly Lys His Asp
50 55 60
Glu Leu Glu Ala Asp Phe Leu Lys Glu Arg Glu Ala Leu Glu Ala Lys
65 70 75 80
Tyr Gln Lys Leu Tyr Gln Pro Leu Tyr Thr Lys Arg Tyr Glu Ile Val
85 90 95
Asn Gly Val Thr Glu Val Glu Gly Ala Ala Asn Glu Ser Thr Asp Glu
100 105 110
Ser Glu Glu Asn Lys Glu Lys Gly Val Pro Ser Phe Trp Leu Asn Ala
115 120 125
Met Glu Asn Asn Asp Val Leu Ala Glu Glu Ile Ser Glu Arg Asp Glu
130 135 140
Gly Ala Leu Lys Phe Leu Lys Asp Ile Lys Trp Ser Arg Ile Glu Asn
145 150 155 160
Pro Lys Gly Phe Lys Leu Asp Phe Phe Phe Asp Thr Asn Pro Tyr Phe
165 170 175
Ser Asn Thr Val Leu Thr Lys Thr Tyr His Met Ile Asp Glu Asp Glu
180 185 190
Pro Ile Leu Glu Lys Ala Ile Gly Thr Glu Ile Glu Trp Tyr Pro Gly
195 200 205
Lys Cys Leu Thr Gln Lys Val Leu Lys Lys Lys Pro Lys Lys Gly Ser
210 215 220
Lys Asn Ala Lys Pro Ile Thr Lys Thr Glu Ser Cys Glu Ser Phe Phe
225 230 235 240
Asn Phe Phe Lys Pro Pro Glu Val Pro Glu Asp Asp Ala Asp Ile Asp
245 250 255
Glu Asp Leu Ala Glu Glu Leu Gln Asn Gln Met Glu Gln Asp Tyr Asp
260 265 270
Ile Gly Ser Thr Leu Arg Asp Lys Ile Ile Pro His Ala Val Ser Trp
275 280 285
Phe Thr Gly Glu Ala Ala Gln Gly Asp Glu Phe Glu Asp Leu Glu Asp
290 295 300
Asp Glu Asp Glu Glu Glu Asp Glu Asp Glu Asp Glu Glu Asp
305 310 315 320
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325 330 335
Lys Lys Ser Gly Lys Ala Gln Ala Gly Asp Gly Asp Gly Glu Arg Pro
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Pro Glu Cys Lys Gln Gln
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<210> 39
<211> 2194
<212> DNA

<213> Oryza sativa

<400> 39

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aaaaaatctt	tctagctgaa	ctcaatgggt	aaagagagag	atTTTTTTT	aaaaaataga	360
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aagctgtaat	cgggatagtt	atactgcttg	ttcttatgat	tcatttcctt	tgtgcagttc	2160
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<210> 40

<211> 739

<212> DNA

<213> Arabidopsis thaliana

<400> 40

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agatggagga	tacagaagat	ccttaaactg	cataatgtta	gttgatgtgt	gtatgtgtgg	660
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739

<210> 41
 <211> 128
 <212> PRT
 <213> Arabidopsis thaliana

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 20 25 30
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 35 40 45
 Glu Glu Ala Tyr Glu Arg Val Ile Val Gly Asp Leu Tyr Cys Asp Ile
 50 55 60
 Pro Leu Gly Leu Tyr Ile Ile Arg Gly Glu Asn Val Val Leu Ile Gly
 65 70 75 80
 Glu Leu Asp Val Glu Lys Glu Glu Leu Pro Ala His Met Val Gln Val
 85 90 95
 Pro Glu Ala Glu Ile Lys Arg Ala Gln Lys Ala Glu Lys Glu Glu Met
 100 105 110
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 115 120 125

<210> 42
 <211> 922
 <212> DNA
 <213> Arabidopsis thaliana

<400> 42
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 gtcgaaagtc tcaatctttt ttaatcactt tatcaattta aacccttttg tcaaaaccct 180
 aatttagatt tctctttccg tcttcacttt ttttttttcc tgtcaaagtt cgcgttcaat 240
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 atagaaagac cgaaagtttt cttcaatttc aaagtcagtg gcgatgtcgt gggctgggtcc 360
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 ctttgattaa accagattgt atccccattc attattggct tgatgctctg ctttggtctg 780
 caagttttat gatgagcctt tttggtgtgt tgacttaggg gatcgacgca attcttgtgt 840
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<210> 43
 <211> 128
 <212> PRT
 <213> Arabidopsis thaliana

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 Ser Tyr Leu Asp Arg Lys Leu Leu Val Leu Leu Arg Asp Gly Arg Lys
 20 25 30
 Leu Met Gly Thr Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu

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35	40	45
Glu Gly Ala Cys Glu Arg Val Ile Val Gly Glu Gln Tyr Cys Asp Ile		
50	55	60
Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly		
65	70	75
Glu Leu Asp Thr Glu Arg Glu Glu Leu Pro Pro His Met Ile Arg Val		
85	90	95
Ser Glu Ala Glu Ile Lys Arg Ala Gln Lys Val Glu Arg Glu Ala Ser		
100	105	110
Glu Leu Arg Gly Thr Met Arg Lys Arg Met Glu Phe Leu Asp Phe Asp		
115	120	125

<210> 44
 <211> 282
 <212> DNA
 <213> Arabidopsis thaliana

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 aatgatttag ccataagagg aactcttcac tcagttgata agtatctgaa tatcaagctc 120
 gagaacacta ggggttgtga ccaggacaag taccctcaca tgctttcagt gagaaactgt 180
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<210> 45
 <211> 93
 <212> PRT
 <213> Arabidopsis thaliana

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20 25 30
Asp Gln Tyr Leu Asn Ile Lys Leu Glu Asn Thr Arg Val Val Asp Gln
35 40 45
Asp Lys Tyr Pro His Met Leu Ser Val Arg Asn Cys Phe Ile Arg Gly
50 55 60
Ser Val Val Arg Tyr Val Gln Leu Pro Lys Asp Gly Val Asp Val Asp
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85 90

<210> 46
 <211> 652
 <212> DNA
 <213> Arabidopsis thaliana

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 actttcttac cgtttacgat cggatttagt ttcgttttct ggtttggtgt agttttctct 600

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652

<210> 47
 <211> 97
 <212> PRT
 <213> Arabidopsis thaliana

<400> 47
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 20 25 30
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 35 40 45
 Leu Gly Asp Val Glu Glu Val Ile Thr Thr Ile Glu Ile Asp Asp Glu
 50 55 60
 Thr Tyr Glu Glu Ile Val Arg Thr Thr Lys Arg Thr Val Pro Phe Leu
 65 70 75 80
 Phe Val Arg Gly Asp Gly Val Ile Leu Val Ser Pro Pro Leu Arg Thr
 85 90 95
 Thr

<210> 48
 <211> 297
 <212> DNA
 <213> Arabidopsis thaliana

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 atcgatgaag agacatatga agagattgtt cggactacaa agcggacgat tgagtttcta 240
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<210> 49
 <211> 98
 <212> PRT
 <213> Arabidopsis thaliana

<400> 49
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 35 40 45
 Leu Gly Asp Val Glu Glu Thr Ile Thr Thr Val Glu Ile Asp Asp Glu
 50 55 60
 Thr Tyr Glu Glu Ile Val Arg Thr Thr Lys Arg Thr Ile Glu Phe Leu
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 Phe Val Arg Gly Asp Gly Val Ile Leu Val Ser Pro Pro Leu Arg Thr
 85 90 95
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<210> 50
 <211> 865
 <212> DNA

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<213> Arabidopsis thaliana

<400> 50

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tcatatttga atcgttcacc ttcttgccga tcttcggagt atattacaag gttcttaacg      180
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tgtttttcga ttctccttgt gatcttttcg aaaaatgaaa tttgtctttt gcctttttgt      780
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<210> 51

<211> 129

<212> PRT

<213> Arabidopsis thaliana

<400> 51

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Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
35     40     45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
50     55     60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln
65     70     75     80
Glu Glu Lys Thr Arg Thr Asp Arg Lys Pro Pro Gly Val Gly Arg Gly
85     90     95
Arg Gly Arg Gly Val Asp Asp Gly Gly Ala Arg Gly Arg Gly Arg Gly
100    105    110
Thr Ser Met Gly Lys Met Gly Gly Asn Arg Gly Ala Gly Arg Gly Arg
115    120    125
Gly

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<210> 52

<211> 267

<212> DNA

<213> Arabidopsis thaliana

<400> 52

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gtttatgtca acatggttct tgaagatgtc accgaatatg agattacggc agaaggaaga      180
cgggtcacia agcttgatca gattctactc aatggcaaca acatcgccat tctggtgcc      240
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<210> 53

<211> 88

<212> PRT

<213> *Arabidopsis thaliana*

<400> 53

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Cys Ile Gly Ser Lys Ile Trp Val Ile Met Lys Gly Asp Lys Glu Leu
          20          25          30
Val Gly Ile Leu Lys Gly Phe Asp Val Tyr Val Asn Met Val Leu Glu
          35          40          45
Asp Val Thr Glu Tyr Glu Ile Thr Ala Glu Gly Arg Arg Val Thr Lys
          50          55          60
Leu Asp Gln Ile Leu Leu Asn Gly Asn Asn Ile Ala Ile Leu Val Pro
65          70          75          80
Gly Gly Ser Pro Glu Asp Gly Glu
          85

```

<210> 54

<211> 625

<212> DNA

<213> *Arabidopsis thaliana*

<400> 54

```

aaataataaa agcccttagg accgattcgt tatttcttcg ctctctcttt ctctctgtgt      60
ctcgactctg agtaggtctc agttacgtaa aggatcgagc ttaaaagatg agtggagttg      120
aagagaaagt ttctggaacg acaaagacac ctgcagattt cctcaaatcc atccgtggga      180
gacccgttgt tgtcaagctc aattctggtg ttgattatcg aggcaactctt acttgtcttg      240
atggatatat gaacatagca atggagcaga cggaggagta tgtaaacggg cagctcaaga      300
acaatatatg tgacgccttt atccgtggaa acaacgttct ttacatcagt acagtaaaca      360
tgactgtagc agacggagcc taggcccacg atgatcatca acaacaaca cagtgggtcat      420
gttatggctg ccatttttgt tgtcttcttc tacctcatat taaaagagta gtagacatgt      480
accaagattg tcatcctatg ttcttcagta gatttttggg atacagacat cacttttttc      540
ttagtaatat gatactcttc catgtgaccc cagataaaga agaaaaatta ttaatttatg      600
gcttgataca atcatacaag caaac                                     625

```

<210> 55

<211> 91

<212> PRT

<213> *Arabidopsis thaliana*

<400> 55

```

Met Ser Gly Val Glu Glu Lys Val Ser Gly Thr Thr Lys Thr Pro Ala
1          5          10          15
Asp Phe Leu Lys Ser Ile Arg Gly Arg Pro Val Val Val Lys Leu Asn
          20          25          30
Ser Gly Val Asp Tyr Arg Gly Thr Leu Thr Cys Leu Asp Gly Tyr Met
          35          40          45
Asn Ile Ala Met Glu Gln Thr Glu Glu Tyr Val Asn Gly Gln Leu Lys
          50          55          60
Asn Lys Tyr Gly Asp Ala Phe Ile Arg Gly Asn Asn Val Leu Tyr Ile
65          70          75          80
Ser Thr Val Asn Met Thr Val Ala Asp Gly Ala
          85          90

```

<210> 56

<211> 781

<212> DNA

<213> *Arabidopsis thaliana*

<400> 56

PF58787.ST25.txt

```

gctctgttcg gctgcttcat cgagcggaag tctctagcca attaccgttt gttcgtggac    60
tcgagatatt gtggtttctt agcaaagaag atgagtggag ttggagagaa agcttctgga    120
acaactaaga cacctgctga tttcttgaaa tctatccgtg gtaaaccagt tgttgtaag    180
ctcaactctg gtgttgatta tcgaggcatt ctacttgtc ttgatggata tatgaacatc    240
gcaatggagc aaaccgaaga gtatgtaaag ggccagctga agaacacata tggcgacgct    300
tttgtccgtg gcaacaatgt tctttacatc agcacaacaa aggggacatt gtcagatgga    360
gcatagctct ctttcatcac catgaatggt catcttcttc tctacctctg gcatatgaca    420
aatgtaggat ttgtagcaac cagagtttat caccactgca tgaattcgac atgtcttttt    480
cttccgcaac tcagtttgtg tctaaatcat ctccaaaatt ctgagatata gctagatttt    540
tatttgttat gaaatttttt ttaatcactg ttggtctttg gaggctaatt atcgtgtttt    600
gatgacgcaa tcaactgcgc acaatctgat gtcactttaa caatcattaa tgtatttttt    660
ttttcttttc tcgtaatat cttaattatt cttcgacagc aaagggttaa aaactcctta    720
tttcaatcat taatgtattt atgatttgat cgaataacaa taatatagct tattttgttc    780
t                                                                    781

```

<210> 57
 <211> 91
 <212> PRT
 <213> Arabidopsis thaliana

```

<400> 57
Met Ser Gly Val Gly Glu Lys Ala Ser Gly Thr Thr Lys Thr Pro Ala
1          5          10          15
Asp Phe Leu Lys Ser Ile Arg Gly Lys Pro Val Val Val Lys Leu Asn
20          25          30
Ser Gly Val Asp Tyr Arg Gly Ile Leu Thr Cys Leu Asp Gly Tyr Met
35          40          45
Asn Ile Ala Met Glu Gln Thr Glu Glu Tyr Val Asn Gly Gln Leu Lys
50          55          60
Asn Thr Tyr Gly Asp Ala Phe Val Arg Gly Asn Asn Val Leu Tyr Ile
65          70          75          80
Ser Thr Thr Lys Gly Thr Leu Ser Asp Gly Ala
85          90

```

<210> 58
 <211> 599
 <212> DNA
 <213> Arabidopsis thaliana

```

<400> 58
gtcactagga agctgcgact atttgactga ctctgatttc acgcgactcc ttgtgagatt    60
ctccgattgc ttcgcctgag tttctgggtt aactctccac gccgtcactt tgatctttgc    120
ttttccgata tttagggttt ttgtttaggg aattgtcgaa gactctgctc taacatgtct    180
ggaagaaaag aaacggtttt agatttggtt aagttttagt ataagggtgt gcaagttaag    240
ctcactggtg gtagacaagt gactggaact cttaaaggct atgaccaatt gcttaatctt    300
gttcttgatg aagcagtcga gttcgttcga gatcatgatg atcctttgaa gactacggat    360
cagacaagac gccttggttt gattgtttgc cgtggaacag cggatgatgt tgtctcacca    420
accgatggca ccgaagaaat cgctaaccg ttcgttactg cagaggctgt ctaaagactt    480
tcttctcaaa gaatatgtct ctctattagt ttaacttggc gatttagaga gtatttcac    540
taactctctg gtgtgatgtt ggaacatat atgttcaatt taaacaattt ggaacatca    599

```

<210> 59
 <211> 99
 <212> PRT
 <213> Arabidopsis thaliana

```

<400> 59
Met Ser Gly Arg Lys Glu Thr Val Leu Asp Leu Ala Lys Phe Val Asp
1          5          10          15

```

PF58787.ST25.txt

Lys Gly Val Gln Val Lys Leu Thr Gly Gly Arg Gln Val Thr Gly Thr
 20 25 30
 Leu Lys Gly Tyr Asp Gln Leu Leu Asn Leu Val Leu Asp Glu Ala Val
 35 40 45
 Glu Phe Val Arg Asp His Asp Asp Pro Leu Lys Thr Thr Asp Gln Thr
 50 55 60
 Arg Arg Leu Gly Leu Ile Val Cys Arg Gly Thr Ala Val Met Leu Val
 65 70 75 80
 Ser Pro Thr Asp Gly Thr Glu Glu Ile Ala Asn Pro Phe Val Thr Ala
 85 90 95
 Glu Ala Val

<210> 60
 <211> 650
 <212> DNA
 <213> Arabidopsis thaliana

<400> 60
 aaaaacacac gccggagagt tttctaagaa caacagtgac gaaaagggtt ttagggtttc 60
 tttaccaatc agaatctccg ccaagtaacg attttcagat tccgaagcag caaagttcaa 120
 ataatttccg aactgtaaca tggcggcaac tactggactt gagactctcg tcgatcagat 180
 tatttcggtg attacaaatg acggacgcaa cattgtggga gttcttaaag gttttgacca 240
 ggctacaaat ataatccttg atgaatctca tgaacgtgtg ttttccacaa aggaaggagt 300
 acaacaacat gtgttggtt tgtacatcat cagaggggac aacatagggt ttatcgggga 360
 gctggacgag gagcttgatg ctagtctgga ttttccgaag ctgagagccc atccgttgaa 420
 acccgtagtg cattgattga atatagttat ggtgagaaaa tctaattctc tcattcaaag 480
 cctaaaaaca aagagaagat ttgattgtaa acaatttgga tagtttggtt tgatgtctgg 540
 agttgtctta tttgtgtatc ctaaggacaa aagctatatg atattttatg tcttaaacgt 600
 tttggtcgga aacttaaadc atacaatctt ttggacggac ctaggtttgc 650

<210> 61
 <211> 98
 <212> PRT
 <213> Arabidopsis thaliana

<400> 61
 Met Ala Ala Thr Thr Gly Leu Glu Thr Leu Val Asp Gln Ile Ile Ser
 1 5 10 15
 Val Ile Thr Asn Asp Gly Arg Asn Ile Val Gly Val Leu Lys Gly Phe
 20 25 30
 Asp Gln Ala Thr Asn Ile Ile Leu Asp Glu Ser His Glu Arg Val Phe
 35 40 45
 Ser Thr Lys Glu Gly Val Gln Gln His Val Leu Gly Leu Tyr Ile Ile
 50 55 60
 Arg Gly Asp Asn Ile Gly Val Ile Gly Glu Leu Asp Glu Glu Leu Asp
 65 70 75 80
 Ala Ser Leu Asp Phe Ser Lys Leu Arg Ala His Pro Leu Lys Pro Val
 85 90 95
 Val His

<210> 62
 <211> 387
 <212> DNA
 <213> Medicago truncatula

<400> 62
 atgtcttggg ctgcacctga tgagctttta ctctctactt ctcttgctac atatcttgac 60

PF58787.ST25.txt

```

aaaaaacttc ttgtcctggt gcgagatggg cggaactttt tgggtttatt acgctcattt 120
gatcaatttg ctaatgtcgt tctagaaggt gcgtgtgaac gagtgattgt cggatgatctt 180
tattgtgatg tcccttttagg cctttatgta attcgtgggg agaattgtgt cttaattgga 240
gagctggact tgggaaagga ggagcttcca ccacatatga catgtgtgtc agaggctgac 300
ataagaaagg ctcaaaaagc agaacgcgat gctagtgatc tgaagggaac tatgaggaaa 360
aggatggaat tccttgattt tgactaa 387

```

<210> 63
 <211> 128
 <212> PRT
 <213> Medicago truncatula

<400> 63
 Met Ser Trp Ala Ala Pro Asp Glu Leu Leu Leu Ser Thr Ser Leu Ala
 1 5 10 15
 Thr Tyr Leu Asp Lys Lys Leu Leu Val Leu Leu Arg Asp Gly Arg Lys
 20 25 30
 Leu Leu Gly Leu Leu Arg Ser Phe Asp Gln Phe Ala Asn Val Val Leu
 35 40 45
 Glu Gly Ala Cys Glu Arg Val Ile Val Gly Asp Leu Tyr Cys Asp Val
 50 55 60
 Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
 65 70 75 80
 Glu Leu Asp Leu Gly Lys Glu Glu Leu Pro Pro His Met Thr Cys Val
 85 90 95
 Ser Glu Ala Asp Ile Arg Lys Ala Gln Lys Ala Glu Arg Asp Ala Ser
 100 105 110
 Asp Leu Lys Gly Thr Met Arg Lys Arg Met Glu Phe Leu Asp Phe Asp
 115 120 125

<210> 64
 <211> 387
 <212> DNA
 <213> Populus trichocarpa

```

atgtcttggg caggcccaga agatatctac ctctctactt ctcttgccaa ctatcttgat 60
aagaagcttc ttgtgctcct acgagatggc cgaaagctca tgggattact tcgttctttt 120
gatcaatttg ccaatgctgt ccttgaaggt gcatgtgaaa gagttattgt tggatgacctt 180
tattgcgaca tccacttggg tctatatgtg attcgtgggg agaattgtgt cttaattgga 240
gagctggatt tggagaggga ggagcttcca ccacatatga ctctgttttc agaagcagag 300
attagaaggg cgcagaaagc agaaaggag gcaacagatc taaaaggtag aatgaggaaa 360
agaatggagt tccttgattt ggactag 387

```

<210> 65
 <211> 128
 <212> PRT
 <213> Populus trichocarpa

<400> 65
 Met Ser Trp Ala Gly Pro Glu Asp Ile Tyr Leu Ser Thr Ser Leu Ala
 1 5 10 15
 Asn Tyr Leu Asp Lys Lys Leu Leu Val Leu Leu Arg Asp Gly Arg Lys
 20 25 30
 Leu Met Gly Leu Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
 35 40 45
 Glu Gly Ala Cys Glu Arg Val Ile Val Gly Asp Leu Tyr Cys Asp Ile
 50 55 60
 His Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly

PF58787.ST25.txt

65					70					75					80	
Glu	Leu	Asp	Leu	Glu	Arg	Glu	Glu	Leu	Pro	Pro	His	Met	Thr	Arg	Val	
				85					90					95		
Ser	Glu	Ala	Glu	Ile	Arg	Arg	Ala	Gln	Lys	Ala	Glu	Arg	Glu	Ala	Thr	
			100					105					110			
Asp	Leu	Lys	Gly	Thr	Met	Arg	Lys	Arg	Met	Glu	Phe	Leu	Asp	Leu	Asp	
		115					120					125				

<210> 66
 <211> 824
 <212> DNA
 <213> Oryza sativa

<400> 66

gcgtcaacct	cacacttgac	gatagttcct	ttcatcaatc	accagcttt	actcctcttc	60
tcccccgcc	ccgttcacc	aatcaatcca	aaccctagag	caaatcccct	ccctcccttg	120
ccggaatgc	tcgcaagctc	caggcagccc	ccacaccagt	ccgcggcgga	tcagggggcg	180
ggcgatctc	tagcgccctc	cgggatttga	agggttcgga	gcgtcggcga	tgctcgtcgtg	240
ggccggggccc	gacgagatct	tcctctccac	gtccctggcc	ggcttcttgg	acaagaaact	300
tattgtccta	ctacgagatg	gacggaagct	gcttggcaca	ctctgctcat	ttgatcagtt	360
tgcaaatggt	gttcttcagg	gtgcttgtga	acgagtaatt	gtaggtgaac	tatatgtgga	420
tgttcctctt	ggtctatatg	tgatccgggg	agagaatgtc	gtattaatcg	gagaattgga	480
tcgtgagaag	gatgaactcc	ctgctcacat	gacttgtgtt	tcagaggctg	aaataagaaa	540
ggccgagaaa	gcagaaaggg	aagcgagaga	tctgaaaggt	tcaatgagga	agaggatgga	600
gttcttagac	tttgattaga	atggatttga	ccatcttgat	agttgctgct	cccactatgg	660
ccgcgagttt	ttaatggcag	cctctgctac	atatgtgggc	taatgaaagc	cagatttcgt	720
tgtatctcat	gctgcttggt	cagccagaat	tcttcagggt	ggagatttca	gtaaacatac	780
tcttttacag	cggtaatgta	cctgtgttct	taaaatttct	tcag		824

<210> 67
 <211> 129
 <212> PRT
 <213> Oryza sativa

<400> 67

Met	Ser	Ser	Trp	Ala	Gly	Pro	Asp	Glu	Ile	Phe	Leu	Ser	Thr	Ser	Leu
1				5				10				15			
Ala	Gly	Phe	Leu	Asp	Lys	Lys	Leu	Ile	Val	Leu	Leu	Arg	Asp	Gly	Arg
			20					25				30			
Lys	Leu	Leu	Gly	Thr	Leu	Cys	Ser	Phe	Asp	Gln	Phe	Ala	Asn	Val	Val
		35				40					45				
Leu	Gln	Gly	Ala	Cys	Glu	Arg	Val	Ile	Val	Gly	Glu	Leu	Tyr	Cys	Asp
	50				55					60					
Val	Pro	Leu	Gly	Leu	Tyr	Val	Ile	Arg	Gly	Glu	Asn	Val	Val	Leu	Ile
65					70				75					80	
Gly	Glu	Leu	Asp	Arg	Glu	Lys	Asp	Glu	Leu	Pro	Ala	His	Met	Thr	Cys
			85					90				95			
Val	Ser	Glu	Ala	Glu	Ile	Arg	Lys	Ala	Glu	Lys	Ala	Glu	Arg	Glu	Ala
		100						105				110			
Arg	Asp	Leu	Lys	Gly	Ser	Met	Arg	Lys	Arg	Met	Glu	Phe	Leu	Asp	Phe
		115					120				125				

Asp

<210> 68
 <211> 579
 <212> DNA
 <213> Oryza sativa

PF58787.ST25.txt

```
<400> 68
gggtaagcta gggtttaggt ctcggcgcgcg ggcgaggagg gatggcgggcg 60
gcggcgggcg cagcgggcgcg tgaggaggag atcgcggtga aggagccgct ggatctgac 120
aggctcagcc tcgacgagcg catctacgtc aagctcaggt ccgaccgcga gctccgcggc 180
aagctccatg catacgatca acatttaaac atgattcttg gagatgttga ggagatcgtg 240
acaacagttg agattgacga tgagacatat gaagaaattg tgcgcaccac aaaacgcact 300
atcccccttc tttttgttcg aggtgatggg gtcatttttg tttctccacc cctccgaacg 360
gcatgaagta tgaaggaagc tcctgccgat tgtcaaccat gagtaatgtg tattttttaa 420
tcaatggcat gtgttatgtg ctgaagtgtg actatttctg atggattcta gtttttagcat 480
atgatacaat tgtgtaacaa tttctgatcg aggtgctagt ttctactgtc atgttgaatc 540
aaccttttgt taccagatta atcaactcaa tcccgaagc 579
```

```
<210> 69
<211> 104
<212> PRT
<213> Oryza sativa
```

```
<400> 69
Met Ala Ala Ala Ala Ala Ala Ala Ala Ala Glu Glu Glu Ile Ala Val
1 5 10 15
Lys Glu Pro Leu Asp Leu Ile Arg Leu Ser Leu Asp Glu Arg Ile Tyr
20 25 30
Val Lys Leu Arg Ser Asp Arg Glu Leu Arg Gly Lys Leu His Ala Tyr
35 40 45
Asp Gln His Leu Asn Met Ile Leu Gly Asp Val Glu Glu Ile Val Thr
50 55 60
Thr Val Glu Ile Asp Asp Glu Thr Tyr Glu Glu Ile Val Arg Thr Thr
65 70 75 80
Lys Arg Thr Ile Pro Phe Leu Phe Val Arg Gly Asp Gly Val Ile Leu
85 90 95
Val Ser Pro Pro Leu Arg Thr Ala
100
```

```
<210> 70
<211> 954
<212> DNA
<213> Oryza sativa
```

```
<400> 70
atttgggaca cgtgtacata actcttttcgg tccgggaccc tctcttgttt ttcttcgttg 60
ctcgcgagct cttccccctt cgctctgcct cccacccaa caagcccgcg gcggcgacta 120
gggttttgac cccccggaat cccccctcct ctcgcccgc cgcctccgc cgccgcgcgc 180
ttctctcccg cgccggcgac gatctgctcc tcctcccccg ccggcatcgc tgtttccgga 240
tctagcgcaa gatgcttccg ctctcgctcc tcaagaccgc ccaggggcat cccatgctcg 300
tgagagctta gaacggcgag acgtacaacg ggcacttggg gaactgcgac acgtggatga 360
acatccacct ccgggaggtt atttgcacct caaaggatgg tgataagttt tggaggatgc 420
cagaatgtta catccgtggg aacaccatca agtatcttcg ggttcctgat gaggtgattg 480
acaaggtcca ggaagagact tcaaagagca gatcagatag gaggccacca ggtgtaggcc 540
gcggaagagg aagaggtgat ataggtacta agcctggagg cagaggcatt gggcgtggcc 600
aggatgatgg tggcagcaaa ggcggtggtg gccgtggaag gggaggaatt ggaggtaaag 660
gtggcatcaa aggtgggggc cgcgacgtg ggtgagaggg aaggtcactt gtgggaatgc 720
cgctttttta aggttttggt tcacatagat tgcttttagga ggggtgaagaa tggactggtg 780
gagtaagcat tgctttgctt tatcattttg tggatgacc gaaaaatgtt tcatgggttc 840
agtagttacc agtgaagagg cagcggttgg cctgtctcga aacaatttgt ttgatgtctg 900
gaccctcgac tatattgaat attattgtgg ttattacttt gacctgttca tcgc 954
```

```
<210> 71
<211> 147
<212> PRT
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PF58787.ST25.txt

<213> Oryza sativa

<400> 71

```

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

```

<210> 72

<211> 681

<212> DNA

<213> Oryza sativa

<400> 72

```

acccaaagca gaagcctccg ccgcgcgagc gccgctactc ttgcatcgcc tccgcgctag      60
ccgcgcgcgc ccttcccgtc gccgcttcca cctcgatctc cgccggagag ggcgtccgcc      120
gccatgtctc agaacaaccc ctcccagctc ctcccctcag agctgattga ccgctgcac      180
gggtccaaga tttgggtgat tatgaagggt gacaaggagc tcgtcggcac tctctgtggg      240
ttcgatgtgt acgtcaacat ggtgctcgag gacgttactg agtatgaata cactgctgaa      300
ggcgcgcgca taacaaagct tgatcagata ctccctaaacg gcaacaatat agctattttg      360
gttcctgggtg gttctcccc agatgtggca taagcaagca cttccgtgat atacctgctt      420
gaggctgatg gaggcacaga ccggtgtttc cttacttcaa atgtatttct tccatttgtg      480
gctgtactga actttcttag ttaactgacc tgaagtagtg tacctgcaac agttgtctct      540
acatgatttg gcaatgctaa gtatgaggta cctctttag ctgtttatta ccattcttct      600
gcaacctgac tcagtaaaca ctagggtggt gaagaaacct gataatggag agcatatcta      660
caattgttgt atttgtggtt c                                     681

```

<210> 73

<211> 89

<212> PRT

<213> Oryza sativa

<400> 73

```

Met Ser Gln Asn Asn Pro Ser Gln Leu Leu Pro Ser Glu Leu Ile Asp
1      5      10      15
Arg Cys Ile Gly Ser Lys Ile Trp Val Ile Met Lys Gly Asp Lys Glu
      20      25      30
Leu Val Gly Thr Leu Cys Gly Phe Asp Val Tyr Val Asn Met Val Leu
      35      40      45
Glu Asp Val Thr Glu Tyr Glu Tyr Thr Ala Glu Gly Arg Arg Ile Thr
      50      55      60
Lys Leu Asp Gln Ile Leu Leu Asn Gly Asn Asn Ile Ala Ile Leu Val
      65      70      75      80

```

PF58787.ST25.txt

Pro Gly Gly Ser Pro Pro Asp Val Ala
85

<210> 74
<211> 548
<212> DNA
<213> Oryza sativa

<400> 74
ctctctcttt ctcacccaac cccaactcta cacgcacgcg gcgacagcga gagagatgag 60
caccggcggc ggcgcggaca agtccggcgg cggcggcggg ggggcgggta agacgccctc 120
ggacttcctc aagtcgatca ggggacgccc cgtcgtcgtc aagctcaact ccggcgtcga 180
ctaccgaggt attttggtt gcctggatgg gtatatgaac attgcaatgg agcaaacgga 240
agagtatgtg aatggccaac tcaagaacaa gtatggtgat gccttcataa gaggcaacaa 300
tgtttctatac atcagcactt cgaagaggac ccttacggat gacgcataga tcgagtggaa 360
cagagtcgac tctttttaac ttcaaaatcg ttaagctgat tggttgtgat ctctctctga 420
cccagctcgc tacctgctgt tttgaggtgg gaaaatgtat tgcattattgc tagacttattc 480
agaaactttc ttaatgtaac tgtatcagct ttgcaaagaa cttccggcca agatctccag 540
ttgcattt 548

<210> 75
<211> 97
<212> PRT
<213> Oryza sativa

<400> 75
Met Ser Thr Gly Gly Gly Ala Asp Lys Ser Gly Gly Gly Gly Gly Gly Gly
1 5 10 15
Ala Val Lys Thr Pro Ser Asp Phe Leu Lys Ser Ile Arg Gly Arg Pro
20 25 30
Val Val Val Lys Leu Asn Ser Gly Val Asp Tyr Arg Gly Ile Leu Ala
35 40 45
Cys Leu Asp Gly Tyr Met Asn Ile Ala Met Glu Gln Thr Glu Glu Tyr
50 55 60
Val Asn Gly Gln Leu Lys Asn Lys Tyr Gly Asp Ala Phe Ile Arg Gly
65 70 75 80
Asn Asn Val Leu Tyr Ile Ser Thr Ser Lys Arg Thr Leu Thr Asp Asp
85 90 95
Ala

<210> 76
<211> 586
<212> DNA
<213> Oryza sativa

<400> 76
gaagaaaaaa aaagagaaaa acacaacacc atcaaccccc gcatccgcca ccgccgccac 60
caccacctaa ctccgatttg aagcgaccag aggcgcggc taaggtccgg gatgtcgggg 120
cgcaaggaga cgggtgctgga cctggccaag ttcgtcgaca agggcgtcca ggtcaagctc 180
accggcggca ggcaagttac agggactttg aagggtatg accagcttct aaacttgggtg 240
cttgatgaag cggttgaatt tgaaagagag caagatgatc cattgaaact atcagggaaa 300
accagacagc ttggtcttat tgtctgtagg ggtacagcgg tgatgcttgt atcgccaacc 360
gatggaacgg acgagattgc caacccttc caatctgatg gtgcataaac ctgcaggagc 420
tgatgggtct cctagtcaag atccatgctc tcccagtaga gaggcctttg tattaactca 480
tgtaaatctg tgccacagtc tcttatgact cgtgtctctt atgaacacca ggtggtggtc 540
tgttctgtac cactcgaaac tgatttctga agatccttgc tttgtg 586

<210> 77

PF58787.ST25.txt

<211> 98
<212> PRT
<213> Oryza sativa

<400> 77
Met Ser Gly Arg Lys Glu Thr Val Leu Asp Leu Ala Lys Phe Val Asp
1 5 10 15
Lys Gly Val Gln Val Lys Leu Thr Gly Gly Arg Gln Val Thr Gly Thr
20 25 30
Leu Lys Gly Tyr Asp Gln Leu Leu Asn Leu Val Leu Asp Glu Ala Val
35 40 45
Glu Phe Glu Arg Glu Gln Asp Asp Pro Leu Lys Leu Ser Gly Lys Thr
50 55 60
Arg Gln Leu Gly Leu Ile Val Cys Arg Gly Thr Ala Val Met Leu Val
65 70 75 80
Ser Pro Thr Asp Gly Thr Asp Glu Ile Ala Asn Pro Phe Gln Ser Asp
85 90 95
Gly Ala

<210> 78
<211> 718
<212> DNA
<213> Oryza sativa

<400> 78
ctcttttcttc tctccaaaac acaaatcgtc gccgcatccc ctcaactccg gcgatcccoct 60
tggcggcggc ggcggttcc ccaatcaccc cactccacct gaactacagg atggcggtccg 120
ccggccccggg gctcgaatcg ctcgtcgacc agatcatatc cgtcatcaca aacgatggcc 180
gcaacattgt ggggacactc agaggattcg atcaagccac caacatcatc ctcgatgagt 240
cccatgagag ggtctattct accagggagg gagtgcaca gcttgttctt gggttgtaca 300
tcataagggg cgacaacatc agcgtggtgg ggaagtgga tgaagaactg gatgcgaggc 360
tggatctatc gaatctgaga gcgcaccgc tgaagcccgat gatccactaa tggaaacgaa 420
tgaatgatgt actactacta gtagtaagct aaacctaaat gtagtggtgt cccagaagtt 480
gtgaagaagt ggggtgtagt gttgccgatg agtgaacttc tttaacgtac gcgaggaagt 540
ccagcaagcg gatgagcgag catgaagaag aatgttatgg ttttatgtgg tgggtggatgg 600
gtgatgcatg tttgttgaac acgaacacag acacagtgcac tcagtgcagt aagatttggg 660
ttccattgta ttgtattgtt tgtgcagctg tatcaatgta catgaatgag gaaggcag 718

<210> 79
<211> 99
<212> PRT
<213> Oryza sativa

<400> 79
Met Ala Ser Ala Gly Pro Gly Leu Glu Ser Leu Val Asp Gln Ile Ile
1 5 10 15
Ser Val Ile Thr Asn Asp Gly Arg Asn Ile Val Gly Thr Leu Arg Gly
20 25 30
Phe Asp Gln Ala Thr Asn Ile Ile Leu Asp Glu Ser His Glu Arg Val
35 40 45
Tyr Ser Thr Arg Glu Gly Val Gln Gln Leu Val Leu Gly Leu Tyr Ile
50 55 60
Ile Arg Gly Asp Asn Ile Ser Val Val Gly Glu Val Asp Glu Glu Leu
65 70 75 80
Asp Ala Arg Leu Asp Leu Ser Asn Leu Arg Ala His Pro Leu Lys Pro
85 90 95
Val Ile His

PF58787.ST25.txt

<210> 80
 <211> 411
 <212> DNA
 <213> Oryza sativa

<400> 80
 atgtcgtcgt gggccggggc cgacgagatc ttcctctcca cgtccctggc cggcttcttg 60
 gacaagaaac ttattgtcct actacgagat ggacggaagc tgcttggcac actctgctca 120
 tttgatcagt ttgcaaagt tgttcttcag ggtgcttggt aacgagtaat tgtaggtgaa 180
 ctatattgtg atgttcctct tggctctatat gtgatccggg gagagaatgt cgtattaatc 240
 ggagaattgg tctggttttg gattgagcag gatcgtgaga aggatgaact ccctgctcac 300
 atgacttggtg tttcagaggc tgaaataaga aaggctgaga aagcagaaag ggaagcgaga 360
 gatctgaaag gttcaatgag gaagaggatg gagttcttag actttgatta g 411

<210> 81
 <211> 136
 <212> PRT
 <213> Oryza sativa

<400> 81
 Met Ser Ser Trp Ala Gly Pro Asp Glu Ile Phe Leu Ser Thr Ser Leu
 1 5 10 15
 Ala Gly Phe Leu Asp Lys Lys Leu Ile Val Leu Leu Arg Asp Gly Arg
 20 25 30
 Lys Leu Leu Gly Thr Leu Cys Ser Phe Asp Gln Phe Ala Asn Val Val
 35 40 45
 Leu Gln Gly Ala Cys Glu Arg Val Ile Val Gly Glu Leu Tyr Cys Asp
 50 55 60
 Val Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile
 65 70 75 80
 Gly Glu Leu Val Trp Phe Trp Ile Glu Gln Asp Arg Glu Lys Asp Glu
 85 90 95
 Leu Pro Ala His Met Thr Cys Val Ser Glu Ala Glu Ile Arg Lys Ala
 100 105 110
 Glu Lys Ala Glu Arg Glu Ala Arg Asp Leu Lys Gly Ser Met Arg Lys
 115 120 125
 Arg Met Glu Phe Leu Asp Phe Asp
 130 135

<210> 82
 <211> 297
 <212> DNA
 <213> Linum usitatissimum

<400> 82
 atggcttcgc gtcttgagact cgaatctctt gttgaccaa ctatttctgt gatcacaat 60
 gatggccgca acatagtggg caacttgaaa ggcttcgac aggccactaa tatcatcctc 120
 gatgaatccc atgaacgtgt ttactccacc aaggaaggcg tgcaacaact ggttttgggc 180
 ttgtacataa taaggggtga taatataagc gtgattgggg agcttgacga ggaacttgat 240
 gcgcagcttg atatgtcgaa tctcagagca catccctca aacctgtgat tcattga 297

<210> 83
 <211> 98
 <212> PRT
 <213> Linum usitatissimum

<400> 83
 Met Ala Ser Gly Leu Gly Leu Glu Ser Leu Val Asp Gln Thr Ile Ser

PF58787.ST25.txt

```

1           5           10           15
Val Ile Thr Asn Asp Gly Arg Asn Ile Val Gly Asn Leu Lys Gly Phe
                20           25           30
Asp Gln Ala Thr Asn Ile Ile Leu Asp Glu Ser His Glu Arg Val Tyr
                35           40           45
Ser Thr Lys Glu Gly Val Gln Gln Leu Val Leu Gly Leu Tyr Ile Ile
                50           55           60
Arg Gly Asp Asn Ile Ser Val Ile Gly Glu Leu Asp Glu Glu Leu Asp
65           70           75           80
Ala Gln Leu Asp Met Ser Asn Leu Arg Ala His Pro Leu Lys Pro Val
                85           90           95
Ile His

```

<210> 84
 <211> 288
 <212> DNA
 <213> Brassica napus

```

<400> 84
atgggtctac ttcgggtcatt tgatcaattht gcaaatgctg taatagaaga agcttatgaa      60
agagtcacgc tgggtgatct ctactgtgat attcccttgg gtctttacat aatccgtgga      120
gaaaatgttg tcttgattgg tgaactggac attgaaaagg aagagcttcc tgctcaaagt      180
gtccaagtct cagaggcaga gatcaaaagg gctcagaaag cagagaaaga agaaatgcta      240
ctgaagggtt tgatgcggaa aagaatggag ttccttgatc tcgattag      288

```

<210> 85
 <211> 95
 <212> PRT
 <213> Brassica napus

```

<400> 85
Met Gly Leu Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Ile Glu
1           5           10           15
Glu Ala Tyr Glu Arg Val Ile Val Gly Asp Leu Tyr Cys Asp Ile Pro
                20           25           30
Leu Gly Leu Tyr Ile Ile Arg Gly Glu Asn Val Val Leu Ile Gly Glu
                35           40           45
Leu Asp Ile Glu Lys Glu Glu Leu Pro Ala Gln Met Val Gln Val Ser
50           55           60
Glu Ala Glu Ile Lys Arg Ala Gln Lys Ala Glu Lys Glu Glu Met Leu
65           70           75           80
Leu Lys Gly Leu Met Arg Lys Arg Met Glu Phe Leu Asp Leu Asp
                85           90           95

```

<210> 86
 <211> 387
 <212> DNA
 <213> Brassica napus

```

<400> 86
atgtcttggg ctggtcctga agatattttac ctttcaactt cactcgctag ttatctcgat      60
agaaagatac ttgtgctcct tagagatggg agaaagctaa tgggaacgct ccgttcattt      120
gatcaattcg ccaatgcggt tttagaagggt gcgtgcgaga gggtaattgt tggtagagcaa      180
tactgcgaca ttccttttagg cctctatgta atccgtggag agaattgtgt tctcattggg      240
gaccttgaca ctgagagaga ggagcttcct ccaaatatga ttcgcgtctc agagacagag      300
attaaaaggg cgcaaaaagt ggagagggaa gcgagtggagc tgagaggaac aatgaggaag      360
agaatggagt ttcttgactt cgattaa

```

PF58787.ST25.txt

<210> 87
 <211> 128
 <212> PRT
 <213> Brassica napus

<400> 87
 Met Ser Trp Ala Gly Pro Glu Asp Ile Tyr Leu Ser Thr Ser Leu Ala
 1 5 10 15
 Ser Tyr Leu Asp Arg Lys Ile Leu Val Leu Leu Arg Asp Gly Arg Lys
 20 25 30
 Leu Met Gly Thr Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
 35 40 45
 Glu Gly Ala Cys Glu Arg Val Ile Val Gly Glu Gln Tyr Cys Asp Ile
 50 55 60
 Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
 65 70 75 80
 Asp Leu Asp Thr Glu Arg Glu Glu Leu Pro Pro Asn Met Ile Arg Val
 85 90 95
 Ser Glu Thr Glu Ile Lys Arg Ala Gln Lys Val Glu Arg Glu Ala Ser
 100 105 110
 Glu Leu Arg Gly Thr Met Arg Lys Arg Met Glu Phe Leu Asp Phe Asp
 115 120 125

<210> 88
 <211> 375
 <212> DNA
 <213> Brassica napus

<400> 88
 tcttgggctg ctcctgatga tatcttcttc tccacttctc tcgccgccta cttagacaag 60
 aagcttcttg tcttgcttcg tgatgggtcg aaactgatgg gtctacttcg gtcatttgat 120
 caatttgcaa atgctgtaat agaagaagct tatgaaagag tcatcgtggg tgatctctac 180
 tgtgatattc ccttaggtct ttacataatc cgtggagaaa atgttgctctt gattggtgaa 240
 ctggacgttg aaaaggaaga gcttctctgct caaatgggtcc aagtctcaga ggcagagatc 300
 aaaagggctc agaaagcaga gaaagaagaa atgctactga agggtttgat gcggaaaaga 360
 atggagttcc ttgat 375

<210> 89
 <211> 128
 <212> PRT
 <213> Brassica napus

<400> 89
 Met Ser Trp Ala Gly Pro Glu Asp Ile Tyr Leu Ser Thr Ser Leu Ala
 1 5 10 15
 Ser Tyr Leu Asp Arg Lys Ile Leu Val Leu Leu Arg Asp Gly Arg Lys
 20 25 30
 Leu Met Gly Thr Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
 35 40 45
 Glu Gly Ala Cys Glu Arg Val Ile Val Gly Glu Gln Tyr Cys Asp Ile
 50 55 60
 Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
 65 70 75 80
 Asp Leu Asp Thr Glu Arg Glu Glu Leu Pro Pro Asn Met Ile Arg Val
 85 90 95
 Ser Glu Thr Glu Ile Lys Arg Ala Gln Lys Val Glu Arg Glu Ala Ser
 100 105 110
 Glu Leu Arg Gly Thr Met Arg Lys Arg Met Glu Phe Leu Asp Phe Asp
 115 120 125

PF58787.ST25.txt

<210> 90
<211> 390
<212> DNA
<213> Brassica napus

<400> 90
atgcttcctc tttcgctact caagactgct caaggacatc ccatgcttgt ggagctcaag 60
aatggagaga catacaatgg gcatttagta aattgcgata cgtggatgaa catccatctg 120
cgtgaagtta tctgcacatc aaaggatgga gacaggtttt ggaggatgcc ggaatgttat 180
atccgtggta acactatcaa gtaccttcgt gttccagatg aggtgattga taaagtacag 240
gaggagaaga cccgcacaga taggaaacca ccaggggttg gacgtggaag aggacgtggt 300
atggatgatg gaggggccag aggacgaggc cgaggagctc caatggctaa gatgagtggc 360
aacagaggag cagggcgtgg gcgtggttga 390

<210> 91
<211> 129
<212> PRT
<213> Brassica napus

<400> 91
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1 5 10 15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
20 25 30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
35 40 45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
50 55 60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln
65 70 75 80
Glu Glu Lys Thr Arg Thr Asp Arg Lys Pro Pro Gly Val Gly Arg Gly
85 90 95
Arg Gly Arg Gly Met Asp Asp Gly Gly Ala Arg Gly Arg Gly Arg Gly
100 105 110
Ala Pro Met Ala Lys Met Ser Gly Asn Arg Gly Ala Gly Arg Gly Arg
115 120 125
Gly

<210> 92
<211> 390
<212> DNA
<213> Brassica napus

<400> 92
atgcttcctc tttcgctgct caagactgct caagggcatc ccatgcttgt ggagctcaag 60
aatggcgaga catacaatgg gcatttagtg aattgtgata cgtggatgaa cattcatctt 120
cgtgaagtca tctgcacatc aaaggacgga gacaggtttt ggaggatgcc ggagtgttac 180
atccgcggta acacgatcaa gtaccttcga gttccagatg aggtgattga taaagtacag 240
gaggagaaga cccgcacaga taggaaacca ccaggggttg gccgtgggag aggacgtggt 300
atggatgatg gaggggccag aggccgtggc cgaggagctc caatggcgaa gatgagtggc 360
aacagaggag caggtcgtgg gcgtggttga 390

<210> 93
<211> 129
<212> PRT
<213> Brassica napus

PF58787.ST25.txt

<400> 93

```
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1      5      10      15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
20     25     30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
35     40     45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
50     55     60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln
65     70     75     80
Glu Glu Lys Thr Arg Thr Asp Arg Lys Pro Pro Gly Val Gly Arg Gly
85     90     95
Arg Gly Arg Gly Met Asp Asp Gly Gly Ala Arg Gly Arg Gly Arg Gly
100    105    110
Ala Pro Met Ala Lys Met Ser Gly Asn Arg Gly Ala Gly Arg Gly Arg
115    120    125
Gly
```

<210> 94

<211> 390

<212> DNA

<213> Brassica napus

<400> 94

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atgcttcctc tttcgctgct caagactgct caagggcatc ccatgcttgt ggagctcaag      60
aatggagaga cgtacaatgg gcatttagtg aattgtgata cgtggatgaa cattcatctg      120
cgtgaagtca tctgcacatc aaaggacgga gacaggtttt ggaggatgcc ggagtgttat      180
atccgcggta acactatcaa gtaccttcga gttccagatg aggtgattga taaagtacag      240
gaggagaaga cccgcacaga tagaaaacca ccagggttg gacgtgggag aggacgtggt      300
gtggatgatg gaggggccag aggccgtggt cgaggagctc caatggcgaa gatgagtggc      360
aacagaggag caggtcgtgg ccgtggttga      390
```

<210> 95

<211> 129

<212> PRT

<213> Brassica napus

<400> 95

```
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1      5      10      15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
20     25     30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
35     40     45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
50     55     60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln
65     70     75     80
Glu Glu Lys Thr Arg Thr Asp Arg Lys Pro Pro Gly Val Gly Arg Gly
85     90     95
Arg Gly Arg Gly Val Asp Asp Gly Gly Ala Arg Gly Arg Gly Arg Gly
100    105    110
Ala Pro Met Ala Lys Met Ser Gly Asn Arg Gly Ala Gly Arg Gly Arg
115    120    125
Gly
```

PF58787.ST25.txt

<210> 96
<211> 450
<212> DNA
<213> Glycine max

<400> 96
atgcttcccc tttcccttct caagactgcc caaggccacc ccatgctggt ggaactgaaa 60
aatggggaga cttataacgg gcacttggtt aattgtgata catggatgaa catccatctc 120
cgagaagtca tttgtacctc taaagatgga gatagatttt ggcgtatgcc tgagtgtctac 180
attcgtggca ataccattaa gtaccttcgg gttcctgatg aggttattga caaagtccag 240
gaagaaacaa agagccgtac tgatcgcaaa cccctggtg tgggacgtgg aaggggaaga 300
ggtaggggatg atggtcctgg tggacgtcaa cctaaaggaa ttgggcgagg tattgatgag 360
ggtggagcta aaggacaagg aggacgaggc cggggtggtc caggtggaaa acccagtgga 420
aacagaggtg cagggcgagg tagaggttga 450

<210> 97
<211> 149
<212> PRT
<213> Glycine max

<400> 97
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1 5 10 15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
20 25 30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
35 40 45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
50 55 60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln
65 70 75 80
Glu Glu Thr Lys Ser Arg Thr Asp Arg Lys Pro Pro Gly Val Gly Arg
85 90 95
Gly Arg Gly Arg Gly Arg Asp Asp Gly Pro Gly Gly Arg Gln Pro Lys
100 105 110
Gly Ile Gly Arg Gly Ile Asp Glu Gly Gly Ala Lys Gly Gln Gly Gly
115 120 125
Arg Gly Arg Gly Gly Pro Gly Gly Lys Pro Ser Gly Asn Arg Gly Ala
130 135 140
Gly Arg Gly Arg Gly
145

<210> 98
<211> 450
<212> DNA
<213> Glycine max

<400> 98
atgctgcccc tttcccttct caagactgcc caaggccacc ctatgctagt ggaactgaaa 60
aatggggaga cttataacgg gcacttggtt aattgtgata catggatgaa cattcatctc 120
cgagaagtca tttgtacctc taaagatgga gatagatttt ggcgtatgcc cgagtgtctac 180
attcgcggca ataccataaa gtaccttcgg gttcctgatg aggttattga caaagtccag 240
gaagaaacaa agagccgcac tgatcgcaaa cccctggtg tgggacgtgg aagaggaaga 300
ggtagggagg atggtcctgg tggacgtcaa ccaaaaggaa ttgggcgtgg ccttgatgaa 360
ggtggacctt aaggacaagg aggacgaggt aggggtggtc ccggtggaaa gcctggtgga 420
aacagaggtg gagggcgagg tagaggttga 450

<210> 99
<211> 149

PF58787.ST25.txt

<212> PRT
<213> Glycine max

<400> 99

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

<210> 100
<211> 450
<212> DNA
<213> Glycine max

<400> 100

```
atgcttcccc tttcccttct caagactgcc caaggccacc ccatgctggt ggaactgaaa      60
aatggggaga cttataacgg gcacttggtt aattgtgata catggatgaa catccatctc    120
cgagaagtca tttgtacctc taaagatgga gatagatttt ggcgtatgcc tgagtgtctac    180
attcgtggca ataccattaa gtaccttcgg gttcctgatg aggttattga caaagtccag     240
gaagaaacaa agagccgtac tgatcgcaaa ccccttggtg tgggacgtgg aaggggaaga     300
ggtaggggatg atggtcctgg tggacgtcaa cctaaaggaa ttgggcgagg tattgatgag     360
ggtggagcta aaggacaagg aggacgaggc cggggtggtc caggtggaaa acccagtgga     420
aacagaggtg cagggcgagg tagaggttga                                     450
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<210> 101
<211> 149
<212> PRT
<213> Glycine max

<400> 101

```
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1          5          10          15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
20          25          30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
35          40          45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
50          55          60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln
65          70          75          80
Glu Glu Thr Lys Ser Arg Thr Asp Arg Lys Pro Pro Gly Val Gly Arg
85          90          95
Gly Arg Gly Arg Gly Arg Asp Asp Gly Pro Gly Gly Arg Gln Pro Lys
```


PF58787.ST25.txt

```

          100          105          110
Gly Ile Gly Arg Gly Ile Asp Glu Gly Gly Ala Lys Gly Gln Gly Gly
          115          120          125
Arg Gly Arg Gly Gly Pro Gly Gly Lys Pro Ser Gly Asn Arg Gly Ala
          130          135          140
Gly Arg Gly Arg Gly
145

```

<210> 102
 <211> 264
 <212> DNA
 <213> Glycine max

<400> 102
 atggccaaca atccgtcaca gctttctccca tcagagttga ttgaccggtg tatagggttcg 60
 aaaatttggg tgataatgaa ggggtgacaag gagcttggtg gtactcttag aggctttgat 120
 gtttatgtca acatggtcct tgaagatgtt actgaatatg agatcactgc tgaagggaga 180
 cggataacca agcttgatca gattttactc aatggaaaca acattgccat tttggtccct 240
 ggtggttctc ctgagtcaga atga 264

<210> 103
 <211> 87
 <212> PRT
 <213> Glycine max

<400> 103
 Met Ala Asn Asn Pro Ser Gln Leu Leu Pro Ser Glu Leu Ile Asp Arg
 1 5 10 15
 Cys Ile Gly Ser Lys Ile Trp Val Ile Met Lys Gly Asp Lys Glu Leu
 20 25 30
 Val Gly Thr Leu Arg Gly Phe Asp Val Tyr Val Asn Met Val Leu Glu
 35 40 45
 Asp Val Thr Glu Tyr Glu Ile Thr Ala Glu Gly Arg Arg Ile Thr Lys
 50 55 60
 Leu Asp Gln Ile Leu Leu Asn Gly Asn Asn Ile Ala Ile Leu Val Pro
 65 70 75 80
 Gly Gly Ser Pro Glu Ser Glu
 85

<210> 104
 <211> 387
 <212> DNA
 <213> Hordeum vulgare

<400> 104
 atgtcttggg cggggcccga cgagatcctc ctctccacct ccctggcccg cttcttagat 60
 aaaaaactga ttgtcctgct acgagatgga cgaaagctgc ttggcactct ctgctcattc 120
 gatcagtttg caaatgttgt tcttcagggt gcttgtgaac gagtgattgt gggcgaatta 180
 tattgtgatg ttcctcttg tttatatgtg atccggggag agaattgtgt attaattgga 240
 gaactggatc gtgagaagga cgaactccct agccacatga cttgtgtttc agaggctgaa 300
 ataagaacgg ccgagaaagc cgaaaaggaa gcaagggatc tgaaaggcac aatgaggaag 360
 aggatggagt tcctagactt cgattag 387

<210> 105
 <211> 128
 <212> PRT
 <213> Hordeum vulgare

<400> 105

PF58787.ST25.txt

Met	Ser	Trp	Ala	Gly	Pro	Asp	Glu	Ile	Leu	Leu	Ser	Thr	Ser	Leu	Ala
1				5					10					15	
Gly	Phe	Leu	Asp	Lys	Lys	Leu	Ile	Val	Leu	Leu	Arg	Asp	Gly	Arg	Lys
			20					25					30		
Leu	Leu	Gly	Thr	Leu	Cys	Ser	Phe	Asp	Gln	Phe	Ala	Asn	Val	Val	Leu
		35					40					45			
Gln	Gly	Ala	Cys	Glu	Arg	Val	Ile	Val	Gly	Glu	Leu	Tyr	Cys	Asp	Val
	50					55					60				
Pro	Leu	Gly	Leu	Tyr	Val	Ile	Arg	Gly	Glu	Asn	Val	Val	Leu	Ile	Gly
65					70					75				80	
Glu	Leu	Asp	Arg	Glu	Lys	Asp	Glu	Leu	Pro	Ser	His	Met	Thr	Cys	Val
				85					90					95	
Ser	Glu	Ala	Glu	Ile	Arg	Thr	Ala	Glu	Lys	Ala	Glu	Lys	Glu	Ala	Arg
		100					105						110		
Asp	Leu	Lys	Gly	Thr	Met	Arg	Lys	Arg	Met	Glu	Phe	Leu	Asp	Phe	Asp
		115					120					125			

<210> 106
 <211> 432
 <212> DNA
 <213> Hordeum vulgare

<400> 106	
atgcttcccc tctcgctcct caagaccgcc caggggcatc ccatgctcgt ggagctcaag	60
aacggcgaga cctacaatgg gcacttggtc aactgcgaca cgtggatgaa catccacctc	120
cgggagggtta tttgcacctc taaggatggt gataagtgtt ggaggatgcc ggagtgttat	180
attcgtggta acacaatcaa gtatcttcgg gttcctgatg aggtgattga caaggttcaa	240
gaggaaactt ctaagagtag atcagatagg aagccgccag gtgttggccg cggaagagga	300
agaggagata taggcactaa acctggaggc agaggcatcg ggcgtggcca agatgatggc	360
aaaggcgggt gccgtggaag gggcggaatt ggaagtaaag gtggcaacaa aggtggacgt	420
ggcgtgggt ga	432

<210> 107
 <211> 143
 <212> PRT
 <213> Hordeum vulgare

<400> 107	
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu	
1	15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys	
	30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys	
	45
Asp Gly Asp Lys Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn	
50	60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln	
65	80
Glu Glu Thr Ser Lys Ser Arg Ser Asp Arg Lys Pro Pro Gly Val Gly	
	95
Arg Gly Arg Gly Arg Gly Asp Ile Gly Thr Lys Pro Gly Gly Arg Gly	
	110
Ile Gly Arg Gly Gln Asp Asp Gly Lys Gly Gly Gly Arg Gly Arg Gly	
	125
Gly Ile Gly Ser Lys Gly Gly Asn Lys Gly Gly Arg Gly Arg Gly	
130	140

<210> 108
 <211> 387

PF58787.ST25.txt

<212> DNA

<213> Triticum aestivum

<400> 108

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aaaaaactaa ttgtcctact acgagatgga cgaaagctgc ttggcaccct ctgctcattc    120
gatcagtttg caaatgttgt tcttcagggt gcttgtgaac gagtaattgt gggcgaatta    180
tattgtgatg ttcctcttgg tttatatgtg atccggggag agaatgttgt attaatggga    240
gaactggatc gtgagaagga cgaactccct agtcacatga cttgtgtttc agaggctgaa    300
ataagaacgg ccgagaaagc tgaaaaggaa gcaagggatc tgaaaggcac aatgaggaag    360
aggatggagt tcctagactt cgattag                                     387
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<210> 109

<211> 128

<212> PRT

<213> Triticum aestivum

<400> 109

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Met Ser Trp Ala Gly Pro Asp Glu Ile Leu Leu Ser Thr Ser Leu Ala
1          5          10          15
Gly Phe Leu Asp Lys Lys Leu Ile Val Leu Leu Arg Asp Gly Arg Lys
          20          25          30
Leu Leu Gly Thr Leu Cys Ser Phe Asp Gln Phe Ala Asn Val Val Leu
          35          40          45
Gln Gly Ala Cys Glu Arg Val Ile Val Gly Glu Leu Tyr Cys Asp Val
          50          55          60
Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
65          70          75          80
Glu Leu Asp Arg Glu Lys Asp Glu Leu Pro Ser His Met Thr Cys Val
          85          90          95
Ser Glu Ala Glu Ile Arg Thr Ala Glu Lys Ala Glu Lys Glu Ala Arg
          100          105          110
Asp Leu Lys Gly Thr Met Arg Lys Arg Met Glu Phe Leu Asp Phe Asp
          115          120          125
```

<210> 110

<211> 432

<212> DNA

<213> Triticum aestivum

<400> 110

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atgcttcccc tctcgctcct caagaccgcc caggggcatc ccatgctcgt ggagctcaaa    60
aacggcgaga cctacaatgg gcacttggtg aactgcgaca cgtggatgaa catccacctc    120
cgggagggtta tttgcacctc caaggatggt gataagtttt ggaggatgcc ggagtgttat    180
attcgtggga acacaatcaa gtatcttcgg gttcctgatg aggtgattga caaggttcaa    240
gaggaaactt ctaagagtag atctgatagg aagccaccag gtgttggccg cggaagagga    300
agaggagata taggcactaa acctgggggc agaggcatcg gacgtggcca agatgatggc    360
aaaggcggtg gccgcggaag gggcggaatt ggaagtaaag gtggcaacaa aggcggacgt    420
gtcgtgggt aa                                     432
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<210> 111

<211> 143

<212> PRT

<213> Triticum aestivum

<400> 111

```
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1          5          10          15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
```

PF58787.ST25.txt

		20						25					30				
Asp	Thr	Trp	Met	Asn	Ile	His	Leu	Arg	Glu	Val	Ile	Cys	Thr	Ser	Lys		
		35					40					45					
Asp	Gly	Asp	Lys	Phe	Trp	Arg	Met	Pro	Glu	Cys	Tyr	Ile	Arg	Gly	Asn		
	50					55					60						
Thr	Ile	Lys	Tyr	Leu	Arg	Val	Pro	Asp	Glu	Val	Ile	Asp	Lys	Val	Gln		
65					70					75					80		
Glu	Glu	Thr	Ser	Lys	Ser	Arg	Ser	Asp	Arg	Lys	Pro	Pro	Gly	Val	Gly		
				85					90					95			
Arg	Gly	Arg	Gly	Arg	Gly	Asp	Ile	Gly	Thr	Lys	Pro	Gly	Gly	Arg	Gly		
			100					105					110				
Ile	Gly	Arg	Gly	Gln	Asp	Asp	Gly	Lys	Gly	Gly	Gly	Arg	Gly	Arg	Gly		
		115					120					125					
Gly	Ile	Gly	Ser	Lys	Gly	Gly	Asn	Lys	Gly	Gly	Arg	Gly	Arg	Gly			
	130						135					140					

<210> 112
 <211> 432
 <212> DNA
 <213> Triticum aestivum

<400> 112
 atgcttcccc tctcgctcct caagaccgcc caggggcatc ccatgctcgt ggagctcaag 60
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 cgggaggtta tttgcacctc taaggatggt gataagtttt ggaggatgcc ggagtgcctat 180
 attcgtggta acacgatcaa gtatcttcgg gttcctgatg aggtgattga caagggtcaa 240
 gaggaaactt ctaagagtag atcagatagg aagccaccag gtgttggtcg tggaagagga 300
 agaggagata taggcactaa acctggaggc agaggcattg gtcgtggcca agatgatggc 360
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 ggtcgtgggt aa 432

<210> 113
 <211> 143
 <212> PRT
 <213> Triticum aestivum

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

<210> 114
 <211> 387
 <212> DNA

PF58787.ST25.txt

<213> Zea mays

<400> 114

atgtcttggg	ccgcgcccga	cgacatcctc	ctctccacct	cactcgcggg	cttcctggac	60
aagaaactta	ttgtcctgct	aagagatgga	cggaaacttc	ttggcaccct	ctgctcattt	120
gatcagtttg	caaatgttgt	tcttcagggt	gcttgtgaac	gagtgattgt	aggggggaaa	180
tattgtgatg	ttcctccttg	tctgtatgtg	atccggggag	agaacgttgt	tttaatcgga	240
gaattggatc	acgaaaagga	tgaactcccc	gctcacatga	catgtgtttt	agaagcagaa	300
attagaaagg	ctgagaaggc	ggagcgggaa	gcaagggatc	tgaaaggcac	gatgaggaaa	360
cggatggagt	tcctagactt	cgactga				387

<210> 115

<211> 128

<212> PRT

<213> Zea mays

<400> 115

Met	Ser	Trp	Ser	Ala	Pro	Asp	Asp	Ile	Leu	Leu	Ser	Thr	Ser	Leu	Ala
1				5					10					15	
Gly	Phe	Leu	Asp	Lys	Lys	Leu	Ile	Val	Leu	Leu	Arg	Asp	Gly	Arg	Lys
			20					25					30		
Leu	Leu	Gly	Thr	Leu	Cys	Ser	Phe	Asp	Gln	Phe	Ala	Asn	Val	Val	Leu
		35					40					45			
Gln	Gly	Ala	Cys	Glu	Arg	Val	Ile	Val	Gly	Gly	Gln	Tyr	Cys	Asp	Val
	50					55					60				
Pro	Leu	Gly	Leu	Tyr	Val	Ile	Arg	Gly	Glu	Asn	Val	Val	Leu	Ile	Gly
65					70					75				80	
Glu	Leu	Asp	His	Glu	Lys	Asp	Glu	Leu	Pro	Ala	His	Met	Thr	Cys	Val
			85					90						95	
Leu	Glu	Ala	Glu	Ile	Arg	Lys	Ala	Glu	Lys	Ala	Glu	Arg	Glu	Ala	Arg
			100					105					110		
Asp	Leu	Lys	Gly	Thr	Met	Arg	Lys	Arg	Met	Glu	Phe	Leu	Asp	Phe	Asp
		115					120					125			

<210> 116

<211> 441

<212> DNA

<213> Zea mays

<400> 116

atgcttcccc	tctcgctcct	caagaccgcc	caggggcacc	caatgctcgt	ggagctgaag	60
aatggtgaga	cgtacaacgg	gcatctggtc	aattgcgaca	cgtggatgaa	catccacctt	120
agggaggtta	tttgcacctc	aaaggatggt	gacaagtgtt	ggaggatgcc	agagtgttac	180
attcgtggga	acaccattaa	gtatcttcga	gttcctgatg	aggtgattga	caagggttcag	240
gaggaaactt	ccaaaagccg	gtcagatagg	aagccaccag	gtgttggccg	cggaagagga	300
aggggggacg	ttggtgctaa	acctggaggc	agaggcatcg	gacgtggcca	agatgatgga	360
ggtagaggca	gtggtggccg	aggaaggggt	ggagtgtgtg	ccaaaggtgg	taacaaaggt	420
gggggccgtg	gccgtggcta	a				441

<210> 117

<211> 146

<212> PRT

<213> Zea mays

<400> 117

Met	Leu	Pro	Leu	Ser	Leu	Leu	Lys	Thr	Ala	Gln	Gly	His	Pro	Met	Leu
1				5					10					15	
Val	Glu	Leu	Lys	Asn	Gly	Glu	Thr	Tyr	Asn	Gly	His	Leu	Val	Asn	Cys
			20					25					30		

PF58787.ST25.txt

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Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
    35                                40                                45
Asp Gly Asp Lys Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
    50                                55                                60
Thr Ile Lys Tyr Leu Arg Val Pro Asp Glu Val Ile Asp Lys Val Gln
    65                                70                                75                                80
Glu Glu Thr Ser Lys Ser Arg Ser Asp Arg Lys Pro Pro Gly Val Gly
    85                                90                                95
Arg Gly Arg Gly Arg Gly Asp Val Gly Ala Lys Pro Gly Gly Arg Gly
    100                                105                                110
Ile Gly Arg Gly Gln Asp Asp Gly Gly Arg Gly Ser Gly Gly Arg Gly
    115                                120                                125
Arg Gly Gly Val Gly Ala Lys Gly Gly Asn Lys Gly Gly Gly Arg Gly
    130                                135                                140
Arg Gly
145

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<210> 118

<211> 82

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<220>

<221> UNSURE

<222> (4)..(4)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (10)..(10)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (13)..(14)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (18)..(18)

<223> Xaa can be any naturally occurring amino acid

<220>

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<222> (21)..(21)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (24)..(24)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (26)..(26)

<223> Xaa can be any naturally occurring amino acid

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<220>
<221>  UNSURE
<222>  (28)..(28)
<223>  Xaa can be any naturally occurring amino acid

<220>
<221>  UNSURE
<222>  (30)..(31)
<223>  Xaa can be any naturally occurring amino acid

<220>
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<222>  (41)..(41)
<223>  Xaa can be any naturally occurring amino acid

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<222>  (44)..(44)
<223>  Xaa can be any naturally occurring amino acid

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<222>  (46)..(46)
<223>  Xaa can be any naturally occurring amino acid

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<222>  (48)..(49)
<223>  Xaa can be any naturally occurring amino acid

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<222>  (52)..(62)
<223>  Xaa can be any naturally occurring amino acid

<220>
<221>  UNSURE
<222>  (64)..(64)
<223>  Xaa can be any naturally occurring amino acid

<220>
<221>  UNSURE
<222>  (66)..(67)
<223>  Xaa can be any naturally occurring amino acid

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<222>  (72)..(73)
<223>  Xaa can be any naturally occurring amino acid

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<222>  (76)..(76)
<223>  Xaa can be any naturally occurring amino acid

<220>
<221>  UNSURE
<222>  (79)..(81)

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<223> Xaa can be any naturally occurring amino acid

<400> 118

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Met Leu Pro Xaa Ser Leu Leu Lys Thr Xaa Leu Gly Xaa Xaa Met Leu
1      5      10      15
Val Xaa Leu Lys Xaa Gly Arg Xaa Leu Xaa Gly Xaa Leu Xaa Xaa Phe
      20      25      30
Asp Gln Trp Met Asn Ile Val Leu Xaa Glu Val Xaa Glu Xaa Val Xaa
      35      40      45
Xaa Gly Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa
      50      55      60
Glu Xaa Xaa Ile Arg Gly Asn Xaa Xaa Asn Ile Xaa Tyr Leu Xaa Xaa
65      70      75      80
Xaa Asp

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<210> 119

<211> 92

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<220>

<221> UNSURE

<222> (1)..(7)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (10)..(10)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (12)..(17)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (21)..(21)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (26)..(27)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (29)..(29)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (31)..(31)

<223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (33)..(34)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (37)..(37)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (39)..(39)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (44)..(64)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <222> (66)..(78)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <222> (85)..(85)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <222> (89)..(89)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (91)..(92)
 <223> Xaa can be any naturally occurring amino acid

<400> 119
 Xaa Xaa Xaa Xaa Xaa Xaa Leu Asn Xaa Ala Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Xaa Val Thr Val Xaa Leu Lys Asn Gly Xaa Xaa Leu Xaa Gly Xaa Val
 20 25 30
 Xaa Xaa Phe Asp Xaa Phe Xaa Asn Leu Leu Leu Xaa Xaa Xaa Xaa Xaa
 35 40 45
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 50 55 60
 Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 65 70 75 80
 Tyr Leu Arg Gly Xaa Ser Ile Ile Xaa Ile Xaa Xaa
 85 90

<210> 120
 <211> 83
 <212> PRT
 <213> Artificial sequence

PF58787.ST25.txt

<220>

<223> domain

<400> 120

```

Met Ser Trp Ala Ala Pro Asp Asp Ile Phe Phe Ser Thr Ser Leu Ala
1          5          10          15
Ala Tyr Leu Asp Lys Lys Leu Leu Val Leu Leu Arg Asp Gly Arg Lys
          20          25          30
Leu Met Gly Leu Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
          35          40          45
Glu Glu Ala Tyr Glu Arg Val Ile Val Gly Asp Leu Tyr Cys Asp Ile
          50          55          60
Pro Leu Gly Leu Tyr Ile Ile Arg Gly Glu Asn Val Val Leu Ile Gly
65          70          75          80
Glu Leu Asp

```

<210> 121

<211> 83

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 121

```

Met Ser Trp Ala Gly Pro Glu Glu Ile Tyr Leu Ser Thr Ser Leu Ala
1          5          10          15
Ser Tyr Leu Asp Arg Lys Leu Leu Val Leu Leu Arg Asp Gly Arg Lys
          20          25          30
Leu Met Gly Thr Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
          35          40          45
Glu Gly Ala Cys Glu Arg Val Ile Val Gly Glu Gln Tyr Cys Asp Ile
          50          55          60
Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
65          70          75          80
Glu Leu Asp

```

<210> 122

<211> 74

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 122

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Met Leu Phe Phe Ser Tyr Phe Lys Asp Leu Val Gly Gln Glu Val Thr
1          5          10          15
Val Glu Leu Lys Asn Asp Leu Ala Ile Arg Gly Thr Leu His Ser Val
          20          25          30
Asp Gln Tyr Leu Asn Ile Lys Leu Glu Asn Thr Arg Val Val Asp Gln
          35          40          45
Asp Lys Tyr Pro His Met Leu Ser Val Arg Asn Cys Phe Ile Arg Gly
          50          55          60
Ser Val Val Arg Tyr Val Gln Leu Pro Lys
65          70

```

<210> 123
 <211> 84
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 123
 Met Ser Val Glu Glu Asp Ala Thr Val Arg Glu Pro Leu Asp Leu Ile
 1 5 10 15
 Arg Leu Ser Ile Glu Glu Arg Ile Tyr Val Lys Leu Arg Ser Asp Arg
 20 25 30
 Glu Leu Arg Gly Lys Leu His Ala Phe Asp Gln His Leu Asn Met Ile
 35 40 45
 Leu Gly Asp Val Glu Glu Val Ile Thr Thr Ile Glu Ile Asp Asp Glu
 50 55 60
 Thr Tyr Glu Glu Ile Val Arg Thr Thr Lys Arg Thr Val Pro Phe Leu
 65 70 75 80
 Phe Val Arg Gly

<210> 124
 <211> 84
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 124
 Met Ser Gly Glu Glu Glu Ala Thr Val Arg Glu Pro Leu Asp Leu Ile
 1 5 10 15
 Arg Leu Ser Leu Asp Glu Arg Ile Tyr Val Lys Leu Arg Ser Asp Arg
 20 25 30
 Glu Leu Arg Gly Lys Leu His Ala Phe Asp Gln His Leu Asn Met Ile
 35 40 45
 Leu Gly Asp Val Glu Glu Thr Ile Thr Thr Val Glu Ile Asp Asp Glu
 50 55 60
 Thr Tyr Glu Glu Ile Val Arg Thr Thr Lys Arg Thr Ile Glu Phe Leu
 65 70 75 80
 Phe Val Arg Gly

<210> 125
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 125
 Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
 1 5 10 15
 Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
 20 25 30
 Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
 35 40 45

PF58787.ST25.txt

Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
 50 55 60
 Thr Ile Lys Tyr Leu Arg Val Pro Asp
 65 70

<210> 126
 <211> 82
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 126
 Met Ala Asn Asn Pro Ser Gln Leu Leu Pro Ser Glu Leu Ile Asp Arg
 1 5 10 15
 Cys Ile Gly Ser Lys Ile Trp Val Ile Met Lys Gly Asp Lys Glu Leu
 20 25 30
 Val Gly Ile Leu Lys Gly Phe Asp Val Tyr Val Asn Met Val Leu Glu
 35 40 45
 Asp Val Thr Glu Tyr Glu Ile Thr Ala Glu Gly Arg Arg Val Thr Lys
 50 55 60
 Leu Asp Gln Ile Leu Leu Asn Gly Asn Asn Ile Ala Ile Leu Val Pro
 65 70 75 80
 Gly Gly

<210> 127
 <211> 84
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 127
 Met Ser Gly Val Glu Glu Lys Val Ser Gly Thr Thr Lys Thr Pro Ala
 1 5 10 15
 Asp Phe Leu Lys Ser Ile Arg Gly Arg Pro Val Val Val Lys Leu Asn
 20 25 30
 Ser Gly Val Asp Tyr Arg Gly Thr Leu Thr Cys Leu Asp Gly Tyr Met
 35 40 45
 Asn Ile Ala Met Glu Gln Thr Glu Glu Tyr Val Asn Gly Gln Leu Lys
 50 55 60
 Asn Lys Tyr Gly Asp Ala Phe Ile Arg Gly Asn Asn Val Leu Tyr Ile
 65 70 75 80
 Ser Thr Val Asn

<210> 128
 <211> 84
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 128
 Met Ser Gly Val Gly Glu Lys Ala Ser Gly Thr Thr Lys Thr Pro Ala

PF58787.ST25.txt

```

1           5           10           15
Asp Phe Leu Lys Ser Ile Arg Gly Lys Pro Val Val Val Lys Leu Asn
      20           25           30
Ser Gly Val Asp Tyr Arg Gly Ile Leu Thr Cys Leu Asp Gly Tyr Met
      35           40           45
Asn Ile Ala Met Glu Gln Thr Glu Glu Tyr Val Asn Gly Gln Leu Lys
      50           55           60
Asn Thr Tyr Gly Asp Ala Phe Val Arg Gly Asn Asn Val Leu Tyr Ile
65           70           75           80
Ser Thr Thr Lys

```

<210> 129
 <211> 84
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

```

<400> 129
Met Ser Gly Arg Lys Glu Thr Val Leu Asp Leu Ala Lys Phe Val Asp
1           5           10           15
Lys Gly Val Gln Val Lys Leu Thr Gly Gly Arg Gln Val Thr Gly Thr
      20           25           30
Leu Lys Gly Tyr Asp Gln Leu Leu Asn Leu Val Leu Asp Glu Ala Val
      35           40           45
Glu Phe Val Arg Asp His Asp Asp Pro Leu Lys Thr Thr Asp Gln Thr
      50           55           60
Arg Arg Leu Gly Leu Ile Val Cys Arg Gly Thr Ala Val Met Leu Val
65           70           75           80
Ser Pro Thr Asp

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<210> 130
 <211> 76
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

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<400> 130
Met Ala Ala Thr Thr Gly Leu Glu Thr Leu Val Asp Gln Ile Ile Ser
1           5           10           15
Val Ile Thr Asn Asp Gly Arg Asn Ile Val Gly Val Leu Lys Gly Phe
      20           25           30
Asp Gln Ala Thr Asn Ile Ile Leu Asp Glu Ser His Glu Arg Val Phe
      35           40           45
Ser Thr Lys Glu Gly Val Gln Gln His Val Leu Gly Leu Tyr Ile Ile
      50           55           60
Arg Gly Asp Asn Ile Gly Val Ile Gly Glu Leu Asp
65           70           75

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<210> 131
 <211> 44
 <212> PRT
 <213> Artificial sequence

PF58787.ST25.txt

<220>

<223> domain

<400> 131

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Ser Phe Asp Gln Phe Ala Asn Val Val Leu Glu Gly Ala Cys Glu Arg
1          5          10          15
Val Ile Val Gly Asp Leu Tyr Cys Asp Val Pro Leu Gly Leu Tyr Val
          20          25          30
Ile Arg Gly Glu Asn Val Val Leu Ile Gly Glu Leu
          35          40
```

<210> 132

<211> 51

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 132

```
Leu Met Gly Leu Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
1          5          10          15
Glu Gly Ala Cys Glu Arg Val Ile Val Gly Asp Leu Tyr Cys Asp Ile
          20          25          30
His Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
          35          40          45
Glu Leu Asp
          50
```

<210> 133

<211> 84

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 133

```
Met Ser Ser Trp Ala Gly Pro Asp Glu Ile Phe Leu Ser Thr Ser Leu
1          5          10          15
Ala Gly Phe Leu Asp Lys Lys Leu Ile Val Leu Leu Arg Asp Gly Arg
          20          25          30
Lys Leu Leu Gly Thr Leu Cys Ser Phe Asp Gln Phe Ala Asn Val Val
          35          40          45
Leu Gln Gly Ala Cys Glu Arg Val Ile Val Gly Glu Leu Tyr Cys Asp
          50          55          60
Val Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile
65          70          75          80
Gly Glu Leu Asp
```

<210> 134

<211> 91

<212> PRT

<213> Artificial sequence

<220>

<223> domain

PF58787.ST25.txt

<400> 134

```
Met Ala Ala Ala Ala Ala Ala Ala Ala Glu Glu Glu Ile Ala Val
1      5      10      15
Lys Glu Pro Leu Asp Leu Ile Arg Leu Ser Leu Asp Glu Arg Ile Tyr
      20      25      30
Val Lys Leu Arg Ser Asp Arg Glu Leu Arg Gly Lys Leu His Ala Tyr
      35      40      45
Asp Gln His Leu Asn Met Ile Leu Gly Asp Val Glu Glu Ile Val Thr
      50      55      60
Thr Val Glu Ile Asp Asp Glu Thr Tyr Glu Glu Ile Val Arg Thr Thr
65      70      75      80
Lys Arg Thr Ile Pro Phe Leu Phe Val Arg Gly
      85      90
```

<210> 135

<211> 84

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 135

```
Met Ser Gly Arg Lys Glu Thr Val Leu Asp Leu Ala Lys Phe Val Asp
1      5      10      15
Lys Gly Val Gln Val Lys Leu Thr Gly Gly Arg Gln Val Thr Gly Thr
      20      25      30
Leu Lys Gly Tyr Asp Gln Leu Leu Asn Leu Val Leu Asp Glu Ala Val
      35      40      45
Glu Phe Glu Arg Glu Gln Asp Asp Pro Leu Lys Leu Ser Gly Lys Thr
      50      55      60
Arg Gln Leu Gly Leu Ile Val Cys Arg Gly Thr Ala Val Met Leu Val
65      70      75      80
Ser Pro Thr Asp
```

<210> 136

<211> 73

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 136

```
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1      5      10      15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
      20      25      30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
      35      40      45
Asp Gly Asp Lys Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
      50      55      60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
65      70
```

<210> 137

<211> 83

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 137

```

Met Ser Gln Asn Asn Pro Ser Gln Leu Leu Pro Ser Glu Leu Ile Asp
1          5          10          15
Arg Cys Ile Gly Ser Lys Ile Trp Val Ile Met Lys Gly Asp Lys Glu
          20          25          30
Leu Val Gly Thr Leu Cys Gly Phe Asp Val Tyr Val Asn Met Val Leu
          35          40          45
Glu Asp Val Thr Glu Tyr Glu Tyr Thr Ala Glu Gly Arg Arg Ile Thr
          50          55          60
Lys Leu Asp Gln Ile Leu Leu Asn Gly Asn Asn Ile Ala Ile Leu Val
65          70          75          80
Pro Gly Gly

```

<210> 138

<211> 90

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 138

```

Met Ser Thr Gly Gly Gly Ala Asp Lys Ser Gly Gly Gly Gly Gly Gly
1          5          10          15
Ala Val Lys Thr Pro Ser Asp Phe Leu Lys Ser Ile Arg Gly Arg Pro
          20          25          30
Val Val Val Lys Leu Asn Ser Gly Val Asp Tyr Arg Gly Ile Leu Ala
          35          40          45
Cys Leu Asp Gly Tyr Met Asn Ile Ala Met Glu Gln Thr Glu Glu Tyr
          50          55          60
Val Asn Gly Gln Leu Lys Asn Lys Tyr Gly Asp Ala Phe Ile Arg Gly
65          70          75          80
Asn Asn Val Leu Tyr Ile Ser Thr Ser Lys
          85          90

```

<210> 139

<211> 77

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 139

```

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

```


65

70

75

<210> 140

<211> 74

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 140

```

Ile Phe Leu Ser Thr Ser Leu Ala Gly Phe Leu Asp Lys Lys Leu Ile
1          5          10          15
Val Leu Leu Arg Asp Gly Arg Lys Leu Leu Gly Thr Leu Cys Ser Phe
          20          25          30
Asp Gln Phe Ala Asn Val Val Leu Gln Gly Ala Cys Glu Arg Val Ile
          35          40          45
Val Gly Glu Leu Tyr Cys Asp Val Pro Leu Gly Leu Tyr Val Ile Arg
          50          55          60
Gly Glu Asn Val Val Leu Ile Gly Glu Leu
65          70

```

<210> 141

<211> 76

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 141

```

Met Ala Ser Gly Leu Gly Leu Glu Ser Leu Val Asp Gln Thr Ile Ser
1          5          10          15
Val Ile Thr Asn Asp Gly Arg Asn Ile Val Gly Asn Leu Lys Gly Phe
          20          25          30
Asp Gln Ala Thr Asn Ile Ile Leu Asp Glu Ser His Glu Arg Val Tyr
          35          40          45
Ser Thr Lys Glu Gly Val Gln Gln Leu Val Leu Gly Leu Tyr Ile Ile
          50          55          60
Arg Gly Asp Asn Ile Ser Val Ile Gly Glu Leu Asp
65          70          75

```

<210> 142

<211> 50

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 142

```

Met Gly Leu Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Ile Glu
1          5          10          15
Glu Ala Tyr Glu Arg Val Ile Val Gly Asp Leu Tyr Cys Asp Ile Pro
          20          25          30
Leu Gly Leu Tyr Ile Ile Arg Gly Glu Asn Val Val Leu Ile Gly Glu
          35          40          45
Leu Asp
50

```

PF58787.ST25.txt

<210> 143
 <211> 83
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 143
 Met Ser Trp Ala Gly Pro Glu Asp Ile Tyr Leu Ser Thr Ser Leu Ala
 1 5 10 15
 Ser Tyr Leu Asp Arg Lys Ile Leu Val Leu Leu Arg Asp Gly Arg Lys
 20 25 30
 Leu Met Gly Thr Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
 35 40 45
 Glu Gly Ala Cys Glu Arg Val Ile Val Gly Glu Gln Tyr Cys Asp Ile
 50 55 60
 Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
 65 70 75 80
 Asp Leu Asp

<210> 144
 <211> 83
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 144
 Met Ser Trp Ala Gly Pro Glu Asp Ile Tyr Leu Ser Thr Ser Leu Ala
 1 5 10 15
 Ser Tyr Leu Asp Arg Lys Ile Leu Val Leu Leu Arg Asp Gly Arg Lys
 20 25 30
 Leu Met Gly Thr Leu Arg Ser Phe Asp Gln Phe Ala Asn Ala Val Leu
 35 40 45
 Glu Gly Ala Cys Glu Arg Val Ile Val Gly Glu Gln Tyr Cys Asp Ile
 50 55 60
 Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
 65 70 75 80
 Asp Leu Asp

<210> 145
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 145
 Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
 1 5 10 15
 Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
 20 25 30
 Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys

PF58787.ST25.txt

```

      35              40              45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
      50              55              60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
      65              70

```

<210> 146
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

```

<400> 146
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1              5              10              15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
      20              25              30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
      35              40              45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
      50              55              60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
      65              70

```

<210> 147
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

```

<400> 147
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1              5              10              15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
      20              25              30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
      35              40              45
Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
      50              55              60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
      65              70

```

<210> 148
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

```

<400> 148
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1              5              10              15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
      20              25              30

```

PF58787.ST25.txt

Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
 35 40 45
 Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
 50 55 60
 Thr Ile Lys Tyr Leu Arg Val Pro Asp
 65 70

<210> 149
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 149
 Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
 1 5 10 15
 Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
 20 25 30
 Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
 35 40 45
 Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
 50 55 60
 Thr Ile Lys Tyr Leu Arg Val Pro Asp
 65 70

<210> 150
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 150
 Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
 1 5 10 15
 Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
 20 25 30
 Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
 35 40 45
 Asp Gly Asp Arg Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
 50 55 60
 Thr Ile Lys Tyr Leu Arg Val Pro Asp
 65 70

<210> 151
 <211> 82
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

<400> 151
 Met Ala Asn Asn Pro Ser Gln Leu Leu Pro Ser Glu Leu Ile Asp Arg
 1 5 10 15
 Cys Ile Gly Ser Lys Ile Trp Val Ile Met Lys Gly Asp Lys Glu Leu

PF58787.ST25.txt

```

                20                25                30
Val Gly Thr Leu Arg Gly Phe Asp Val Tyr Val Asn Met Val Leu Glu
      35                40                45
Asp Val Thr Glu Tyr Glu Ile Thr Ala Glu Gly Arg Arg Ile Thr Lys
      50                55                60
Leu Asp Gln Ile Leu Leu Asn Gly Asn Asn Ile Ala Ile Leu Val Pro
65                70                75                80
Gly Gly

```

<210> 152
 <211> 83
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

```

<400> 152
Met Ser Trp Ala Gly Pro Asp Glu Ile Leu Leu Ser Thr Ser Leu Ala
1                5                10                15
Gly Phe Leu Asp Lys Lys Leu Ile Val Leu Leu Arg Asp Gly Arg Lys
      20                25                30
Leu Leu Gly Thr Leu Cys Ser Phe Asp Gln Phe Ala Asn Val Val Leu
      35                40                45
Gln Gly Ala Cys Glu Arg Val Ile Val Gly Glu Leu Tyr Cys Asp Val
      50                55                60
Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
65                70                75                80
Glu Leu Asp

```

<210> 153
 <211> 73
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

```

<400> 153
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1                5                10                15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
      20                25                30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
      35                40                45
Asp Gly Asp Lys Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
      50                55                60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
65                70

```

<210> 154
 <211> 83
 <212> PRT
 <213> Artificial sequence

<220>
 <223> domain

PF58787.ST25.txt

<400> 154

```
Met Ser Trp Ala Gly Pro Asp Glu Ile Leu Leu Ser Thr Ser Leu Ala
1      5      10      15
Gly Phe Leu Asp Lys Lys Leu Ile Val Leu Leu Arg Asp Gly Arg Lys
      20      25      30
Leu Leu Gly Thr Leu Cys Ser Phe Asp Gln Phe Ala Asn Val Val Leu
      35      40      45
Gln Gly Ala Cys Glu Arg Val Ile Val Gly Glu Leu Tyr Cys Asp Val
      50      55      60
Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
65      70      75      80
Glu Leu Asp
```

<210> 155

<211> 73

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 155

```
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1      5      10      15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
      20      25      30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
      35      40      45
Asp Gly Asp Lys Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
      50      55      60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
65      70
```

<210> 156

<211> 73

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 156

```
Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1      5      10      15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
      20      25      30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
      35      40      45
Asp Gly Asp Lys Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
      50      55      60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
65      70
```

<210> 157

<211> 83

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 157

```

Met Ser Trp Ser Ala Pro Asp Asp Ile Leu Leu Ser Thr Ser Leu Ala
1          5          10          15
Gly Phe Leu Asp Lys Lys Leu Ile Val Leu Leu Arg Asp Gly Arg Lys
          20          25          30
Leu Leu Gly Thr Leu Cys Ser Phe Asp Gln Phe Ala Asn Val Val Leu
          35          40          45
Gln Gly Ala Cys Glu Arg Val Ile Val Gly Gly Gln Tyr Cys Asp Val
          50          55          60
Pro Leu Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
65          70          75          80
Glu Leu Asp

```

<210> 158

<211> 73

<212> PRT

<213> Artificial sequence

<220>

<223> domain

<400> 158

```

Met Leu Pro Leu Ser Leu Leu Lys Thr Ala Gln Gly His Pro Met Leu
1          5          10          15
Val Glu Leu Lys Asn Gly Glu Thr Tyr Asn Gly His Leu Val Asn Cys
          20          25          30
Asp Thr Trp Met Asn Ile His Leu Arg Glu Val Ile Cys Thr Ser Lys
          35          40          45
Asp Gly Asp Lys Phe Trp Arg Met Pro Glu Cys Tyr Ile Arg Gly Asn
          50          55          60
Thr Ile Lys Tyr Leu Arg Val Pro Asp
65          70

```

<210> 159

<211> 46

<212> PRT

<213> Artificial sequence

<220>

<223> motif 1

<220>

<221> UNSURE

<222> (4)..(4)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (15)..(15)

<223> Xaa can be any naturally occurring amino acid

<400> 159

```

Gly Thr Leu Xaa Ser Phe Asp Gln Phe Ala Asn Val Val Leu Xaa Gly
1          5          10          15

```

PF58787.ST25.txt

Ala Cys Glu Arg Val Ile Val Gly Glu Leu Tyr Cys Asp Val Pro Leu
 20 25 30
 Gly Leu Tyr Val Ile Arg Gly Glu Asn Val Val Leu Ile Gly
 35 40 45

<210> 160
 <211> 23
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif 2

<400> 160
 Lys Ala Glu Arg Glu Ala Arg Asp Leu Lys Gly Thr Met Arg Lys Arg
 1 5 10 15
 Met Glu Phe Leu Asp Phe Asp
 20

<210> 161
 <211> 1828
 <212> DNA
 <213> Oryza sativa

<400> 161
 gcttgagtca tagggagaaa acaaatcgat catatttgac tcttttccct ccatctctct 60
 taccggcaaa aaaagtagta ctgggtttata tgtaaagtaa gattctttta ttatgtgaga 120
 tccggcttaa tgcttttctt ttgtcacata tactgcattg caacaattgc catatattca 180
 cttctgccat cccattatat agcaactcaa gaatggattg atatatcccc tattactaat 240
 ctgacatgt taaggctgag ttgggcagtc catcttccca acccaccacc ttctgttttc 300
 gcgcacatac ttttcaaact actaaatggt gtgtttttta aaaatatttt caatacaaaa 360
 gttgctttta aaaattatat tgatccattt ttttaaaaa aatagctaata acttaattaa 420
 tcacgtgtta aaagaccgct cggttttgctg tgcaggaggg atagggttcac atcctgcatt 480
 accgaacaca gcctaaatct tgttgtctag attcgtagta ctggatatat taaatcatgt 540
 tctaagttac tatatactga gatgaataga ataagtaaaa ttagaccac cttaggtctt 600
 gatgaagtta ctactagctg cgtttgggag gacttcccaa aaaaaaagt attagccatt 660
 agcacgtgat taattaagta ctagtttaaa aaacttaaaa aataaattaa tatgattctc 720
 ttaagtaact ctctataga aaacttttac aaaattacac cgtttaatat tttggaaaat 780
 atgtcagtaa aaaataagag agtagaagtt atgaaagtta gaaaaagaat tgttttagta 840
 gtatacagtt ataaactatt ccctctgttc taaaacataa gggattatgg atggattcga 900
 catgtaccag taccatgaat cgaatccaga caagtttttt atgcatattt attctactat 960
 aatataatc atctgtctta aatatcttat atttcgaggt ggagactgtc gctatgtttt 1020
 tctgccggtt gctaagcaca cgccaccccc gatgcgggga cgcctctggc cttcttgcca 1080
 cgataattga atggaacttc cacattcaga ttcgataggt gaccgtcgac tccaagtgtc 1140
 ttgcacaaaa caactccggc ctcccgcca ccagtcacac gactcacggc actaccaccc 1200
 ctgactccct gaggcggacc tgccactgtt ctgcatgcga agctatctaa aattctgaag 1260
 caaagaaagc acagcacatg ctccgggaca cgcgccaccc ggcggaagag ggctcgggtg 1320
 ggcgatctca cagccgcata tcgcatttca caagccgccc atctccaccg gcttcacgag 1380
 gtcacatgcg gcacgaccgc gcacggaacg cacgcggccg acccgcgcg ctcgatgcgc 1440
 gagcccatcc gccgcgtcct ccctttgcct ttgccgctat cctctcggtc gtatcccgtt 1500
 tctctgtctt ttgtccccg gcgcgcgcca gttcggagta ccagcgaaac ccggacacct 1560
 ggtacacctc cgccggccac aacgcgtgtc cccctacgt ggccgcgcag cacatgccca 1620
 tgcgcgacac gtgcacctcc tcaccaaacc tctcaagtct caacggtcct ataatgcac 1680
 ggatagcctc aagctgtctg tcacaaggca agaggcaaga ggcaagagca tccgtattaa 1740
 ccagcctttt gagacttgag agtgtgtgtg actcgatcca gcgtagtttc agttcgtgtg 1800
 ttggtgagtg attccagcca agtttgcg 1828

<210> 162
 <211> 53

PF58787.ST25.txt

<212> DNA
<213> Artificial sequence

<220>
<223> sense primer

<400> 162
ggggacaagt ttgtacaaaa aagcaggctt aaacaatgtc ttgggctgct cct 53

<210> 163
<211> 50
<212> DNA
<213> Artificial sequence

<220>
<223> antisense primer

<400> 163
ggggaccact ttgtacaaga aagctggggt ttctacaatg ctgcaacaca 50

<210> 164
<211> 1827
<212> DNA
<213> Oryza sativa

<400> 164
gcttgagtca tagggagaaa acaaatcgat catatttgac tcttttccct ccatctctct 60
taccggcaaa aaaagtagta ctggtttata tgtaaagtaa gattctttta ttatgtgaga 120
tccggcttaa tgcttttctt ttgtcacata tactgcattg caacaattgc catatattca 180
cttctgccat cccattatat agcaactcaa gaatggattg atatatcccc tattactaat 240
ctagacatgt taaggctgag ttgggcagtc catcttccca acccaccacc ttcgtttttc 300
gcgcacatac ttttcaaact actaaatggg gtgtttttta aaaatatttt caatacaaaa 360
gttgctttta aaaattatat tgatccattt ttttaaaaa aatagctaata acttaattaa 420
tcacgtgtta aaagaccgct ccgttttgcg tgcaggaggg atagggttcac atcctgcatt 480
accgaacaca gcctaaatct tgttgtctag attcgtagta ctggatatat taaatcatgt 540
tctaagttac tatatactga gatgaataga ataagtaaaa ttagaccacac cttaatgtct 600
gatgaagtta ctactagctg cgtttgggag gacttcccaa aaaaaaaagt attagccatt 660
agcacgtgat taattaagta ctagttttaa aaacttaaaa aataaattaa tatgattctc 720
ttaagtaact ctccatagaa aaacttttac aaaattacac cgttttaatag tttggaaaat 780
atgtcagtaa aaaataagag agtagaagtt atgaaagtta gaaaaagaat tgttttagta 840
gtatacagtt ataaactatt ccctctgttc taaaacataa gggattatgg atggattcga 900
catgtaccag taccatgaat cgaatccaga caagtttttt atgcatattt attctactat 960
aatatatcac atctgctcta aatatcttat atttcgaggt ggagactgtc gctatgtttt 1020
tctgcccgtt gctaagcaca cgccaccccc gatgcgggga cgcctctggc cttcttgcca 1080
cgataattga atggaacttc cacattcaga ttcgataggt gaccgtcgac tccaagtgtc 1140
ttgcacaaaa caactccggc ctcccggcca ccagtcacac gactcacggc actaccaccc 1200
ctgactccct gaggcggacc tgccactgtt ctgcatgcga agctatctaa aattctgaag 1260
caaagaaagc acagcacatg ctccgggaca cgcgccaccc ggcggaagag ggctcgggtg 1320
ggcgcgtctc cagccgcata tcgcatttca caagccgccc atctccaccg gcttcacgag 1380
gtcatcgcg gcacgaccgc gcacggaacg cacgcggccg acccgcgcg ctcgatgcgc 1440
gagcccatcc gccgcgtcct ccctttgcct ttgcccgtat cctctcggtc gtatcccgtt 1500
tctctgtctt ttgtcccccg gcgcgcgcca gttcggagta ccagcgaaac ccggacacct 1560
ggtacacctc cgccggccac aacgcgtgtc ccctacgtg gccgcgcagc acatgcccat 1620
gcgcgacacg tgcacctctc catccaaact ctcaagtctc aacggtccta taaatgcacg 1680
gatagcctca agctgctcgt cacaaggcaa gaggaagag gcaagagcat ccgtattaac 1740
cagccttttg agacttgaga gtgtgtgtga ctcgatccag cgtagtttca gttcgtgtgt 1800
tggtgagtga ttccagccaa gtttgcg 1827

<210> 165

PF58787.ST25.txt

<211> 975
<212> DNA
<213> Arabidopsis thaliana

<400> 165
atggcgggatt ttcagacatc aacacaacgg gccaaagtga ttttcactcc ccagaaactg 60
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actcaagttg aagtagatgc tagtggatca ctaacatata ctaaagataa agttgggttca 180
ggagatcaag ctgataagaa gcttaagcct ttgagtgtcg atgaagaaag gttcatgaga 240
gcatttttatg aggcaaaggt ccaagaagtg tgcagtgcct ttgcatttcc tcacaagatt 300
caggcaacag ccctccaata ctttaagaga ttttatctgc aatgggtctgt tatgcaacat 360
catccaaaag agataatggt aacctgtgtg tatgcagctt gtaaaataga ggagaatcat 420
gtatctgctg aggaaattgg gaaagggatt aaccaagatc accgaataat tctcaagtac 480
gagatggctg ttcttcagag tttggaattt gatctgattg tttatgcacc gtatcgtgca 540
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<211> 217
<212> PRT
<213> Arabidopsis thaliana

<400> 166
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35 40 45
Gly Ser Leu Thr Tyr Pro Lys Asp Lys Val Gly Ser Gly Asp Gln Ala
50 55 60
Asp Lys Lys Leu Lys Pro Leu Ser Ala Asp Glu Glu Arg Phe Met Arg
65 70 75 80
Ala Phe Tyr Glu Ala Lys Val Gln Glu Val Cys Ser Ala Phe Ala Phe
85 90 95
Pro His Lys Ile Gln Ala Thr Ala Leu Gln Tyr Phe Lys Arg Phe Tyr
100 105 110
Leu Gln Trp Ser Val Met Gln His His Pro Lys Glu Ile Met Leu Thr
115 120 125
Cys Val Tyr Ala Ala Cys Lys Ile Glu Glu Asn His Val Ser Ala Glu
130 135 140
Glu Ile Gly Lys Gly Ile Asn Gln Asp His Arg Ile Ile Leu Lys Tyr
145 150 155 160
Glu Met Ala Val Leu Gln Ser Leu Glu Phe Asp Leu Ile Val Tyr Ala
165 170 175
Pro Tyr Arg Ala Ile Glu Gly Phe Val Asn Asn Met Glu Glu Phe Leu
180 185 190
Gln Ala Arg Asp Asp Glu Ile Gln Lys Leu Glu Tyr Ser Ala Glu Phe
195 200 205
Ala Gln Arg Gly Asp Ser Arg Ser Arg
210 215

<210> 167

<211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer: prm02688

<400> 167
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<210> 168
 <211> 49
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer: prm02689

<400> 168
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<210> 169
 <211> 8
 <212> PRT
 <213> Artificial sequence

<220>
 <223> conserved motif

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 <223> /replace = "Arg"

<220>
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 <222> (3)..(3)
 <223> /replace = "Asp"

<220>
 <221> UNSURE
 <222> (6)..(6)

<400> 169
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<210> 170
 <211> 1236
 <212> DNA
 <213> Oryza sativa

<400> 170
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ttttaacttt	ttcatcacat	cagaactttt	ctacacatat	aaacttttaa	cttttccgtc	300
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<210> 171
 <211> 1828
 <212> DNA
 <213> *Oryza sativa*

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accgaacaca	gcctaaatct	tgttgtctag	attcgtagta	ctggatata	taa	540
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ccagcctttt	gagacttgag	agtggtgtgtg	actcgatcca	gcgtagtttc	agttcgtgtg	1800
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<210> 172
 <211> 1011
 <212> DNA
 <213> Arabidopsis thaliana

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 actcaagttg aagtagatgc tagtggatca ctaacatata ctaaagataa agttgggttca 180
 ggagatcaag ctgataagaa gcttaagcct ttgagtgtcg atgaagaaag gttcatgaga 240
 gcattttatg aggcaaaggt ccaagaagtg tgcagtgcct ttgcatttcc tcacaagatt 300
 caggcaacag ccctccaata ctttaagaga ttttatctgc aatgggtctgt tatgcaacat 360
 catccaaaag agataatgtt aacctgtgtg tatgcagctt gtaaaataga ggagaatcat 420
 gtatctgctg aggaaattgg gaaagggatt aaccaagatc accgaataat tctcaagtac 480
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 aaactagaga gtttgctcaa aggggcgaca gcagaagccg ataaagttat gctcacagat 660
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<210> 173
 <211> 336
 <212> PRT
 <213> Arabidopsis thaliana

<400> 173
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 20 25 30
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 35 40 45
 Gly Ser Leu Thr Tyr Pro Lys Asp Lys Val Gly Ser Gly Asp Gln Ala
 50 55 60
 Asp Lys Lys Leu Lys Pro Leu Ser Ala Asp Glu Arg Phe Met Arg
 65 70 75 80
 Ala Phe Tyr Glu Ala Lys Val Gln Glu Val Cys Ser Ala Phe Ala Phe
 85 90 95
 Pro His Lys Ile Gln Ala Thr Ala Leu Gln Tyr Phe Lys Arg Phe Tyr
 100 105 110
 Leu Gln Trp Ser Val Met Gln His His Pro Lys Glu Ile Met Leu Thr
 115 120 125
 Cys Val Tyr Ala Ala Cys Lys Ile Glu Glu Asn His Val Ser Ala Glu
 130 135 140
 Glu Ile Gly Lys Gly Ile Asn Gln Asp His Arg Ile Ile Leu Lys Tyr
 145 150 155 160
 Glu Met Ala Val Leu Gln Ser Leu Glu Phe Asp Leu Ile Val Tyr Ala
 165 170 175
 Pro Tyr Arg Ala Ile Glu Gly Phe Val Asn Asn Met Glu Glu Phe Leu
 180 185 190
 Gln Ala Arg Asp Asp Glu Ile Gln Lys Leu Glu Ser Leu Leu Lys Gly
 195 200 205
 Ala Thr Ala Glu Ala Asp Lys Val Met Leu Thr Asp Ala Pro Leu Leu
 210 215 220
 Phe Pro Pro Gly Gln Leu Ala Leu Ala Ser Leu Arg Ile Ala Asn Gly

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225		230		235		240									
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Gln	Pro	Asn	Ser	Glu	His	Thr	Thr	Ser	Glu	Leu	Thr	Lys	Leu	Leu	Asp
		260						265					270		
Asn	Ile	Glu	Tyr	Leu	Val	Lys	Asn	Tyr	Lys	Cys	Pro	Ser	Glu	Lys	Asp
		275					280					285			
Met	Lys	His	Ile	Asn	Arg	Lys	Leu	Lys	Ser	Cys	Leu	Gly	His	Ser	Ser
	290					295					300				
Ser	His	Asp	Glu	Ser	Lys	Lys	Arg	Glu	Lys	Arg	Ser	Lys	His	Lys	Ser
305					310					315				320	
His	Arg	Ser	Ser	Asn	Asp	Thr	Pro	Asn	Gly	Ala	Pro	Pro	Pro	Ile	Gly
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<210> 174
 <211> 1204
 <212> DNA
 <213> Populus tremula x Populus tremuloides

<400> 174
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 atccagaacc tcaagttaac atgacagaga atgctgataa gcattctcgt tcaaaaccaa 300
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 cacaggatca tcaaatgatt ctcaattacg agatgatagt ttatcagagt ttggaatttg 600
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 aaaa 1204

<210> 175
 <211> 332
 <212> PRT
 <213> Populus tremula x Populus tremuloides

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 35 40 45
 Gly Ser Leu Ser Tyr Pro Glu Pro Gln Val Asn Met Thr Glu Asn Ala
 50 55 60
 Asp Lys His Ser Arg Ser Lys Pro Ile Ser Val Glu Glu Glu Gln Phe
 65 70 75 80
 Met Arg Val Tyr Tyr Glu Tyr Lys Leu Arg Glu Val Cys Ser Ala Phe

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Leu	Thr	Cys	Ile	Tyr	Ala	Ala	Cys	Lys	Ile	Glu	Glu	Asn	His	Val	Ser				
	130					135					140								
Ala	Glu	Glu	Leu	Gly	Lys	Gly	Ile	Ser	Gln	Asp	His	Gln	Met	Ile	Leu				
145					150					155					160				
Asn	Tyr	Glu	Met	Ile	Val	Tyr	Gln	Ser	Leu	Glu	Phe	Asp	Leu	Ile	Val				
			165					170					175						
Tyr	Ala	Pro	Tyr	Arg	Ser	Val	Glu	Gly	Phe	Val	Ala	Asp	Ile	Glu	Glu				
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Phe	Cys	His	Pro	Thr	Asp	Glu	Asn	Ile	Glu	Lys	Leu	Lys	Glu	Ile	Ala				
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Val	Ala	Glu	Val	Asp	Lys	Ile	Met	Leu	Thr	Asp	Ala	Pro	Val	Met	Phe				
	210					215					220								
Pro	Pro	Gly	Gln	Leu	Ala	Leu	Ala	Ala	Leu	Gln	Ser	Ala	Asn	Glu	Met				
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His	Arg	Val	Leu	Asp	Phe	Glu	Arg	Tyr	Leu	Glu	Ser	Val	Leu	Ser	Arg				
			245					250					255						
Gln	Asn	Ser	Ala	His	Met	Ile	Ser	Glu	Ile	Ser	Glu	Ser	Leu	His	Ala				
			260					265					270						
Val	Glu	Lys	Trp	Val	Arg	Lys	Tyr	Ser	Phe	Pro	Thr	Asp	Lys	Asp	Met				
	275					280						285							
Lys	His	Ile	Asn	Arg	Lys	Leu	Lys	Ser	Cys	Trp	Gly	His	Asn	Ser	His				
	290					295					300								
Asp	Asp	Asn	Lys	Lys	Arg	Glu	Lys	Lys	Ser	Lys	His	Lys	Ser	His	Lys				
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Ser	Ser	Asn	Glu	Met	Gln	Asn	Gly	Pro	Gly	Leu	Thr								
			325					330											

<210> 176
 <211> 1593
 <212> DNA
 <213> Oryza sativa

<400> 176

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<210> 177
 <211> 330
 <212> PRT
 <213> Oryza sativa

<400> 177

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			20					25					30		
Glu	Thr	Leu	Val	Gln	Tyr	Gly	Thr	Thr	Arg	Leu	Lys	Val	Asp	Pro	Val
			35				40					45			
Asp	Gly	Ser	Leu	Ser	Tyr	Pro	Glu	Pro	Ala	Pro	Asp	His	Val	Val	Gly
			50			55					60				
Ser	Ser	Gly	Val	Lys	Pro	Leu	Ser	Cys	Glu	Glu	Glu	Arg	Leu	Met	Arg
65					70					75					80
Val	Phe	Tyr	Glu	Gln	Lys	Ile	Gln	Glu	Val	Cys	Ser	Ala	Phe	Lys	Phe
				85					90					95	
Pro	His	Lys	Ile	Gln	Ala	Thr	Ala	Ile	Ile	Tyr	Phe	Lys	Arg	Phe	Tyr
			100					105					110		
Leu	Gln	Trp	Ser	Val	Met	Glu	His	Pro	Lys	His	Ile	Met	Leu	Thr	
		115					120					125			
Cys	Ile	Tyr	Ser	Ser	Cys	Lys	Val	Glu	Glu	Asn	His	Val	Ser	Ala	Glu
		130				135					140				
Glu	Leu	Gly	Lys	Gly	Ile	Gln	Gln	Asp	His	Gln	Ile	Ile	Leu	Asn	Asn
145					150					155					160
Glu	Met	Ile	Val	Leu	Lys	Ser	Leu	Asp	Phe	Asp	Leu	Ile	Val	Tyr	Ala
				165					170					175	
Pro	Tyr	Arg	Ser	Ile	Glu	Gly	Phe	Val	Asp	Asp	Met	Glu	Asp	Phe	Cys
			180					185					190		
Arg	Ala	Gly	Asn	Gly	Glu	His	Gln	Arg	Leu	Gln	Asp	Leu	Arg	Gln	Thr
		195					200					205			
Ala	Ile	Ser	Gln	Val	Asp	Lys	Met	Met	Leu	Thr	Asp	Ala	Pro	Leu	Leu
		210				215					220				
Tyr	Thr	Pro	Gly	Gln	Leu	Ala	Leu	Ala	Ala	Leu	His	Lys	Ser	Asn	Asp
225					230					235					240
Met	His	Lys	Ile	Leu	Asn	Phe	Glu	Arg	Tyr	Leu	Glu	Ser	Val	Phe	Ser
			245						250					255	
Arg	Gln	His	Ser	Asp	Cys	Pro	Ile	Glu	Gln	Phe	Val	Gly	Ser	Ile	Asn
			260					265					270		
Met	Ile	Asn	Tyr	Leu	Val	Glu	Gln	Leu	Lys	Ile	Pro	Thr	Pro	Lys	Asp
		275					280					285			
Met	Arg	His	Ile	Asp	Arg	Lys	Leu	Lys	His	Cys	Leu	Asp	Pro	Ser	Ser
		290				295					300				
Gln	Asp	Glu	His	Lys	Lys	Lys	Glu	Lys	Lys	Ser	Lys	His	Lys	Ser	Lys
305					310					315					320
Arg	Ala	Ala	Asn	Glu	Ala	Gln	Leu	Asp	Ser						
			325						330						

<210> 178
 <211> 1434
 <212> DNA

<213> Lycopersicon esculentum

<400> 178

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ggaaaatgcc agttttattgg aaagagaatt agaatcggca gataaaagat atggcgggatt    60
tcatgacatc tactcataaa accaagtgga tttatactct ccaagatatt aaacataagt    120
acaaagttgc taatcaaagg gcgaacaag cactagagat gtttggaaca actcgaatgg    180
aagttgatat tgatgggact ttctcgtatg ctgaaagtca aaatgacaca aaagataacg    240
ctgaaaagcg tcctaaacca ctcaaagttg aagaagaaca gcttctaagg gctttctacg    300
aattcaaaat tcaagacggt tgtgatgcct ttaagttccc tcgtaagatt caggcaacag    360
ccctcattta ttttaagagg ttttatctgc tgtggtccgt gatggaacat caccctaaag    420
acattatggt aacgtgcata tatgcagctt gcaaggcaga ggaaaatcat gtatcagctg    480
aggagcttgg taaggggatt ggacaggatc atcatgttat cctcaataat gagatgctgg    540
tttttcagag tctaggattt gatcttattg cttatgctcc atatcgtgca ctcgaagggt    600
ttatcagtaa ttttagaggag ttctgtggag ctcaagataa cgaccagctt ctggcactga    660
aggggtgcact tgatactgct aggattgaag cagataagat tatgcgtagt gatggaccac    720
ttctattccc acctgggcag ttggcattga cagctctgca tagagctgat gcagcgcagt    780
gcatatttoga ttttgagagg tacttgagaa gtgtcctatc acatcatgat cagccaggtc    840
atgccatttc agaacttact gattctataa acgttatcga ttctttgggt ggtaaacttt    900
tgactccgac ttccaaagac gtgaagcaca ttgatcggaa actcaaataca tgtcttgatc    960
cgggttcaca tgacaagagt aaaaaaagga agcatagatc caaagatagc tcaaatagagg   1020
ttacagacat ctcttgagct gctcttaact caagtttgta gcttcaagcg tatgttattt   1080
ggcaatagtt catcattgct gctcatcaca gtttccagat atagagcaaa aaatccagtc   1140
atactggaag acaccgtcta ctacatttgc attaggtttg agagaagaag cagacgcgga   1200
aatgggatca aagtttatga attgaactca ttgtattggt taaattacgg gatttgatct   1260
tatatttggt cagattttta gtagttatat cgaaagttat gattcagatg aacatgtagt   1320
caaagcccca acatcttgtc ccagagaaga tcacattggt aaagatgtgt aagtaagaat   1380
ggacttattt gtctgtttta atataacttt tttggtttta aaaaaaaaaa aaaa       1434

```

<210> 179

<211> 328

<212> PRT

<213> Lycopersicon esculentum

<400> 179

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Met Ala Asp Phe Met Thr Ser Thr His Lys Thr Lys Trp Ile Tyr Thr
1          5          10          15
Leu Gln Asp Ile Lys His Lys Tyr Lys Val Ala Asn Gln Arg Ala Lys
20          25          30
Gln Ala Leu Glu Met Phe Gly Thr Thr Arg Met Glu Val Asp Ile Asp
35          40          45
Gly Thr Phe Ser Tyr Ala Glu Ser Gln Asn Asp Thr Lys Asp Asn Ala
50          55          60
Glu Lys Arg Pro Lys Pro Leu Lys Val Glu Glu Glu Gln Leu Leu Arg
65          70          75          80
Ala Phe Tyr Glu Phe Lys Ile Gln Asp Val Cys Asp Ala Phe Lys Phe
85          90          95
Pro Arg Lys Ile Gln Ala Thr Ala Leu Ile Tyr Phe Lys Arg Phe Tyr
100         105         110
Leu Leu Trp Ser Val Met Glu His His Pro Lys Asp Ile Met Leu Thr
115         120         125
Cys Ile Tyr Ala Ala Cys Lys Ala Glu Glu Asn His Val Ser Ala Glu
130         135         140
Glu Leu Gly Lys Gly Ile Gly Gln Asp His His Val Ile Leu Asn Asn
145         150         155         160
Glu Met Leu Val Phe Gln Ser Leu Gly Phe Asp Leu Ile Ala Tyr Ala
165         170         175
Pro Tyr Arg Ala Leu Glu Gly Phe Ile Ser Asn Leu Glu Glu Phe Cys
180         185         190
Gly Ala Gln Asp Asn Asp Gln Leu Leu Ala Leu Lys Gly Ala Leu Asp

```

PF58787.ST25.txt

```

      195              200              205
Thr Ala Arg Ile Glu Ala Asp Lys Ile Met Arg Ser Asp Gly Pro Leu
  210              215              220
Leu Phe Pro Pro Gly Gln Leu Ala Leu Thr Ala Leu His Arg Ala Asp
  225              230              235              240
Ala Ala His Gly Ile Phe Asp Phe Glu Arg Tyr Leu Arg Ser Val Leu
      245              250              255
Ser His His Asp Gln Pro Gly His Ala Ile Ser Glu Leu Thr Asp Ser
      260              265              270
Ile Asn Val Ile Asp Ser Leu Val Gly Lys Leu Leu Thr Pro Thr Ser
      275              280              285
Lys Asp Val Lys His Ile Asp Arg Lys Leu Lys Ser Cys Leu Asp Pro
      290              295              300
Gly Ser His Asp Lys Ser Lys Lys Arg Lys His Arg Ser Lys Asp Ser
  305              310              315              320
Ser Asn Glu Val Thr Asp Ile Ser
      325

```

<210> 180
 <211> 1600
 <212> DNA
 <213> Zea mays

```

<400> 180
aaaaccatca cgccttccc ggcgctcgcc gctgccaccc gtcgccgcgc gcctttccgc      60
caccgcgcgc cgctgttggc gcccaaacat cgcattctgt gttgctttat cccttttatt      120
ccacagccgc tctaagtggg ggggtgtccct ctatattcgc cgcttatagg aatcgagggg      180
tcgatcggct gtggtgctgt gtgactgtga acgaggagga gcgcaaagat ggctgatttc      240
cggacctcca cccaacggga gaggtggatc ttccagtcgc acgatttgat ggagaggtgg      300
gcgcgggcaa accagcgggc cgctcagacc ctctgcgcagt atgggacgac ccggcttaat      360
gtggacctgc ttgatggctc ggtatcctac ccagagtcca tgccggatca tgttgagggg      420
agctcgggtt taaagcctct ttcttacgaa gaggagcaat tgacaagggt attttacgag      480
cagaagattc aggaagtatg cgctgcattc aagtccctc acaaaatcca ggctacagca      540
ataatatatt tcaagagatt ctatctacaa tggctctgta tggagcatca accaaagcat      600
attatgttaa catgtgtata tgcttcttgc aaagtggaag aaaaccatgt ttctgctgag      660
gaacttggtg aaggaattca gcaggaccac cagatcattc taaataatga gatgattctt      720
cttaaaactt tagattttga tctcattggt tatgctccat atcgatcgat tgaaggattt      780
attgatgacc tagaggattt ctgcagggca ggtaatggtc cattccagcg tttgaaggag      840
ttgcgccagg ctgctatatc ccattgttgc aaaaatgatg tgactgatgc acctcttctc      900
tatacccctg ggcagttggc actggcggct cttcacaagt ctaatgatct tctcaggggc      960
gtcgattttg aaagatactt ggaaattatc ttctcaaggc aacattctga ttgtccaatc     1020
gaacagtttg ttcatcgat caacgaaatc aattacttag tcgaccagct taatatacct     1080
actgtcaaag acatgagaca cgtggaccgc aagctgaaac attgctggga tccaagctca     1140
catgacgagc ataacaagaa gaaagaaaag aagtcaaagc acaaatcgaa aagaacatct     1200
accgatgccc aactatagga agcatatggt ccagcagtggt ctttgtgtaa gagtacaacg     1260
ggcctccaaa tgatcgaaac tgaactcagg catctaagca cagcagctct aagacagctt     1320
tctacaccag ctgaggcata cctgaggtca agcaattttg tgacgatgtg ggctatggaa     1380
cttcattgct ccaatgggag agttgcagca aagatacaaa ctaagagatg taacattgga     1440
tgcctaactc caaagtacgg agaacttcaa attttatatg gccgactttg tgtcagccac     1500
aattacttga gttccttttg ttacggatgt agcattgttt attaagttta aacgccgaat     1560
ccaagatgat ccacctgctg ttgtgaatcg ttttttaact      1600

```

<210> 181
 <211> 329
 <212> PRT
 <213> Zea mays

```

<400> 181
Met Ala Asp Phe Arg Thr Ser Thr Gln Arg Glu Arg Trp Ile Phe Gln

```

PF58787.ST25.txt

```

1           5           10           15
Ser His Asp Leu Met Glu Arg Trp Ala Ala Ala Asn Gln Arg Ala Ala
                20           25           30
Gln Thr Leu Ala Gln Tyr Gly Thr Thr Arg Leu Asn Val Asp Leu Leu
                35           40           45
Asp Gly Ser Val Ser Tyr Pro Glu Ser Met Pro Asp His Val Glu Gly
                50           55           60
Ser Ser Val Val Lys Pro Leu Ser Tyr Glu Glu Glu Gln Leu Thr Arg
65           70           75           80
Val Phe Tyr Glu Gln Lys Ile Gln Glu Val Cys Ala Ala Phe Lys Phe
                85           90           95
Pro His Lys Ile Gln Ala Thr Ala Ile Ile Tyr Phe Lys Arg Phe Tyr
                100          105          110
Leu Gln Trp Ser Val Met Glu His Gln Pro Lys His Ile Met Leu Thr
                115          120          125
Cys Val Tyr Ala Ser Cys Lys Val Glu Glu Asn His Val Ser Ala Glu
130          135          140
Glu Leu Gly Lys Gly Ile Gln Gln Asp His Gln Ile Ile Leu Asn Asn
145          150          155          160
Glu Met Ile Leu Leu Lys Thr Leu Asp Phe Asp Leu Ile Val Tyr Ala
                165          170          175
Pro Tyr Arg Ser Ile Glu Gly Phe Ile Asp Asp Leu Glu Asp Phe Cys
                180          185          190
Arg Ala Gly Asn Gly Pro Phe Gln Arg Leu Lys Glu Leu Arg Gln Ala
                195          200          205
Ala Ile Ser His Val Asp Lys Met Met Leu Thr Asp Ala Pro Leu Leu
                210          215          220
Tyr Thr Pro Gly Gln Leu Ala Leu Ala Ala Leu His Lys Ser Asn Asp
225          230          235          240
Leu Leu Arg Val Val Asp Phe Glu Arg Tyr Leu Glu Ile Ile Phe Ser
                245          250          255
Arg Gln His Ser Asp Cys Pro Ile Glu Gln Phe Val Gln Ser Ile Asn
                260          265          270
Glu Ile Asn Tyr Leu Val Asp Gln Leu Asn Ile Pro Thr Val Lys Asp
                275          280          285
Met Arg His Val Asp Arg Lys Leu Lys His Cys Trp Asp Pro Ser Ser
                290          295          300
His Asp Glu His Asn Lys Lys Lys Glu Lys Lys Ser Lys His Lys Ser
305          310          315          320
Lys Arg Thr Ser Thr Asp Ala Gln Leu
                325

```

<210> 182
 <211> 1578
 <212> DNA
 <213> Triticum aestivum

```

<400> 182
cgctgcgct gccgcccgtc gccgcgcccc tctcggcgt cctccggaag acgccatagt    60
attgcggcat cccctccaca cccgcttcca tcaagcgggtg ttcaccagca ggggggaggg    120
gggctcgatt cggctgctgg gagcggaggt aggagcggcc aagatgtcgg atttcagac    180
ctccacgcac cgggagcggg ggatcttcca gccgcaggac ctggtgaata agtggacgac    240
ggcgaaccgg cggtcagcgg agatcctcgc ccagtatggg acgacgagat tgaaggtgga    300
ccctgttgat ggctcgatat cgaaccaga acctctgcct gatcatgttg ttgggagctc    360
gagcgtgaag cctctatcct gcgaagagga gcaagtgatg cggatatattt acgagcaaaa    420
gattcaagaa gtgtgcagag cattcaaatt cccccacaaa attcaggcta cagcgataat    480
atatttcaag agattctatc tacagtgggtc tgtaatggag caccacccaa agcatattat    540
gttaacttgt gtatatgctt cttgcaaagt ggaagaaaat catgtttctg ctgaggaact    600
tggaaggagg attcagcagg accaccagat cattctaat aatgagatga ttgttctgaa    660

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PF58787.ST25.txt

```

atcttttagat tttgatttga tcggtttatg ctccatatcg ttctatcgaa ggattttattg 720
atgacctgga tgatttatgt agggcacgta atggtgcaca ccaacggttg aaggatttgc 780
atcaaactgc gaattctgag gttgacacaa tgatgttgac tgatgcacct cttctctata 840
ctcctggaca gttggctttg gctgctctgt acaagtccaa cagtgcactc agtgtcctcg 900
atthttgaaag atacttgga agtggttttt caaggcaaca ctttgattgt cctgtcgaac 960
aatthattca gataatcagt tcaatcaatc acctggttag ccagcttcaa ctacctggta 1020
cgaaagaaat gaggcattgt gatcgcaagc tgaagcattg tttggatcca agctcaagct 1080
ctcatgatga ccacaagaag aaagaaaaga agtcaaagca caaatcgaaa aggactgcc 1140
gtgatgcccc gctcaacagc tagaaatcgt gcagttggac agctgtgctg tgtaagaaat 1200
cgtgcagttg gtggcaagga cttgtactgt gctaggcgcg ttagctgctt tatcatgcaa 1260
ccaagttcta ctcaagctct tcgattgatg cgatttcaat tccgacttta tccagccatc 1320
ggatcagtgga tgctgagcgg atctcctcac cagcctaagt cttggctaag gacagacagt 1380
tttcggatga ggcgccttac tgtaaccttg cagtcctgc gccagcgagt gctgtgcttt 1440
ttgtaactca ataattttat tattagggag gcttaaactt tgggcgcgag gggagagaaa 1500
ctttgaggtg taaaacatta ttactagagt aacttagggc ctgtttggtt tcaaataagt 1560
caccaacttt taggtcgc 1578

```

<210> 183
 <211> 332
 <212> PRT
 <213> Triticum aestivum

<400> 183

Met	Ser	Asp	Phe	Gln	Thr	Ser	Thr	His	Arg	Glu	Arg	Trp	Ile	Phe	Gln
1				5				10					15		
Pro	Gln	Asp	Leu	Val	Asn	Lys	Trp	Thr	Thr	Ala	Asn	Arg	Arg	Ser	Ala
			20					25					30		
Glu	Ile	Leu	Ala	Gln	Tyr	Gly	Thr	Thr	Arg	Leu	Lys	Val	Asp	Pro	Val
		35					40					45			
Asp	Gly	Ser	Ile	Ser	Asn	Pro	Glu	Pro	Val	Pro	Asp	His	Val	Val	Gly
	50					55					60				
Ser	Ser	Ser	Val	Lys	Pro	Leu	Ser	Cys	Glu	Glu	Glu	Gln	Val	Met	Arg
65					70				75					80	
Ile	Phe	Tyr	Glu	Gln	Lys	Ile	Gln	Glu	Val	Cys	Arg	Ala	Phe	Lys	Phe
				85					90					95	
Pro	His	Lys	Ile	Gln	Ala	Thr	Ala	Ile	Ile	Tyr	Phe	Lys	Arg	Phe	Tyr
			100					105					110		
Leu	Gln	Trp	Ser	Val	Met	Glu	His	His	Pro	Lys	His	Ile	Met	Leu	Thr
		115					120					125			
Cys	Val	Tyr	Ala	Ser	Cys	Lys	Val	Glu	Glu	Asn	His	Val	Ser	Ala	Glu
	130					135					140				
Glu	Leu	Gly	Lys	Gly	Ile	Gln	Gln	Asp	His	Gln	Ile	Ile	Leu	Asn	Asn
145					150					155				160	
Glu	Met	Ile	Val	Leu	Lys	Ser	Leu	Asp	Phe	Asp	Leu	Ile	Val	Tyr	Ala
				165					170					175	
Pro	Tyr	Arg	Ser	Ile	Glu	Gly	Phe	Ile	Asp	Asp	Met	Asp	Asp	Phe	Cys
			180					185					190		
Arg	Ala	Gly	Asn	Gly	Ala	His	Gln	Arg	Leu	Lys	Asp	Leu	His	Gln	Thr
		195				200						205			
Ala	Asn	Ser	Glu	Val	Asp	Thr	Met	Met	Leu	Thr	Asp	Ala	Pro	Leu	Leu
	210					215					220				
Tyr	Thr	Pro	Gly	Gln	Leu	Ala	Leu	Ala	Ala	Leu	Tyr	Lys	Ser	Asn	Ser
225					230					235				240	
Ala	Leu	Ser	Val	Leu	Asp	Phe	Glu	Arg	Tyr	Leu	Glu	Ser	Val	Phe	Ser
				245					250					255	
Arg	Gln	His	Phe	Asp	Cys	Pro	Val	Glu	Gln	Phe	Ile	Gln	Ile	Ile	Ser
			260					265					270		
Ser	Ile	Asn	His	Leu	Val	Ser	Gln	Leu	Gln	Leu	Pro	Gly	Thr	Lys	Glu
		275					280						285		

PF58787.ST25.txt

Met Arg His Ala Asp Arg Lys Leu Lys His Cys Leu Asp Pro Ser Ser
 290 295 300
 Ser Ser His Asp Asp His Lys Lys Lys Glu Lys Lys Ser Lys His Lys
 305 310 315 320
 Ser Lys Arg Thr Ala Ser Asp Ala Gln Leu Asn Ser
 325 330

<210> 184
 <211> 1564
 <212> DNA
 <213> Aquilegia formosa

<400> 184
 atccctgtca tggcgattct catcagctct ggaaataaaa ctatctaaaa ccctaacaat 60
 ctcttctctct ctctctctct ctctctctct ctctctctct ctctctctct ctctctctct 120
 ctctctctct ctgaaatctc catggctgat ttccaaacat caacgcaccg agctaaatgg 180
 attttcacac caaatgaact ggttgagaaa tacaaagttt ctaatcaaag agcaatcaaa 240
 atgtgaaagc agtatgggtc aacacgtata gaagtgaagt ctgatgggtc attgtcttac 300
 cctgaacctc aattggatgc aactaaagtt gaaaagcgct ccatacaaaa gccacttagt 360
 attgaagatg aacaacttat gcgggtgttc tatgaacaaa agattcaaga agtgtgtcta 420
 gcctttggat ttccacagaa aattcagggt acagccatca tttatttcaa gaggttctat 480
 ttgcaatggt ctgtaatgga gcatcatcca aaaaatataa tgtaaacgtg catatatgct 540
 tcatgtaaaa tagaagaaaa ccatgtatca gcagaggagc ttggtaaagg cattcaacag 600
 gatcatcaag tgattctcaa caacgagatg ctagtctctc agagtctggg atttgatctt 660
 attgtgtatg caccatatcg ctcaattgaa ggttttgtcg atgatataga ggatttctgc 720
 caagcaaacg accagctcga aatggtgaag gacctgaaag aaactgcaa gttggaagta 780
 gatcgaattt tacttacaga tgcaccactt ctgttcccac ctgggcagtt ggcgttggct 840
 gctttgcgta ggtcgaacga ggtacatgga gttcttgatt ttgagagata cttgggtagc 900
 atcatctctc gtcaacagtc tatgcacact agttcagagc tgattgaatc tctgaatctg 960
 atatatcttc tgcttgtaaa actcaaaatg ccttcaagcg atgatatgaa gcccatagat 1020
 aggaaactaa gatattgttt ggatccaagc ttgcaggatg ataagaaacg tgaaaagaga 1080
 tcaaaacaca agtcgaagaa aagttcaagc gaaaagcatg gcttgccctc ttctacgcca 1140
 tcttaatttc caagccatgt tggtattgtg cttcagggtg aggagcctat atgttttata 1200
 tacaaagcag ctgttcttca tgaacaagaa aatgcacctc gaccagtcga gaatgttcac 1260
 atgtttttaga aagacagatt ggcaaacttt cttcgaggac ctctgtttata cacacggtgt 1320
 tcctctccat ccagttgcta atccattcac tgtatgggat atatggcagc aaatagagct 1380
 ggacattatt gttgtaaaac caaacctca gtttataacc aatgtcagac tgggtggcatc 1440
 agaagaggag cttttttttg agttggtgat attattcttg ttgtgagcaa attttttttt 1500
 ttttttttga tatatttctg agcatttcag agtatgtaca acgggtagtt gaaattttgt 1564
 ttgt 1564

<210> 185
 <211> 334
 <212> PRT
 <213> Aquilegia formosa

<400> 185
 Met Ala Asp Phe Gln Thr Ser Thr His Arg Ala Lys Trp Ile Phe Thr
 1 5 10 15
 Pro Asn Glu Leu Val Glu Lys Tyr Lys Val Ser Asn Gln Arg Ala Ile
 20 25 30
 Lys Met Leu Lys Glu Tyr Gly Ser Thr Arg Ile Glu Val Ser Ala Asp
 35 40 45
 Gly Ser Leu Ser Tyr Pro Glu Pro Gln Leu Asp Ala Thr Lys Val Glu
 50 55 60
 Lys Arg Ser His Thr Lys Pro Leu Ser Ile Glu Asp Glu Gln Leu Met
 65 70 75 80
 Arg Val Phe Tyr Glu Gln Lys Ile Gln Glu Val Cys Leu Ala Phe Gly
 85 90 95

PF58787.ST25.txt

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

<210> 186
<211> 1225
<212> DNA
<213> Solanum tuberosum

<400> 186
ttcctccatc acaaagcctt aagcccttcc ggtatattaa cccgctgctg gtctctccgg 60
gcgatcgatt caccggcgaa aaatctgcca tcttctagag atgaaacgct gggccatggc 120
atagtttatt ggaagatcac atccaaacga aaattagaat tggcagagag aagacatggc 180
tgatttcgtg acatctactc ataaaaccaa gtggattttt actccccaag atattaaaca 240
taagtataaa gttgctaata acagagcgaa acaagcacta gagaagtatg gaacaacgag 300
aatggaagtt gatattgatg ggtcgttctc gtatgctgaa agtcaaaatg acgcaaaaga 360
tagtgctgaa aagcgtccta aaccactcaa ggttgaagaa gaacaacttc taagggtctt 420
ctacgagttc aaaattcaag acgtctgtga tgcctttaag ttcccacgta agattcaggc 480
gacagctctc atttatttta agaggtttta tctacaatgg tccgtgatgg aacatcaccc 540
taaagacatt atgttaacct gcatatatgc agcttgcaag gcagaggaaa accatgtatc 600
agctgaggag cttgggaagg gtattggaca ggatcatcat gtaatcctca acaatgagat 660
gctgggtttc cagagtctag gatttgatct aattgtttat gctccatata gggctcttga 720
aagttttatc agtgatttag aggaattctg tggagctaaa gatgaagacc agcttgtggc 780
actgaagggt tcaactgata ctgctaggat tgaagcagat aagattatgc gttctgatgg 840
accacttcta tccccacctg ggcagttggc attgacagct ttgcatagag ctaacgcagc 900
gcatagcata tttgattttg agaggtaact aagaagtgtc ctatcacatt atgagccagc 960
tcatgccatt tcagaacttg ctggttctat aaatgccatt gattcttttg ttggcaaaact 1020
tttgactcgc acttccaaag atgtgaagca cgttgatcgg aaactcaaat catgtcttga 1080
tccgggggtc acatgacaag agtaaaaaaa ggaagcatag atccaaagat agctcacatg 1140
aggcctacag acatatcttg aaactgctct aactcagttt gtaacttcaa gcatatctta 1200
ttttgcccatt ggaatatatt ctcat 1225

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<210> 187
 <211> 305
 <212> PRT
 <213> Solanum tuberosum

<400> 187
 Met Ala Asp Phe Val Thr Ser Thr His Lys Thr Lys Trp Ile Phe Thr
 1 5 10 15
 Pro Gln Asp Ile Lys His Lys Tyr Lys Val Ala Asn His Arg Ala Lys
 20 25 30
 Gln Ala Leu Glu Lys Tyr Gly Thr Thr Arg Met Glu Val Asp Ile Asp
 35 40 45
 Gly Ser Phe Ser Tyr Ala Glu Ser Gln Asn Asp Ala Lys Asp Ser Ala
 50 55 60
 Glu Lys Arg Pro Lys Pro Leu Lys Val Glu Glu Glu Gln Leu Leu Arg
 65 70 75 80
 Ala Phe Tyr Glu Phe Lys Ile Gln Asp Val Cys Asp Ala Phe Lys Phe
 85 90 95
 Pro Arg Lys Ile Gln Ala Thr Ala Leu Ile Tyr Phe Lys Arg Phe Tyr
 100 105 110
 Leu Gln Trp Ser Val Met Glu His His Pro Lys Asp Ile Met Leu Thr
 115 120 125
 Cys Ile Tyr Ala Ala Cys Lys Ala Glu Glu Asn His Val Ser Ala Glu
 130 135 140
 Glu Leu Gly Lys Gly Ile Gly Gln Asp His His Val Ile Leu Asn Asn
 145 150 155 160
 Glu Met Leu Val Phe Gln Ser Leu Gly Phe Asp Leu Ile Val Tyr Ala
 165 170 175
 Pro Tyr Arg Ala Leu Glu Ser Phe Ile Ser Asp Leu Glu Glu Phe Cys
 180 185 190
 Gly Ala Lys Asp Glu Asp Gln Leu Val Ala Leu Lys Gly Ser Leu Asp
 195 200 205
 Thr Ala Arg Ile Glu Ala Asp Lys Ile Met Arg Ser Asp Gly Pro Leu
 210 215 220
 Leu Phe Pro Pro Gly Gln Leu Ala Leu Thr Ala Leu His Arg Ala Asn
 225 230 235 240
 Ala Ala His Ser Ile Phe Asp Phe Glu Arg Tyr Leu Arg Ser Val Leu
 245 250 255
 Ser His Tyr Glu Pro Ala His Ala Ile Ser Glu Leu Ala Gly Ser Ile
 260 265 270
 Asn Ala Ile Asp Ser Leu Val Gly Lys Leu Leu Thr Pro Thr Ser Lys
 275 280 285
 Asp Val Lys His Val Asp Arg Lys Leu Lys Ser Cys Leu Asp Pro Gly
 290 295 300
 Phe
 305

<210> 188
 <211> 1187
 <212> DNA
 <213> Saccharum officinarum

<400> 188
 ctccccggcg ctcgccgctg ccatccgctg ccgcgcgcct ttccaccggt cgccgcccgt 60
 attcgcgccc aaacagcgca tcctgctgtt gtgtcattcc tttccacaga caccgctct 120
 aagtgggtggg tgccccgcta tactcgccgc ttatcggaac cgagggttcg atcggtctgtg 180
 ggtgactgtg aaggaggagg agcgcaaaga tggctgattt ccggacctca acccaacggg 240
 agaggtggat cttccagtcg cacgatctga tggagaggtg ggcggcgcca aaccagcggg 300
 ctgctcagac ccttgccgag tatgggacga cgcggttag tgtggacctg cttgatggct 360

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cggctctccta cccagagccc gcaccggatc atgttgaggg tagctcgggt gtaaagcctc 420
tgtcttacga agaggagcaa ttgacacggg tattttatga gcagaagatt caggaagtat 480
gcgctgcatt caagttccct cacaaaatcc aggtacacgc aataatatat ttcaagagat 540
tctatttaca gtggtctgta atggagcatc acccaaagca taatatgtta acatgtgtat 600
atgcttcttg caaagtggaa gaaaaccatg tttctgctga ggaacttggg aaaggaattc 660
agcaggacca ccagatcatt ctaaataatg agatgattct tcttaaaact ttagattttg 720
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cactggctgc tcttcacaag tccaatgatc ttctcagggt cgtcaatttt gaaagatact 960
tggaactat cttctcaagg caacattctg attgtccggg cgaacagttt gttcagtcga 1020
tcaacacaat caattacttg gttgaccagc ttaatatacc tactgttaag gacatgaggc 1080
acgtcgaacg gaagctgaaa cattgttggg attcaagctc ccattatgag ccttagaaga 1140
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<210> 189

<211> 308

<212> PRT

<213> Saccharum officinarum

<400> 189

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Met Ala Asp Phe Arg Thr Ser Thr Gln Arg Glu Arg Trp Ile Phe Gln
1      5      10      15
Ser His Asp Leu Met Glu Arg Trp Ala Ala Ala Asn Gln Arg Ala Ala
20     25     30
Gln Thr Leu Ala Gln Tyr Gly Thr Thr Arg Leu Ser Val Asp Leu Leu
35     40     45
Asp Gly Ser Val Ser Tyr Pro Glu Pro Ala Pro Asp His Val Glu Gly
50     55     60
Ser Ser Gly Val Lys Pro Leu Ser Tyr Glu Glu Glu Gln Leu Thr Arg
65     70     75     80
Val Phe Tyr Glu Gln Lys Ile Gln Glu Val Cys Ala Ala Phe Lys Phe
85     90     95
Pro His Lys Ile Gln Ala Thr Ala Ile Ile Tyr Phe Lys Arg Phe Tyr
100    105    110
Leu Gln Trp Ser Val Met Glu His His Pro Lys His Asn Met Leu Thr
115    120    125
Cys Val Tyr Ala Ser Cys Lys Val Glu Glu Asn His Val Ser Ala Glu
130    135    140
Glu Leu Gly Lys Gly Ile Gln Gln Asp His Gln Ile Ile Leu Asn Asn
145    150    155    160
Glu Met Ile Leu Leu Lys Thr Leu Asp Phe Asp Leu Ile Val Tyr Ala
165    170    175
Pro Tyr Arg Ser Ile Glu Gly Phe Ile Asp Asp Leu Glu Asp Phe Cys
180    185    190
Arg Ala Gly Asn Gly Pro Phe Gln Arg Leu Lys Glu Leu Arg Gln Ala
195    200    205
Ala Ile Ser Arg Val Asp Lys Met Met Leu Thr Asp Ala Pro Leu Leu
210    215    220
Tyr Thr Pro Gly Gln Leu Ala Leu Ala Ala Leu His Lys Ser Asn Asp
225    230    235    240
Leu Leu Arg Val Val Asn Phe Glu Arg Tyr Leu Glu Thr Ile Phe Ser
245    250    255
Arg Gln His Ser Asp Cys Pro Val Glu Gln Phe Val Gln Ser Ile Asn
260    265    270
Thr Ile Asn Tyr Leu Val Asp Gln Leu Asn Ile Pro Thr Val Lys Asp
275    280    285
Met Arg His Val Glu Arg Lys Leu Lys His Cys Trp Asp Ser Ser Ser
290    295    300

```


His Tyr Glu Pro
305

<210> 190
<211> 969
<212> DNA
<213> *Ostreococcus tauri*

<400> 190
atgtgcgatt acgcctcatc gacgcagcgc gagcactggc tccatgaatc cgtcgcccag 60
gtcgacgcga gacgcgcgcg cgcgcgcgtg gagacgttcg agcgcgcgaa agcatcgagc 120
gagtcgtcaa cctcagccat ggaaaccgaa gcgctgacgc ccgaagagga gcgaacgatac 180
gtgaggtacc acgaggcgaa gatacaatcc gtctgcgcgc cgtttgcgct gccgagaaaag 240
gtgaagaaca cggcgggtgat gctgttcaag cgcttcgcgc tggattgcgc gacgcacgcg 300
caatcgctga agatcatgat gctgacgagc gtgtacgtag cgtgtaaggc ggaggagagc 360
tacatctcgc cggaggagtt ctgtaagggc gtgagagagg acccgtcgcg agtggttagcg 420
gcggagggtga cgtttctatc tggattgaag ttctcggttg tgtgctacgc agcgacgcgcg 480
ccgctggacg ggttcctgat ggacgtcgag gacggtgggt gcaaggagc gacgtcgaaa 540
cagctcatcg agtgcagaaa gaaagcgtaa gatatcgtcg atcggttgat gctgacggac 600
gcgccgctga ttcgaccgcc ggggcagatc gcgctgtgcg cgcttcgctc gccgcgcgcg 660
gaatgcgggg cgagtgaact cgaaaagtat tgcgaagacg tcggcgcgcg agggacgacc 720
aaggcgcgcg gcggagcgaa actcaaggaa atcttagacg atatcgaatc gcacgtcgac 780
gaggcggttg aaccgcgcgc ggctgtcgtg aaggagattg acaaaaagct caaactctgg 840
cgtgccaaat atctggctaa gacgccggca gcggacgacg ctggcgatgc gcagaaagct 900
gcgaaacgtc gaaagagcga acaatctaga caagacatga tcgccgccga ggaggacgcg 960
ctcggataa 969

<210> 191
<211> 322
<212> PRT
<213> *Ostreococcus tauri*

<400> 191
Met Cys Asp Tyr Ala Ser Ser Thr Gln Arg Glu His Trp Leu His Glu
1 5 10 15
Ser Val Ala Gln Val Asp Ala Arg Arg Ala Arg Ala Arg Val Glu Thr
20 25 30
Phe Glu Arg Ala Lys Ala Ser Ser Glu Ser Ser Thr Ser Ala Met Glu
35 40 45
Thr Glu Ala Leu Thr Pro Glu Glu Arg Thr Ile Val Arg Tyr His
50 55 60
Glu Ala Lys Ile Gln Ser Val Cys Gly Ala Phe Ala Leu Pro Arg Lys
65 70 75 80
Val Lys Asn Thr Ala Val Met Leu Phe Lys Arg Phe Ala Val Asp Cys
85 90 95
Gly Thr His Ala Gln Ser Leu Lys Ile Met Met Leu Thr Ser Val Tyr
100 105 110
Val Ala Cys Lys Val Glu Glu Ser Tyr Ile Ser Ala Glu Glu Phe Cys
115 120 125
Lys Gly Val Arg Glu Asp Pro Ser Arg Val Leu Ala Ala Glu Val Thr
130 135 140
Phe Leu Ser Gly Leu Lys Phe Arg Leu Val Cys Tyr Gly Ala Thr Arg
145 150 155 160
Pro Leu Asp Gly Phe Leu Met Asp Val Glu Asp Gly Gly Cys Lys Gly
165 170 175
Ala Thr Ser Lys Gln Leu Ile Glu Cys Arg Lys Lys Ala Leu Asp Ile
180 185 190
Val Asp Arg Leu Met Leu Thr Asp Ala Pro Leu Ile Arg Pro Pro Gly
195 200 205

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Gln Ile Ala Leu Cys Ala Leu Arg Arg Ala Ala Arg Glu Cys Gly Ala
 210 215 220
 Ser Glu Leu Glu Lys Tyr Cys Glu Asp Val Gly Ala Arg Gly Thr Thr
 225 230 235 240
 Lys Ala Pro Arg Gly Ala Lys Leu Lys Glu Ile Leu Asp Asp Ile Glu
 245 250 255
 Ser His Val Asp Glu Gly Val Glu Pro Asp Ala Ala Val Val Lys Glu
 260 265 270
 Ile Asp Lys Lys Leu Lys Leu Trp Arg Ala Lys Tyr Leu Ala Lys Thr
 275 280 285
 Pro Ala Ala Asp Asp Ala Gly Asp Ala Gln Lys Ala Ala Lys Arg Arg
 290 295 300
 Lys Ser Glu Gln Ser Arg Gln Asp Met Ile Ala Ala Glu Glu Asp Ala
 305 310 315 320
 Leu Gly

<210> 192
 <211> 1244
 <212> DNA
 <213> Drosophila melanogaster

<400> 192
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 ctctctctct ctctcgcaag atgtatcctg tgagctcgca aaagaggtcc tggacattcg 120
 ccaatgaggg ccagctcatg gagttccgcg tggagcagaa cagcaagtac atcgagtcgc 180
 acgaggagga ggcgcagggg cgcgacctca atgagcactt tctcacgtcg gcggaggagc 240
 gcctgttgct gaagcagtac gagatctacc tggtcgattt ctgccgccgc ttcgaaccga 300
 cgatgcccga gtgcgttggt ggcacggcct tccactactt caagcgggtc tatctgaaca 360
 actcccccga ggactatcac cccaaggaga ttctagccac atgcgtgttc gttgcctgca 420
 aagttgagga gttcaacgtg tccatcaacc agttcgtgaa caacatcaag ggcgacagga 480
 acaaggccac cgacatagtg ttgtccaatg aattactgct gattggacag ctcaactact 540
 acctcaccat acacaatccg ttcagaccca tcgagggttt cctgatagat ataaaaactc 600
 gcagcaatat gcagaatcca gatcgtctgc ggccacatat tgatagtttc attgattcca 660
 cgtactactc ggatgcctgt cttctgcata cgccttcgca aattgcattg gctgccgtcc 720
 tccacgcggc cagcagagag caagagaatc tcgatagcta tgtgacggat cttctgtttg 780
 tctccgccag ggagaagcta cccggactca tagatgccgt gcgaaaaatt cgcataatgg 840
 tgaagcaata tcagcagccc gatcgggaga aggtcaaggc catcgagaaa aagttggaca 900
 agtgccgaaa tcaagccaat aatcctgata gcgaactcta taaggagcgc ctacgccgat 960
 tgtacaccga tgaggatgac atgcccgccg aagatgcctc attccacatt gcagatgtga 1020
 gctcggacac atctgctatg aacatcagcc aatagactta agaataattt tttaaatgat 1080
 gggatgatct actactgcgt ggatttcacg gatattaaag cattttgtaa tttaccattt 1140
 cttgattggt aaaatgtatg cgttttagtg tagtttacta aacaaagttg gattaggtac 1200
 ttcacttttc caatatataa aatattaaaa aaaaaaaaaa aaaa 1244

<210> 193
 <211> 324
 <212> PRT
 <213> Drosophila melanogaster

<400> 193
 Met Tyr Pro Val Ser Ser Gln Lys Arg Ser Trp Thr Phe Ala Asn Glu
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 Gly Gln Leu Met Glu Phe Arg Val Glu Gln Asn Ser Lys Tyr Ile Glu
 20 25 30
 Ser His Glu Glu Glu Ala Gln Gly Arg Asp Leu Asn Glu His Phe Leu
 35 40 45
 Thr Ser Ala Glu Glu Arg Leu Leu Leu Lys Gln Tyr Glu Ile Tyr Leu
 50 55 60

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

<210> 194
 <211> 1150
 <212> DNA
 <213> Homo sapiens

<400> 194

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gagcagctgg	caagactgcg	ggctgacgcc	aaccgcaaat	tcagatgcaa	agccgtggcc	120
aacgggaagg	ttcttccgaa	tgatccagtc	tttcttgagc	ctcatgaaga	aatgacactc	180
tgcaaatact	atgagaaaag	gttattggaa	ttctgttcgg	tgtttaagcc	agcaatgcca	240
agatctgttg	tgggtacggc	ttgtatgtat	ttcaaacgtt	tttatcttaa	taactcagta	300
atggaatata	acccaggat	aataatgctc	acttgtgcat	ttttggcctg	caaagtagat	360
gaattcaatg	tatctagtcc	tcagtttggt	ggaaacctcc	gggagagtcc	tcttgacacg	420
gagaaggcac	ttgaacagat	actggaatat	gaactacttc	ttatacagca	acttaatttc	480
caccttattg	tccacaatcc	ttacagacca	tttgagggct	tcctcatcga	cttaaagacc	540
cgctatccca	tattggagaa	tccagagatt	ttgaggaaaa	cagctgatga	ctttcttaat	600
agaattgcat	tgacggatgc	ttacctttta	tacacacctt	cccaaattgc	cctgactgcc	660
attttatcta	gtgcctccag	ggctggaatt	actatggaaa	gttattttatc	agagagtctg	720
atgctgaaag	agaacagaac	ttgcctgtca	cagtactag	atataatgaa	aagcatgaga	780
aacttagtaa	agaagtatga	accaccaga	tctgaagaag	ttgctgttct	gaaacagaag	840
ttggagcgat	gtcattctgc	tgagcttgca	cttaacgtaa	tcacgaagaa	gaggaaaggc	900
tatgaagatg	atgattacgt	ctcaaagaaa	tccaaacatg	aggaggaaga	atggactgat	960
gacgacctgg	tagaatctct	ctaaccattt	gaagttgatt	tctcaatgct	aactaatcaa	1020
gagaagtagg	aagcatatca	aacgtttaac	tttatttaaa	aagtataatg	tgaaaacata	1080

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aaatatatta aaacttttct attgttttct ttccctttca cagtaacttt atgtaaaata 1140
aataaaccat 1150

<210> 195
<211> 323
<212> PRT
<213> Homo sapiens

<400> 195
Met Tyr His Asn Ser Ser Gln Lys Arg His Trp Thr Phe Ser Ser Glu
1 5 10 15
Glu Gln Leu Ala Arg Leu Arg Ala Asp Ala Asn Arg Lys Phe Arg Cys
20 25 30
Lys Ala Val Ala Asn Gly Lys Val Leu Pro Asn Asp Pro Val Phe Leu
35 40 45
Glu Pro His Glu Glu Met Thr Leu Cys Lys Tyr Tyr Glu Lys Arg Leu
50 55 60
Leu Glu Phe Cys Ser Val Phe Lys Pro Ala Met Pro Arg Ser Val Val
65 70 75 80
Gly Thr Ala Cys Met Tyr Phe Lys Arg Phe Tyr Leu Asn Asn Ser Val
85 90 95
Met Glu Tyr His Pro Arg Ile Ile Met Leu Thr Cys Ala Phe Leu Ala
100 105 110
Cys Lys Val Asp Glu Phe Asn Val Ser Ser Pro Gln Phe Val Gly Asn
115 120 125
Leu Arg Glu Ser Pro Leu Gly Gln Glu Lys Ala Leu Glu Gln Ile Leu
130 135 140
Glu Tyr Glu Leu Leu Leu Ile Gln Gln Leu Asn Phe His Leu Ile Val
145 150 155 160
His Asn Pro Tyr Arg Pro Phe Glu Gly Phe Leu Ile Asp Leu Lys Thr
165 170 175
Arg Tyr Pro Ile Leu Glu Asn Pro Glu Ile Leu Arg Lys Thr Ala Asp
180 185 190
Asp Phe Leu Asn Arg Ile Ala Leu Thr Asp Ala Tyr Leu Leu Tyr Thr
195 200 205
Pro Ser Gln Ile Ala Leu Thr Ala Ile Leu Ser Ser Ala Ser Arg Ala
210 215 220
Gly Ile Thr Met Glu Ser Tyr Leu Ser Glu Ser Leu Met Leu Lys Glu
225 230 235 240
Asn Arg Thr Cys Leu Ser Gln Leu Leu Asp Ile Met Lys Ser Met Arg
245 250 255
Asn Leu Val Lys Lys Tyr Glu Pro Pro Arg Ser Glu Glu Val Ala Val
260 265 270
Leu Lys Gln Lys Leu Glu Arg Cys His Ser Ala Glu Leu Ala Leu Asn
275 280 285
Val Ile Thr Lys Lys Arg Lys Gly Tyr Glu Asp Asp Asp Tyr Val Ser
290 295 300
Lys Lys Ser Lys His Glu Glu Glu Glu Trp Thr Asp Asp Asp Leu Val
305 310 315 320
Glu Ser Leu

<210> 196
<211> 1311
<212> DNA
<213> Phaeodactylum tricornutum

<400> 196
atggtagact acgacgacag cactcagctc aacaaatggc tcttcagtc aactgacgaa 60

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ctcgagcttt gccgagcgcg ggcaaacaat gaagcgagga cttttctgac caactcgcca 120
ggggaagaac cgctgttgtt gtcgtccgag acagccgcaa ctccaaccga gactcaaccg 180
ctaccggtaa agcacttcgc gtatggtttt cgccaggatt tgcaaacaaa tcctgttgtc 240
tctgactcat atcgagaagg gccgttggag aatgatgacg ggcacgcttt cttgactcct 300
gtggaagaag ccacgctggt gtccttctac gcgtcgaaat taccagctct gattggcccg 360
aacgctagcg tttctcgcat acgacgcgaa tccaaagtac cagctactgc cgcactcttg 420
taccgcccgt tttttctgtc caattctgtg ttactgtacg accccaaggt catcatggtg 480
gcagccgcat ttctgggaag caaagtggaa gacgcaacgg ctgacgtccg gtatctcgag 540
gaaggtaccg ccctcatgaa cgctcctgta tcacaggccg aaataattcc agcggaactg 600
aatctgctat cagggactta ctttgacttg ctttgctttc atccctacaa gactgttctg 660
gccttgacgg aagatttgcg gacctatctg aagtccgaca agggacaagc gctggtatca 720
tggccgccga ccacggccgc tgacgacgac gacgtgaacg tcccagctcc ccttttgagc 780
ggacaggact tgaaacccat gtacgaggct gcccgggctt tggtagacga ctgtgttgta 840
tcggacatcc ctctactgta cacaccaggt caagtgggtc tagcagccct catggttgcg 900
caggccgagc tacttgttcg cagtgcaggc aacggcgcca gtaaccagaa gtcacgaata 960
ccccaattg acctggaagg ctacgtccgg caacgttttg atacagacga aacacgcgaa 1020
atttccatgg acactttttt ggcaacgttg cgaacacttc aaacacagtt acaaggcttg 1080
cgagaaggcc aacttggatg ttacaacaat ccagcgctca ttgatatgca agctctcaag 1140
gctatacaca aaaaactgaa aaaggttcga gcctggggaa cgtcgggcag tggggggaaa 1200
agtgaaaaaa agaaaaagaa gcgcggctcg cctgcaggcg gcggtacggc caacgcggtc 1260
gatagtggcg aaccggagcg gaagaaaatg aaagcgccg gagccagtg a 1311

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<210> 197

<211> 436

<212> PRT

<213> Phaeodactylum tricornutum

<400> 197

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Met Val Asp Tyr Asp Asp Ser Thr Gln Leu Asn Lys Trp Leu Phe Gln
1          5          10          15
Ser Thr Asp Glu Leu Glu Leu Cys Arg Ala Arg Ala Asn Asn Glu Ala
20          25          30
Arg Thr Phe Leu Thr Asn Ser Pro Gly Glu Glu Pro Leu Leu Leu Ser
35          40          45
Ser Glu Thr Ala Ala Thr Pro Thr Glu Thr Gln Pro Leu Pro Val Lys
50          55          60
His Phe Ala Tyr Gly Phe Arg Gln Asp Leu Gln Thr Asn Pro Val Val
65          70          75          80
Ser Asp Ser Tyr Arg Glu Gly Pro Leu Glu Asn Asp Asp Gly His Ala
85          90          95
Phe Leu Thr Pro Val Glu Glu Ala Thr Leu Val Ser Phe Tyr Ala Ser
100         105         110
Lys Leu Pro Ser Leu Ile Gly Pro Asn Ala Ser Val Ser Arg Leu Arg
115         120         125
Arg Glu Ser Lys Val Pro Ala Thr Ala Ala Leu Leu Tyr Arg Arg Phe
130         135         140
Phe Leu Ser Asn Ser Val Leu Leu Tyr Asp Pro Lys Val Ile Met Val
145         150         155         160
Ala Ala Ala Phe Leu Gly Ser Lys Val Glu Asp Ala Thr Ala Asp Val
165         170         175
Arg Tyr Leu Glu Glu Gly Thr Ala Leu Met Asn Ala Pro Val Ser Gln
180         185         190
Ala Glu Ile Ile Pro Ala Glu Leu Asn Leu Leu Ser Gly Thr Tyr Phe
195         200         205
Asp Leu Leu Cys Phe His Pro Tyr Lys Thr Val Leu Ala Leu Thr Glu
210         215         220
Asp Leu Arg Thr Tyr Leu Lys Ser Asp Lys Gly Gln Ala Leu Val Ser
225         230         235         240
Trp Pro Pro Thr Thr Ala Ala Asp Asp Asp Asp Val Asn Val Pro Ala

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[illegible]

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<210> 198
<211> 1254
<212> DNA
<213> Arabidopsis thaliana
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<400>	198						
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ctactacaac	tcttctgatg	ttgactttgt	acgggtcaaga	aaggtcaccg	gagaactcca		180
ccacaagtac	gaccgatgct	tccgatcgcc	gggatgagac	gccgtcgtcg	gagatagtcg		240
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caggaggagg	atacttgtct	ccgtcgaggt	ctattgcttt	tagcgacgga	actacttctt		360
ccggtgagaa	tttcaccacc	gtgagcagag	agttcaacgc	tctagtcatc	gccggatctt		420
ccatggacaa	caacagtaac	ggaactaacc	aatcaggttg	tcatcgtgac	gtcatacgtg		480
atgaagaaa	cgattcgact	aggatcggcg	aaaacgatga	cgttggtgat	cattggtcagg		540
tgccagagga	ggattcaaat	ccatgggcga	ttgtaccgga	cgattacaac	aaccgggacg		600
gttcagagaa	taatattgtg	ttggcgctca	caggttggtca	gaaccgggatg	gtgacgactg		660
cttcggtgca	gaggggtgaag	agagaagagg	tggaagcaaa	gataacggcg	tggcaaaccgg		720
cgaaggtggc	taagattaat	aataggttta	agagacaaga	cgccgttatt	aacggttggt		780
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accattttct	gttgggaatc	aatgtgtata	taactatata	tagaatgtaa	gagtttttaa		1140
ggtactgata	tattttgtaa	ttgtatgctt	ttttctttgt	ctgcaccaca	taaaaactaa		1200
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<400> 199

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Ser Thr Thr Asp Ala Ser Asp Arg Arg Asp Glu Thr Pro Ser Ser Glu
20      25      30
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35      40      45
Arg Pro Gln Gln Arg Gly Ser Gly Gly Gly Tyr Leu Ser Pro Ser Arg
50      55      60
Ser Ile Ala Phe Ser Asp Gly Thr Thr Ser Ser Gly Glu Asn Phe Thr
65      70      75      80
Thr Val Ser Arg Glu Phe Asn Ala Leu Val Ile Ala Gly Ser Ser Met
85      90      95
Asp Asn Asn Ser Asn Gly Thr Asn Gln Ser Gly Gly His Arg Asp Val
100     105     110
Ile Arg Asp Glu Arg Asn Glu Leu Thr Arg Ile Gly Glu Asn Asp Asp
115     120     125
Val Gly Asp His Gly Gln Val Pro Glu Glu Asp Ser Asn Pro Trp Ala
130     135     140
Ile Val Pro Asp Asp Tyr Asn Asn Arg Asp Gly Ser Glu Asn Asn Ile
145     150     155     160
Val Leu Ala Ser Ser Gly Gly Gln Asn Arg Met Val Thr Thr Ala Ser
165     170     175
Val Gln Arg Val Lys Arg Glu Glu Val Glu Ala Lys Ile Thr Ala Trp
180     185     190
Gln Thr Ala Lys Val Ala Lys Ile Asn Asn Arg Phe Lys Arg Gln Asp
195     200     205
Ala Val Ile Asn Gly Trp Leu Asn Glu Gln Val His Arg Ala Asn Ser
210     215     220
Trp Met Lys Lys Ile Glu Arg Lys Leu Glu Asp Arg Arg Ala Lys Ala
225     230     235     240
Met Glu Lys Thr Gln Asn Lys Val Ala Lys Ala Gln Arg Lys Ala Glu
245     250     255
Glu Arg Arg Ala Thr Ala Glu Gly Lys Arg Gly Thr Glu Val Ala Arg
260     265     270
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275     280     285
Lys Arg Ser Phe Phe Ser Leu Ser
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<210> 200

<211> 923

<212> DNA

<213> Arabidopsis thaliana

<400> 200

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tggctgaaga ggaaccgaag aaggtgacag agaccgtgtc ggaaccaact ccaacaccgg      180
aagttccggt ggagaaacct gctgctgctg cagatgttgc tcctcaggag aagcctgtgg      240
ctccacctcc cgttcttcca tctccggcac cggcagagga gaagcaagaa gactctaagg      300
ctattgttcc cgctgtccct aaagaagtag aggaagagaa gaaagaagga tcagttaatc      360
gagatgctgt tctggctaga gttgagacag agaagaggat gtcacttatc aaagcttggg      420
aagaggctga gaaatgcaaa gtggagaaca aagctgagaa gaagctttct tcaattggat      480
catgggagaa caacaagaaa gcagctgtgg aagctgagct caagaaaatg gaggagcatt      540
tggaagaaga aaaagcagag tatgtggagc agatgaagaa caaaatagct caaattcaca      600
aggaagcaga agagaagaga gcaatgattg aagctaagcg tggagaagaa attctcaaag      660
cagaggaatt agcagccaag taccgtgcc ctggaaccgc tcccaaaaag cttttcggat      720
gcatgtgatc tctaatacat tcgatgggga aacaaatgaa atatggtatt gatgtaatga      780

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PF58787.ST25.txt

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ttgaaagget	ttctcttagc	ttt				923

<210> 201
 <211> 202
 <212> PRT
 <213> Arabidopsis thaliana

<400> 201
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 20 25 30
 Val Ala Pro Gln Glu Lys Pro Val Ala Pro Pro Pro Val Leu Pro Ser
 35 40 45
 Pro Ala Pro Ala Glu Glu Lys Gln Glu Asp Ser Lys Ala Ile Val Pro
 50 55 60
 Val Val Pro Lys Glu Val Glu Glu Glu Lys Lys Glu Gly Ser Val Asn
 65 70 75 80
 Arg Asp Ala Val Leu Ala Arg Val Glu Thr Glu Lys Arg Met Ser Leu
 85 90 95
 Ile Lys Ala Trp Glu Glu Ala Glu Lys Cys Lys Val Glu Asn Lys Ala
 100 105 110
 Glu Lys Lys Leu Ser Ser Ile Gly Ser Trp Glu Asn Asn Lys Lys Ala
 115 120 125
 Ala Val Glu Ala Glu Leu Lys Lys Met Glu Glu His Leu Glu Lys Lys
 130 135 140
 Lys Ala Glu Tyr Val Glu Gln Met Lys Asn Lys Ile Ala Gln Ile His
 145 150 155 160
 Lys Glu Ala Glu Glu Lys Arg Ala Met Ile Glu Ala Lys Arg Gly Glu
 165 170 175
 Glu Ile Leu Lys Ala Glu Glu Leu Ala Ala Lys Tyr Arg Ala Thr Gly
 180 185 190
 Thr Ala Pro Lys Lys Leu Phe Gly Cys Met
 195 200

<210> 202
 <211> 878
 <212> DNA
 <213> Arabidopsis thaliana

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 gaatctccgg cgaaggttac gactcctgct ccagcagata caccggctcc agctccggca 180
 gagattccgg ctccagctcc agctccgact ccggctgatg tcacgaaaga cgttgcagag 240
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 gatgttaagc tagctgattt gtcaaaggaa aagagattgt ctttcgtcag agcgtgggaa 420
 gaaagcgaaa agagcaaagc agagaacaaa gctgagaaga agattgcaga tgttcatgct 480
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 gagaagaaga aagcagagta tgcagagagg atgaagaata aggttgacg gattcacaag 600
 gaagcagaag agagaagagc aatgattgaa gctaagcgtg gagaagacgt tcttaaagca 660
 gaagaaacgg ctgctaaata cagagccact ggaattgttc caaaggcaac ttgtggatgt 720
 ttctaattctt gaatttgcca atcaaagttt caagacttcg taactgtaaa gtgtaatcaa 780
 atttctctgt tctctttaat ggcttgtaat gttgtttgta tattgatttt gtgtgtgaca 840
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PF58787.ST25.txt

<210> 203
 <211> 212
 <212> PRT
 <213> Arabidopsis thaliana

<400> 203
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 20 25 30
 Ile Pro Ala Pro Ala Pro Ala Pro Thr Pro Ala Asp Val Thr Lys Asp
 35 40 45
 Val Ala Glu Glu Lys Ile Gln Asn Pro Pro Pro Glu Gln Ile Phe Asp
 50 55 60
 Asp Ser Lys Ala Leu Thr Val Val Glu Lys Pro Val Glu Glu Pro Ala
 65 70 75 80
 Pro Ala Lys Pro Ala Ser Ala Ser Leu Asp Arg Asp Val Lys Leu Ala
 85 90 95
 Asp Leu Ser Lys Glu Lys Arg Leu Ser Phe Val Arg Ala Trp Glu Glu
 100 105 110
 Ser Glu Lys Ser Lys Ala Glu Asn Lys Ala Glu Lys Lys Ile Ala Asp
 115 120 125
 Val His Ala Trp Glu Asn Ser Lys Lys Ala Ala Val Glu Ala Gln Leu
 130 135 140
 Lys Lys Ile Glu Glu Gln Leu Glu Lys Lys Lys Ala Glu Tyr Ala Glu
 145 150 155 160
 Arg Met Lys Asn Lys Val Ala Ala Ile His Lys Glu Ala Glu Glu Arg
 165 170 175
 Arg Ala Met Ile Glu Ala Lys Arg Gly Glu Asp Val Leu Lys Ala Glu
 180 185 190
 Glu Thr Ala Ala Lys Tyr Arg Ala Thr Gly Ile Val Pro Lys Ala Thr
 195 200 205
 Cys Gly Cys Phe
 210

<210> 204
 <211> 2356
 <212> DNA
 <213> Arabidopsis thaliana

<400> 204
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 aagattagca ataatataga tcattttattt tcttgattgt agtttgattg ttgtttttct 180
 cataataaaa aaatcccagc taaaatctga ttttcaattt taaaccaatt tatatggtaa 240
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 cacgatcaca tgggtacaaa aatcaacggc gaagcaaaac aagagtctca cacttattaa 480
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 aattttacaat taacaaatgg attttcttaa gatgcctaag gtttttgtga gttcttttgc 960
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PF58787.ST25.txt

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gttcggccga tagaggtcag ctgataacaa cactttgttt ctcatgtcca gtttcttagt 1560
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<210> 205
 <211> 190
 <212> PRT
 <213> Arabidopsis thaliana

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

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<210> 206
 <211> 642
 <212> DNA
 <213> Arabidopsis thaliana

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<400> 206

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gctccacctc	ccgttcttcc	atctccggca	ccggcagagg	agaagcaaga	agactctaag	180
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cgagatgctg	ttctggctag	agttgagaca	gagaagagga	tgtcacttat	caaagcttgg	300
gaagaggctg	agaaatgcaa	agtggagaac	aaagctgaga	agaagctttc	ttcaattgga	360
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aaggaagcag	aagagaagag	agcgatgatt	gaagctaagc	gtggagaaga	aattctcaaa	540
gcagaggaat	tagcagccaa	gtaccgtgcc	actggaaccg	ctcccaaaaa	gcttttcgga	600
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<210> 207

<211> 202

<212> PRT

<213> Arabidopsis thaliana

<400> 207

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

<210> 208

<211> 969

<212> DNA

<213> Arabidopsis thaliana

<400> 208

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ccgaagaagg	tgacagagac	cgtgtcggaa	ccaactccaa	caccggaagt	tccggtggag	240
aaacctgctg	ctgctgcaga	tggtgtctct	caggagaagc	ctgtggctcc	acctcccgtt	300
cttccatctc	cggcaccggc	agaggagaag	caagaagact	ctaaggctat	tgttcccgtc	360
gtccctaag	aagtagagga	agagaagaaa	gaaggatcag	ttaatcgaga	tgctgttctg	420

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aagaaagcag ctgtggaagc tgagctcaag aaaatggagg agcaattgga gaagaagaag 600
gcagagtatg tggagcagat gaagaacaaa atagctcaaa ttcacaagga agcagaagag 660
aagagagcga tgattgaagc taagcgtgga gaagaaattc tcaaagcaga ggaattagca 720
gccaaagtacc gtgccactgg aaccgctccc aaaaagcttt tcggatgcat gtgatctcta 780
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<210> 209
 <211> 202
 <212> PRT
 <213> Arabidopsis thaliana

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

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<210> 210
 <211> 959
 <212> DNA
 <213> Arabidopsis thaliana

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<400> 210
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gattctcttt gtaatcttta gttgttgtac ctaacatcat ggctgaagag gaaccgaaga 180
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agaacaaagc tgagaagaag ctttcttcaa ttggatcatg ggagaacaac aagaaagcag 540

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PF58787.ST25.txt

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gtgccactgg aaccgctccc aaaaagcttt tcggatgcat gtgatctcta atcatctcga 780
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ggtttaatat ggcaacatag aaagttataa ggtcaacatc ttatattgat tgggctgcgt 900
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<210> 211
 <211> 201
 <212> PRT
 <213> Arabidopsis thaliana

<400> 211
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 20 25 30
 Val Ala Pro Gln Glu Lys Pro Val Ala Pro Pro Pro Val Leu Pro Ser
 35 40 45
 Pro Ala Pro Ala Glu Glu Lys Gln Glu Asp Ser Lys Ala Ile Val Pro
 50 55 60
 Val Val Pro Lys Val Glu Glu Glu Lys Lys Glu Gly Ser Val Asn Arg
 65 70 75 80
 Asp Ala Val Leu Ala Arg Val Glu Thr Glu Lys Arg Met Ser Leu Ile
 85 90 95
 Lys Ala Trp Glu Glu Ala Glu Lys Cys Lys Val Glu Asn Lys Ala Glu
 100 105 110
 Lys Lys Leu Ser Ser Ile Gly Ser Trp Glu Asn Asn Lys Lys Ala Ala
 115 120 125
 Val Glu Ala Glu Leu Lys Lys Met Glu Glu Gln Leu Glu Lys Lys Lys
 130 135 140
 Ala Glu Tyr Val Glu Gln Met Lys Asn Lys Ile Ala Gln Ile His Lys
 145 150 155 160
 Glu Ala Glu Glu Lys Arg Ala Met Ile Glu Ala Lys Arg Gly Glu Glu
 165 170 175
 Ile Leu Lys Ala Glu Glu Leu Ala Ala Lys Tyr Arg Ala Thr Gly Thr
 180 185 190
 Ala Pro Lys Lys Leu Phe Gly Cys Met
 195 200

<210> 212
 <211> 609
 <212> DNA
 <213> Arabidopsis thaliana

<400> 212
 atggctgaag aggaaccgaa gaaggtgaca gagaccgtgt cggaaccaac tccaacaccg 60
 gaagttccgg tggagaaacc tgctgctgct gcagatgttg ctcctcagga gaagcctgtg 120
 gctccacctc ccgttcttcc atctccggca ccggcagagg agaagcaaga agactctaag 180
 gctattgttc ccgtcgtccc taaagaagta gaggaagaga agaaagaagg atcagttaat 240
 cgagatgctg ttctggctag agttgagaca gagaagagga tgtcacttat caaagcttgg 300
 gaagaggctg agaaatgcaa agtggagaac aaagctgaga agaagctttc ttcaattgga 360
 tcatgggaga acaacaagaa agcagctgtg gaagctgagc tcaagaaaat ggaggagcaa 420
 ttggagaaga agaaggcaga gtatgtggag cagatgaaga acaaaatagc tcaaattcac 480
 aaggaagcag aagagaagag agcgatgatt gaagctaagc gtggagaaga aattctcaaa 540
 gcagaggaat tagcagccaa gtaccgtgcc actggaaccg ctcccaaaaa gcttttcgga 600
 tgcattgtga 609

PF58787.ST25.txt

<210> 213
 <211> 202
 <212> PRT
 <213> Arabidopsis thaliana

<400> 213
 Met Ala Glu Glu Glu Pro Lys Lys Val Thr Glu Thr Val Ser Glu Pro
 1 5 10 15
 Thr Pro Thr Pro Glu Val Pro Val Glu Lys Pro Ala Ala Ala Ala Asp
 20 25 30
 Val Ala Pro Gln Glu Lys Pro Val Ala Pro Pro Pro Val Leu Pro Ser
 35 40 45
 Pro Ala Pro Ala Glu Glu Lys Gln Glu Asp Ser Lys Ala Ile Val Pro
 50 55 60
 Val Val Pro Lys Glu Val Glu Glu Glu Lys Lys Glu Gly Ser Val Asn
 65 70 75 80
 Arg Asp Ala Val Leu Ala Arg Val Glu Thr Glu Lys Arg Met Ser Leu
 85 90 95
 Ile Lys Ala Trp Glu Glu Ala Glu Lys Cys Lys Val Glu Asn Lys Ala
 100 105 110
 Glu Lys Lys Leu Ser Ser Ile Gly Ser Trp Glu Asn Asn Lys Lys Ala
 115 120 125
 Ala Val Glu Ala Glu Leu Lys Lys Met Glu Glu Gln Leu Glu Lys Lys
 130 135 140
 Lys Ala Glu Tyr Val Glu Gln Met Lys Asn Lys Ile Ala Gln Ile His
 145 150 155 160
 Lys Glu Ala Glu Glu Lys Arg Ala Met Ile Glu Ala Lys Arg Gly Glu
 165 170 175
 Glu Ile Leu Lys Ala Glu Glu Leu Ala Ala Lys Tyr Arg Ala Thr Gly
 180 185 190
 Thr Ala Pro Lys Lys Leu Phe Gly Cys Met
 195 200

<210> 214
 <211> 528
 <212> DNA
 <213> Arabidopsis thaliana

<400> 214
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 ccaccatcca aggaggagaa gtccgacgat tcgaaagcta ttgttctcgt cgtcgtctgca 120
 aaagaaccta cggaagacaa gaaagtaggt tcagttcacc gagatgctgt tttgggttaga 180
 ctcgagcaag ataagaggat atctctaatac aaagcttgagg aagaggctga gaaatccaaa 240
 gtggagaaca aagctcagaa gaagatttct tcagttggag cttgggaaaa cagcaagaaa 300
 gcttctgtgg aagctgagct aaaaaagatc gaggagcaac taaataagaa gaaagcacac 360
 tacacagagc aaatgaagaa caagatagct caaatccaca aggaagctga ggagaagaga 420
 gcgatgaccg aagctaaacg cggagaagat gttctcaaag ccgaagaaat ggctgcaaag 480
 taccgtgcc cgggaactgc tccaaccaag ctatttgat tcttctga 528

<210> 215
 <211> 175
 <212> PRT
 <213> Arabidopsis thaliana

<400> 215
 Met Thr Leu Glu Glu Gln Lys Lys Val Ile Met Pro Glu Ala Val Ala
 1 5 10 15
 Ser Glu Pro Ser Pro Pro Ser Lys Glu Glu Lys Ser Asp Asp Ser Lys
 20 25 30

PF58787.ST25.txt

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

<210> 216
 <211> 847
 <212> DNA
 <213> Arabidopsis thaliana

<400> 216
 aactcattat tgtcctaata tctcaatttt atccattttc acggaaaaaa cataaaatct 60
 gttcttcttc ttccggtgag agacaatggc ggaggagcaa aagacgagta aggttgacgt 120
 agaatctccg gctgttttag ctccggcgaa ggaaccgact cctgctccgg ttgaagtcgc 180
 ggatgagaaa attcataatc cacctcccgt cgagtccaaa gctcttgccg ttgtagaaaa 240
 accatcgag gagcatacac ctaagaaagc ttcattctggg tcggccgata gagatgtgat 300
 acttgccgac ttggaaaaag agaagaaaac gtcattcatc aaagcatggg aagagagtga 360
 gaagtcaaag gctgagaaca gggcacaaaa gaagatctct gatgtgcatg cttgggaaaa 420
 tagcaagaaa gcagccgtag aagctcaact taggaagatc gaggaaaaat tagagaagaa 480
 aaaagcgcag tacggtgaga aaatgaagaa caaagtagct gcaatccaca agttagcaga 540
 agagaagaga gcaatggttg aagctaaaaa aggagaagag cttctcaaag ctgaagaaat 600
 ggggtgctaag tatagagcca ctggtgtagt accaaaggca acgtgtggat gtttctaagc 660
 ctttattgaa tttgtatctt tgtaacaatt catctctgtt tctttcttct tcttttggtt 720
 ttgtgtgatt caacaactct ttttagtttt tgttatttgt ttggtcgttt gtgtcttggt 780
 tacatattgg gtgattgtgt gtaaaagtga aagattaatg gagtataatt gtatgaagca 840
 tcaaatc 847

<210> 217
 <211> 190
 <212> PRT
 <213> Arabidopsis thaliana

<400> 217
 Met Ala Glu Glu Gln Lys Thr Ser Lys Val Asp Val Glu Ser Pro Ala
 1 5 10 15
 Val Leu Ala Pro Ala Lys Glu Pro Thr Pro Ala Pro Val Glu Val Ala
 20 25 30
 Asp Glu Lys Ile His Asn Pro Pro Val Glu Ser Lys Ala Leu Ala
 35 40 45
 Val Val Glu Lys Pro Ile Glu Glu His Thr Pro Lys Lys Ala Ser Ser
 50 55 60
 Gly Ser Ala Asp Arg Asp Val Ile Leu Ala Asp Leu Glu Lys Glu Lys
 65 70 75 80
 Lys Thr Ser Phe Ile Lys Ala Trp Glu Glu Ser Glu Lys Ser Lys Ala
 85 90 95

PF58787.ST25.txt

Glu Asn Arg Ala Gln Lys Lys Ile Ser Asp Val His Ala Trp Glu Asn
 100 105 110
 Ser Lys Lys Ala Ala Val Glu Ala Gln Leu Arg Lys Ile Glu Glu Lys
 115 120 125
 Leu Glu Lys Lys Lys Ala Gln Tyr Gly Glu Lys Met Lys Asn Lys Val
 130 135 140
 Ala Ala Ile His Lys Leu Ala Glu Glu Lys Arg Ala Met Val Glu Ala
 145 150 155 160
 Lys Lys Gly Glu Glu Leu Leu Lys Ala Glu Glu Met Gly Ala Lys Tyr
 165 170 175
 Arg Ala Thr Gly Val Val Pro Lys Ala Thr Cys Gly Cys Phe
 180 185 190

<210> 218
 <211> 351
 <212> DNA
 <213> Arabidopsis thaliana

<400> 218
 atggagccaa atattccgat ccaaagaggt aactcatatc acagagtttt agtattgttt 60
 agtttcatgt tgactcagaa gaagctacta gatatttcag gatgggagaa aaagaaaact 120
 acaaagatcg aatctgaact cgctagaatt cagcggaga tggacagtaa gaagatggag 180
 aaatctgaga aactaaggaa cgaaaaagcg gcagttcatg caaaggcaca aaagaagaag 240
 gcagatgttc aaaccagacg ggctcaagag atccttgatg cggaagaagc tgctgctagg 300
 tttcaagccg caggaaagat acccaagaag tcattcttga gctgcttctg a 351

<210> 219
 <211> 116
 <212> PRT
 <213> Arabidopsis thaliana

<400> 219
 Met Glu Pro Asn Ile Pro Ile Gln Arg Gly Asn Ser Tyr His Arg Val
 1 5 10 15
 Leu Val Leu Phe Ser Phe Met Leu Thr Gln Lys Lys Leu Leu Asp Ile
 20 25 30
 Ser Gly Trp Glu Lys Lys Lys Thr Thr Lys Ile Glu Ser Glu Leu Ala
 35 40 45
 Arg Ile Gln Arg Lys Met Asp Ser Lys Lys Met Glu Lys Ser Glu Lys
 50 55 60
 Leu Arg Asn Glu Lys Ala Ala Val His Ala Lys Ala Gln Lys Lys Lys
 65 70 75 80
 Ala Asp Val Gln Thr Arg Arg Ala Gln Glu Ile Leu Asp Ala Glu Glu
 85 90 95
 Ala Ala Ala Arg Phe Gln Ala Ala Gly Lys Ile Pro Lys Lys Ser Ser
 100 105 110
 Leu Ser Cys Phe
 115

<210> 220
 <211> 609
 <212> DNA
 <213> Arabidopsis thaliana

<400> 220
 atggctgaag aggaaccgaa gaaggtgaca gagaccgtgt cggaaccaac tccaacaccg 60
 gaagttccgg tggagaaacc tgctgctgct gcagatgttg ctcctcagga gaagcctgtg 120
 gctccacctc ccgttcttcc atctccggca ccggcagagg agaagcaaga agactctaag 180
 gctattgttc ccgtcgtccc taaagaagta gaggaagaga agaaagaagg atcagttaat 240

PF58787.ST25.txt

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cgagatgctg ttctggctag agttgagaca gagaagagga tgtcacttat caaagcttgg 300
gaagaggctg agaaatgcaa agtggagaac aaagctgaga agaagctttc ttcaattgga 360
tcatgggaga acaacaagaa agcagctgtg gaagctgagc tcaagaaaat ggaggagcaa 420
ttggagaaga agaaggcaga gtatgtggag cagatgaaga acaaaatagc tcaaattcac 480
aaggaagcag aagagaagag agcgatgatt gaagctaagc gtggagaaga aattctcaaa 540
gcagaggaat tagcagccaa gtaccgtgcc actggaaccg ctcccaaaaa gcttttcgga 600
tgcattgtga 609
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<210> 221
 <211> 202
 <212> PRT
 <213> Arabidopsis thaliana

<400> 221
 Met Ala Glu Glu Glu Pro Lys Lys Val Thr Glu Thr Val Ser Glu Pro
 1 5 10 15
 Thr Pro Thr Pro Glu Val Pro Val Glu Lys Pro Ala Ala Ala Ala Asp
 20 25 30
 Val Ala Pro Gln Glu Lys Pro Val Ala Pro Pro Pro Val Leu Pro Ser
 35 40 45
 Pro Ala Pro Ala Glu Glu Lys Gln Glu Asp Ser Lys Ala Ile Val Pro
 50 55 60
 Val Val Pro Lys Glu Val Glu Glu Glu Lys Lys Glu Gly Ser Val Asn
 65 70 75 80
 Arg Asp Ala Val Leu Ala Arg Val Glu Thr Glu Lys Arg Met Ser Leu
 85 90 95
 Ile Lys Ala Trp Glu Glu Ala Glu Lys Cys Lys Val Glu Asn Lys Ala
 100 105 110
 Glu Lys Lys Leu Ser Ser Ile Gly Ser Trp Glu Asn Asn Lys Lys Ala
 115 120 125
 Ala Val Glu Ala Glu Leu Lys Lys Met Glu Glu Gln Leu Glu Lys Lys
 130 135 140
 Lys Ala Glu Tyr Val Glu Gln Met Lys Asn Lys Ile Ala Gln Ile His
 145 150 155 160
 Lys Glu Ala Glu Glu Lys Arg Ala Met Ile Glu Ala Lys Arg Gly Glu
 165 170 175
 Glu Ile Leu Lys Ala Glu Glu Leu Ala Ala Lys Tyr Arg Ala Thr Gly
 180 185 190
 Thr Ala Pro Lys Lys Leu Phe Gly Cys Met
 195 200

<210> 222
 <211> 485
 <212> DNA
 <213> Arabidopsis thaliana

<400> 222
 tcattctcaa tcaaattggag ccaaattattc cgatccaaag aggagatgag cagtcaaaag 60
 ttattaaggc atggaaggaa ctaaagataa caaaggtcaa taacaagact cagaagaagc 120
 tactagatat ttccagatgg gagaaaaaga aaactacaaa gatcgaatct gaactcgcta 180
 gaattcagcg gaagatggac agtaagaaga tggagaaatc tgagaaacta aggaacgaaa 240
 aagcggcagt tcatgcaaag gcacaaaaga agaaggcaga tgttcaaacc agacgggctc 300
 aagagatcct tgatgcgga gaagctgctg ctaggtttca agccgcagga aagataccca 360
 agaagtcac tttgagctgc ttctgagatc agcactaacc tgtgatacag attatcacct 420
 atctccggta tcctatgttc atacttgtat cttttgtatg ttgtgtgttt tgcttgtgtt 480
 gctca 485

<210> 223
 <211> 123

PF58787.ST25.txt

<212> PRT

<213> Arabidopsis thaliana

<400> 223

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Met Glu Pro Asn Ile Pro Ile Gln Arg Gly Asp Glu Gln Ser Lys Val
1           5           10           15
Ile Lys Ala Trp Lys Glu Leu Lys Ile Thr Lys Val Asn Asn Lys Thr
          20           25           30
Gln Lys Lys Leu Leu Asp Ile Ser Gly Trp Glu Lys Lys Lys Thr Thr
          35           40           45
Lys Ile Glu Ser Glu Leu Ala Arg Ile Gln Arg Lys Met Asp Ser Lys
          50           55           60
Lys Met Glu Lys Ser Glu Lys Leu Arg Asn Glu Lys Ala Ala Val His
65           70           75           80
Ala Lys Ala Gln Lys Lys Lys Ala Asp Val Gln Thr Arg Arg Ala Gln
          85           90           95
Glu Ile Leu Asp Ala Glu Glu Ala Ala Arg Phe Gln Ala Ala Gly
          100          105          110
Lys Ile Pro Lys Lys Ser Ser Leu Ser Cys Phe
          115          120

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<210> 224

<211> 363

<212> DNA

<213> Arabidopsis thaliana

<400> 224

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atgaacgaat ccacagtgcacgagcgaaaa cctgaacata tggcagctgt tgtggatcaa      60
tgaaggaaaa cagagataag caaatcgaga aagaagtacg agaagctaag tgagaagatt      120
gtgtcatggg aagataagaa gaggaanaag gcaaagagaa aacttcatag aacagagaga      180
agtgtagaga aaacaaagt gaaggcgacc cagaggttca gggacgaaaa tgaacgtatt      240
gagattatcg ttgcaagtgc aagagcacat gcgtatgaga gtcgaataaa agaagagttg      300
aagggttaagg agaaagcaaa cctcatgaga acaactggta ggaaaccctc tacatgcctc      360
tga

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<210> 225

<211> 120

<212> PRT

<213> Arabidopsis thaliana

<400> 225

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Met Asn Glu Ser Thr Val Gln Arg Ala Lys Pro Glu His Met Ala Ala
1           5           10           15
Val Val Asp Gln Trp Lys Glu Thr Glu Ile Ser Lys Ser Arg Lys Lys
          20           25           30
Tyr Glu Lys Leu Ser Glu Lys Ile Val Ser Trp Glu Asp Lys Lys Arg
          35           40           45
Lys Lys Ala Lys Arg Lys Leu His Arg Thr Glu Arg Ser Val Glu Lys
          50           55           60
Thr Lys Leu Lys Ala Thr Gln Arg Phe Arg Asp Glu Asn Glu Arg Ile
65           70           75           80
Glu Ile Ile Val Ala Ser Ala Arg Ala His Ala Tyr Glu Ser Arg Ile
          85           90           95
Lys Glu Glu Leu Lys Val Lys Glu Lys Ala Asn Leu Met Arg Thr Thr
          100          105          110
Gly Arg Lys Pro Ser Thr Cys Leu
          115          120

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<210> 226

PF58787.ST25.txt

<211> 1299
<212> DNA
<213> Arabidopsis thaliana

<400> 226

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ttaatgtcac atttctgaaa tctctcaact tcatcatcaa gtgggttcct atgagagtga      60
cgactctttg attgcttcgc cacatctttt atttttatcc ttctaagtca tttctctatc    120
tatccatata gataaaaacc ttctaataga tctctgtgtc attttattcg taagaatgag      180
atctagtgtg gaagataaca aaggatggat aggaccagcg acaccggaga tatcgaaagg      240
ttttgagttt cagaaagggt cgaaccggac accaaaccat caccggctca ctatggggaa      300
gccagcgccg tcaaaatggg acgatgctca gaaatggctt tctgggtgtag ggtttgctcg      360
tgaggtggtt ggaggtggtg acaagagtag tcatcactca agaagtaata agccgagaaa      420
ctcgaacgcg gatgatctta gacttatagc ttcagcttca cagagagaac gtgaaggaga      480
agatcagtag gttgagtatg atgatgaaga gatggcggcg ggaagaccgg aggttgagac      540
gaagaatggt gattgtggtg aatctgtttg gaggaagaa agtagtatta atccaacggc      600
tgtgattaga tccgtttgtg tgagagatat ggggactgag atgactccta ttggtagtca      660
agagccttct agaacagcta caccggtgcg agctactaca ccggttgga ggagtcctgt      720
gacttcaccg gtgagggctt cacaacgtgg tgaggcggtg ggggttggtg tgagacgggt      780
gacggaggtt aggaggttag agagtaataa tagtgagaag gttaatggtt ttgtggagag      840
taagaaggct atgagtgtca tggaagctcg agccatggct tgggatgaag cagaacgtgc      900
taaattcatg gctaggtata agagagagga agtgaagata caagcttggg agaatcacga      960
gaagagaaag gctgagatgg agatgaagaa aatggaggta agatgcggag aggatgaaag    1020
caagggcaga ggagaagttg gccaacaagc tagctgcgac gaaaaggata gcggaagaga    1080
ggagggcgaa tgcggaggct aagttaaagc aaaaggcggg gaagacatcg gagaaagctg    1140
attatataag gaggagtggg cacttgccct cttctttttc tttctccttt aagcttcctt    1200
ctcgttggtt gtgtcaataa ttgtctatct tcattagaat gtaatcgtat ggatttagtg    1260
atattcaata actaacgcaa aaaaaaaaaa aaaagttttt                                1299
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<210> 227
<211> 308
<212> PRT
<213> Arabidopsis thaliana

<400> 227

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Met Arg Ser Ser Val Glu Asp Asn Lys Gly Trp Ile Gly Pro Ala Thr
1          5          10          15
Pro Glu Ile Ser Asn Gly Phe Glu Phe Gln Lys Gly Ser Asn Arg Thr
20        25        30
Pro Asn His His Arg Ser Thr Met Gly Lys Pro Ala Pro Ser Lys Trp
35        40        45
Asp Asp Ala Gln Lys Trp Leu Ser Gly Val Gly Phe Ala Arg Gly Gly
50        55        60
Gly Gly Gly Gly Asp Lys Ser Ser His His Ser Arg Ser Asn Lys Pro
65        70        75        80
Arg Asn Ser Asn Ala Asp Asp Leu Arg Leu Ile Ala Ser Ala Ser Gln
85        90        95
Arg Glu Arg Glu Gly Glu Asp Gln Tyr Val Glu Tyr Asp Asp Glu Glu
100       105       110
Met Ala Ala Gly Arg Pro Glu Val Glu Thr Lys Asn Val Asp Cys Gly
115       120       125
Glu Ser Val Trp Arg Lys Glu Ser Ser Ile Asn Pro Thr Ala Val Ile
130       135       140
Arg Ser Val Cys Val Arg Asp Met Gly Thr Glu Met Thr Pro Ile Gly
145       150       155       160
Ser Gln Glu Pro Ser Arg Thr Ala Thr Pro Val Arg Ala Thr Thr Pro
165       170       175
Val Gly Arg Ser Pro Val Thr Ser Pro Val Arg Ala Ser Gln Arg Gly
180       185       190
Glu Ala Val Gly Val Val Met Glu Thr Val Thr Glu Val Arg Arg Val
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PF58787.ST25.txt

```

      195              200              205
Glu Ser Asn Asn Ser Glu Lys Val Asn Gly Phe Val Glu Ser Lys Lys
  210              215              220
Ala Met Ser Ala Met Glu Ala Arg Ala Met Ala Trp Asp Glu Ala Glu
  225              230              235              240
Arg Ala Lys Phe Met Ala Arg Tyr Lys Arg Glu Glu Val Lys Ile Gln
      245              250              255
Ala Trp Glu Asn His Glu Lys Arg Lys Ala Glu Met Glu Met Lys Lys
      260              265              270
Met Glu Val Arg Cys Gly Glu Asp Glu Ser Lys Gly Arg Gly Glu Val
      275              280              285
Gly Gln Gln Ala Ser Cys Asp Glu Lys Asp Ser Gly Arg Glu Glu Gly
      290              295              300
Glu Cys Gly Gly
  305

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<210> 228
 <211> 1298
 <212> DNA
 <213> Arabidopsis thaliana

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<400> 228
ttaatgtcac atttctgaaa tctctcaact tcatcatcaa gtgggttcct atgagagtga      60
cgactctttg attgcttcgc cacatctttt atttttatcc ttctaagtca tttctctatc    120
tatccatata gataaaaacc ttctaataga tctctgtgtc attttattcg taagaatgag    180
atctagtgtg gaagataaca aaggatggat aggaccagcg acaccggaga tatcgaacgg    240
ttttgagttt cagaaagggt cgaaccggac accaaaccat caccggtcta ctatggggaa    300
gccagcgccg tcaaaatggg acgatgctca gaaatggctt tctggtgtag ggtttgctcg    360
tgaggtggtt ggaggtggtg acaagagtag tcatcactca agaagtaata agccgagaaa    420
ctcgaacgcg gatgatctta gacttatagc ttcagcttca cagagagaac gtgaaggaga    480
agatcagtac gttgagtatg atgatgaaga gatggcggcg ggaagaccgg aggttgagac    540
gaagaatggt gatttgtgtg aatctgtttg gaggaagaa agtagtatta atccaacggc    600
tgtgattaga tccgtttgtg tgagagatat ggggactgag atgactccta ttggtagtca    660
agagccttct agaacagcta caccggtgcg agctactaca ccggttgga ggagtcctgt    720
gacttcaccg gtgagggtt cacaacgtgg tgaggcggtg ggggttggtg tggagacggt    780
gacggagggt aggagggtag agagtaataa tagtgagaag gttaatggtt ttgtggagag    840
taagaaggct atgagtgcga tggaagctcg agccatggct tgggatgaag cagaacgtgc    900
taaattcatg gctaggtata agagagagga agtgaagata caagcttggg agaatcacga    960
gaagagaaag gctgagatgg agatgaagaa aatggagggtg aaggcggaga ggatgaaagc   1020
aagggcagag gagaagttgg ccaacaagct agctgcgacg aaaaggatag cggaagagag   1080
gagggcgaat gcggaggcta agttaaacga aaaggcggtg aagacatcgg agaaagctga   1140
ttatataagg aggagtggtc acttgccctt ttctttttct ttctccttta agcttccctc   1200
tcgttggttg tgtcaataat tgtctatttt cattagaatg taatcgtatg gatttagtga   1260
tattcaataa ctaacgcaaa aaaaaaaaaa aaagtttt                                1298

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<210> 229
 <211> 347
 <212> PRT
 <213> Arabidopsis thaliana

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<400> 229
Met Arg Ser Ser Val Glu Asp Asn Lys Gly Trp Ile Gly Pro Ala Thr
  1              5              10              15
Pro Glu Ile Ser Asn Gly Phe Glu Phe Gln Lys Gly Ser Asn Arg Thr
      20              25              30
Pro Asn His His Arg Ser Thr Met Gly Lys Pro Ala Pro Ser Lys Trp
      35              40              45
Asp Asp Ala Gln Lys Trp Leu Ser Gly Val Gly Phe Ala Arg Gly Gly
      50              55              60

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PF58787.ST25.txt

Gly	Gly	Gly	Gly	Asp	Lys	Ser	Ser	His	His	Ser	Arg	Ser	Asn	Lys	Pro
65					70					75					80
Arg	Asn	Ser	Asn	Ala	Asp	Asp	Leu	Arg	Leu	Ile	Ala	Ser	Ala	Ser	Gln
				85					90					95	
Arg	Glu	Arg	Glu	Gly	Glu	Asp	Gln	Tyr	Val	Glu	Tyr	Asp	Asp	Glu	Glu
			100					105					110		
Met	Ala	Ala	Gly	Arg	Pro	Glu	Val	Glu	Thr	Lys	Asn	Val	Asp	Cys	Gly
		115					120					125			
Glu	Ser	Val	Trp	Arg	Lys	Glu	Ser	Ser	Ile	Asn	Pro	Thr	Ala	Val	Ile
	130					135					140				
Arg	Ser	Val	Cys	Val	Arg	Asp	Met	Gly	Thr	Glu	Met	Thr	Pro	Ile	Gly
145					150					155				160	
Ser	Gln	Glu	Pro	Ser	Arg	Thr	Ala	Thr	Pro	Val	Arg	Ala	Thr	Thr	Pro
				165					170					175	
Val	Gly	Arg	Ser	Pro	Val	Thr	Ser	Pro	Val	Arg	Ala	Ser	Gln	Arg	Gly
		180						185					190		
Glu	Ala	Val	Gly	Val	Val	Met	Glu	Thr	Val	Thr	Glu	Val	Arg	Arg	Val
		195					200					205			
Glu	Ser	Asn	Asn	Ser	Glu	Lys	Val	Asn	Gly	Phe	Val	Glu	Ser	Lys	Lys
	210					215					220				
Ala	Met	Ser	Ala	Met	Glu	Ala	Arg	Ala	Met	Ala	Trp	Asp	Glu	Ala	Glu
225					230					235				240	
Arg	Ala	Lys	Phe	Met	Ala	Arg	Tyr	Lys	Arg	Glu	Glu	Val	Lys	Ile	Gln
				245					250					255	
Ala	Trp	Glu	Asn	His	Glu	Lys	Arg	Lys	Ala	Glu	Met	Glu	Met	Lys	Lys
			260					265					270		
Met	Glu	Val	Lys	Ala	Glu	Arg	Met	Lys	Ala	Arg	Ala	Glu	Glu	Lys	Leu
	275						280						285		
Ala	Asn	Lys	Leu	Ala	Ala	Thr	Lys	Arg	Ile	Ala	Glu	Glu	Arg	Arg	Ala
	290					295					300				
Asn	Ala	Glu	Ala	Lys	Leu	Asn	Glu	Lys	Ala	Val	Lys	Thr	Ser	Glu	Lys
305					310					315				320	
Ala	Asp	Tyr	Ile	Arg	Arg	Ser	Gly	His	Leu	Pro	Ser	Ser	Phe	Ser	Phe
				325					330					335	
Ser	Phe	Lys	Leu	Pro	Ser	Arg	Cys	Trp	Cys	Gln					
			340						345						

<210> 230
 <211> 792
 <212> DNA
 <213> Arabidopsis thaliana

<400> 230
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 gatttgccaa tgctatcaga attggacata acagattacc cagcattaaa ctggctgaaa 120
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PF58787.ST25.txt

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195         200         205
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<213> Arabidopsis thaliana

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PF58787.ST25.txt

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Cys Tyr His Tyr Ser Pro Arg Met Met Met Arg Ser Met Asp Ala Pro
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165 170 175
Gly Tyr Gly Arg Gly Pro Gly His Gly His Ser Arg Ser Trp Val Asp
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Leu Met Ser Glu Glu Thr Ser Ser Leu Ser Ser Lys Thr Asp Thr Glu
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Glu Lys Ala Glu Met Thr Thr Ala Met Gln Ser Pro Val Val Ser Arg
210 215 220
Arg Asp Met Ala Thr Gln Met Ser Pro Glu Glu Thr Ser Pro Asn Asn
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PF58787.ST25.txt

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aacgctagct cttcaagctt cgagtttcac cgagctcggt gtgagcggtc gaatcagaat      600
catgggtcaa gaggatatcc ttcaagacaa atgccatcta aatggaatga tgctgagaag      660
tggaataatg gcagacagaa catggtgatg aggaagaacg gtcaagggaa ccgaataacct      720
gtgagaattg tgcctgataa tgcaggttac gagcataaca aatctaggat ggatctgtgc      780
caatcctcac aagttgatgg gtttgagaag ttccctaata ttgttccctc ggcgccacat      840
cctattctaa ctcaagagta tggaggagac tcgttgattg accaatccac acaaagcaat      900
gatcttgctg attcatcaca tgatcataca acaggtggtc ctgcgattcg ttcggtatgt      960
atgagagata tgggaaccga aatgacacct ataccgagtc aagaaccttc aagatctgtg     1020
acaccagttg gtgcaacaac tcctcttcgt agcccgactt catctctccc ttctactcct     1080
agaggtggcc aaccagagga atcttctatg tcgaaaaaca caagaagaga actatctgag     1140
gaggaagaga aagcgaagac gcgaagagag attgtagctc ttggagttca gctagggag     1200
atgaacatcg ccgcttgggc aagtaaagaa gaagaggaga acaagaaaaa caatggagat     1260
gcagaggagg cacagaagat tgagtttgaa aaacgagcga ctgcatggga agaagcagag     1320
aaatccaaac ataatgcgag gtataagcgt gaggaatca gaatccaagc ttgggaaagt     1380
caggagaaag ccaaactcga agcagaaatg cgacgtatag aggctaaagt tgagcagatg     1440
aaagctgaag ctgaagcaaa gataatgaag aaaattgcgt tggctaagca aaggtcagaa     1500
gagaaacggg ctttggcgga agctagaaaa acccgatgat ctgagaaggc agtggctgaa     1560
gcccaatata ttcggaagac tggtagaata ccggcatcaa gttacaagat atgttggtgt     1620
tggttctcat gaggcattgg attgagtttt ttgcttctcg agtaaaccat gattggattc     1680
tcaaagcccc tttgtgtaat atagaaatgg aatgcatatt atgttgcata gact          1734

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<210> 241
 <211> 509

PF58787.ST25.txt

<212> PRT

<213> Arabidopsis thaliana

<400> 241

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Met Asp Tyr Glu Arg Ile Gln Lys Val Gln Lys Ser Ile Ile Ser Pro
1      5      10      15
Thr Lys Leu Arg Met Lys Leu Met Gly Pro Leu Asn Asn Met Lys Arg
      20      25      30
Glu Gly Ser Lys Ser Asn Ser Asn Ser Ser Arg Thr Ser Pro Ser Arg
      35      40      45
Leu Gln Ile Pro Asp Asp Ser Glu Phe Ser Lys Asn Ser Leu Leu Ala
      50      55      60
Ser Asn Ser Tyr Ser Asp Asp Asp Val Ala Ala Thr Thr Thr Asp Ile
65      70      75      80
Glu Val Ala Lys Leu Pro Asn Glu Pro Val Leu Tyr Pro Thr Glu Asn
      85      90      95
Asp Asn Gln Gly Ser Lys Asp Arg Cys Glu Gly Val Val Pro Arg Glu
      100      105      110
Asn Asp Gln Pro Arg Leu Gln Gln Phe Arg Lys Gly Asp Leu Asn Met
      115      120      125
Ala Ser Pro His Ile Met Arg Pro Gln Glu Asp Glu Asn Leu Asp Tyr
      130      135      140
Asp Ser Asn Ala Ser Ser Ser Ser Phe Glu Phe His Arg Ala Arg Gly
145      150      155      160
Glu Arg Ser Asn Gln Asn His Gly Ser Arg Gly Tyr Pro Ser Arg Gln
      165      170      175
Met Pro Ser Lys Trp Asn Asp Ala Glu Lys Trp Ile Met Ser Arg Gln
      180      185      190
Asn Met Val Met Arg Lys Asn Gly Gln Gly Asn Arg Ile Pro Val Arg
      195      200      205
Ile Val Pro Asp Asn Ala Gly Tyr Glu His Asn Lys Ser Arg Met Asp
      210      215      220
Leu Cys Gln Ser Ser Gln Val Asp Gly Phe Glu Lys Phe Pro Asn Val
225      230      235      240
Val Pro Ser Ala Pro His Pro Ile Leu Thr Gln Glu Tyr Gly Gly Asp
      245      250      255
Ser Leu Ile Asp Gln Ser Thr Gln Ser Asn Asp Leu Ala Asp Ser Ser
      260      265      270
His Asp His Thr Thr Gly Gly Pro Ala Ile Arg Ser Val Cys Met Arg
      275      280      285
Asp Met Gly Thr Glu Met Thr Pro Ile Pro Ser Gln Glu Pro Ser Arg
      290      295      300
Ser Val Thr Pro Val Gly Ala Thr Thr Pro Leu Arg Ser Pro Thr Ser
305      310      315      320
Ser Leu Pro Ser Thr Pro Arg Gly Gly Gln Pro Glu Glu Ser Ser Met
      325      330      335
Ser Lys Asn Thr Arg Arg Glu Leu Ser Glu Glu Glu Glu Lys Ala Lys
      340      345      350
Thr Arg Arg Glu Ile Val Ala Leu Gly Val Gln Leu Gly Lys Met Asn
      355      360      365
Ile Ala Ala Trp Ala Ser Lys Glu Glu Glu Glu Asn Lys Lys Asn Asn
      370      375      380
Gly Asp Ala Glu Glu Ala Gln Lys Ile Glu Phe Glu Lys Arg Ala Thr
385      390      395      400
Ala Trp Glu Glu Ala Glu Lys Ser Lys His Asn Ala Arg Tyr Lys Arg
      405      410      415
Glu Glu Ile Arg Ile Gln Ala Trp Glu Ser Gln Glu Lys Ala Lys Leu
      420      425      430
Glu Ala Glu Met Arg Arg Ile Glu Ala Lys Val Glu Gln Met Lys Ala

```

PF58787.ST25.txt

```

      435              440              445
Glu Ala Glu Ala Lys Ile Met Lys Lys Ile Ala Leu Ala Lys Gln Arg
      450              455              460
Ser Glu Glu Lys Arg Ala Leu Ala Glu Ala Arg Lys Thr Arg Asp Ala
465              470              475              480
Glu Lys Ala Val Ala Glu Ala Gln Tyr Ile Arg Glu Thr Gly Arg Ile
      485              490              495
Pro Ala Ser Ser Tyr Lys Ile Cys Cys Gly Trp Phe Ser
      500              505

```

<210> 242
 <211> 2020
 <212> DNA
 <213> Arabidopsis thaliana

```

<400> 242
atgccgtcgg agtcatcgta caaagtcac cgtccggcga aatccggagg atctcgacga      60
gactcaagcc ccgactcaat aatcttcaca cctgaatcta atctcagctc cttctcctcc      120
gcttccgtca gcgtcgatcg ttgctcttcc acctccgacg ctcacgaccg ggacgactct      180
ctcatctccg gtccctctct ggagcgagat cagagggtaa gttcgagctg taaagatcta      240
gatctagaca agcgtggtac agggtggaag aatagttgta actctagaaa atcaaataaa      300
gtaaaagcag cttggaaaga ggagtttgag gtaaaaaaag atgatgaaag ccagaatctt      360
gattcagcta ggagttcttt ctctgtagct cttagagaat gtcaggaacg aagatctaga      420
tctgaagcgc tggcgaaaaa gttagattac caaaggactg tttcgttgga tcttagtaat      480
gtaacctcta cgtctccaag agtggtaaat gtgaagagag cttcagtttc aactaataaa      540
tcgagtgtgt ttcctagtcc tgggtactcc acttatctac atagtatgca aaagggttgg      600
agttcagaga gagtaccttt acgttcaaac ggaggaagaa gtccgccaaa tgctgggttt      660
ttacctttgt atagtggtag aacggttcct tctaagtggg aagatgcgga gagatggata      720
gttagtcctc ttgctaagga aggagctgcc cgtacttcat ttggagcatc gcatgaaagg      780
cgacctaaag caaagagtgg tccattaggt cctccaggat ttgcatatta ttcgttgtat      840
tcccctgcag ttcctatggt tcatggtgga aacatgggag gcttaacagc aagctctccg      900
ttttcagctg gtgtgttgcc agaaactgtt tcttctaggg gttccactac agctgccttt      960
cctcagcgaa tcgatccatc catggcgaga tcagttagca ttcattggct ctctgaaaca      1020
cttgcattct catcccaaga tgacatccat gaaagtatga aggatgctgc taccgatgct      1080
caagctgtct caagaaggga tatggcaacc cagatgagtc ccgagggaag catccggttt      1140
tcccctgaga gacagtgttc gttctctccc tcctctccat caccactacc tatttcggaa      1200
ctactgaatg ctcatccaa ccgagcagaa gtcaaggact tacaggttga tgagaaggta      1260
accgtaactc gctggtcaaa gaagcacaga ggtctatacc atggaaatgg ctcaaaaatg      1320
cgagatcacg tacatggaaa agctactaac catgaagatt tgacatgtgc gacagaggaa      1380
gccagaatta tatcttgga aaatttgtag aaagctaagg ccgaggcagc aataagaaag      1440
ctagagaaat atttccaca gatgaagctg gaaaagaaa gatcatcgtc gatggaaaag      1500
attatgagaa aagtaaaatc agcagagaag agagcggagg agatgaggag gtcggtgtta      1560
gacaatagag tctcaaccgc atctcatggt aagccttcat cattcaaaag aagtgggaag      1620
aagaagatcc cttcccttag tggttgcttc acctgccatg tattctagtt gccctttttc      1680
gaagaaaata cggtaaatgg agactcttca ctgatgcgta cgcgtaatat ttggttttct      1740
aattcctgct tgtaatacta ctttcgatag tcagtagctg ttaattgatt tcaatagatg      1800
cgcttagtac atttgtatgt tagttcctag ctgagtaaaa tccgagggat gagtccaccc      1860
atttccacct ttgttggtct cttcgggtgt ttagaggtga attgatccca agaggacaaa      1920
ctcttcttga taaaatgtat ttgtaattta tgatgccttg atactaacat tatgacataa      1980
ctttttttta cattatgaca aacattgttg ttttacattc      2020

```

<210> 243
 <211> 555
 <212> PRT
 <213> Arabidopsis thaliana

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<400> 243
Met Pro Ser Glu Ser Ser Tyr Lys Val His Arg Pro Ala Lys Ser Gly
1              5              10              15

```

PF58787.ST25.txt

Gly	Ser	Arg	Arg	Asp	Ser	Ser	Pro	Asp	Ser	Ile	Ile	Phe	Thr	Pro	Glu
			20					25					30		
Ser	Asn	Leu	Ser	Leu	Phe	Ser	Ser	Ala	Ser	Val	Ser	Val	Asp	Arg	Cys
		35					40					45			
Ser	Ser	Thr	Ser	Asp	Ala	His	Asp	Arg	Asp	Asp	Ser	Leu	Ile	Ser	Gly
		50				55					60				
Pro	Ser	Leu	Glu	Arg	Asp	Gln	Arg	Val	Ser	Ser	Ser	Cys	Lys	Asp	Leu
65					70					75					80
Asp	Leu	Asp	Lys	Arg	Gly	Thr	Gly	Trp	Lys	Asn	Ser	Cys	Asn	Ser	Arg
				85					90					95	
Lys	Ser	Asn	Lys	Val	Lys	Ala	Ala	Trp	Lys	Glu	Glu	Phe	Glu	Val	Lys
			100					105					110		
Lys	Asp	Asp	Glu	Ser	Gln	Asn	Leu	Asp	Ser	Ala	Arg	Ser	Ser	Phe	Ser
		115					120					125			
Val	Ala	Leu	Arg	Glu	Cys	Gln	Glu	Arg	Arg	Ser	Arg	Ser	Glu	Ala	Leu
		130				135					140				
Ala	Lys	Lys	Leu	Asp	Tyr	Gln	Arg	Thr	Val	Ser	Leu	Asp	Leu	Ser	Asn
145					150					155					160
Val	Thr	Ser	Thr	Ser	Pro	Arg	Val	Val	Asn	Val	Lys	Arg	Ala	Ser	Val
				165					170						175
Ser	Thr	Asn	Lys	Ser	Ser	Val	Phe	Pro	Ser	Pro	Gly	Thr	Pro	Thr	Tyr
		180						185					190		
Leu	His	Ser	Met	Gln	Lys	Gly	Trp	Ser	Ser	Glu	Arg	Val	Pro	Leu	Arg
		195					200					205			
Ser	Asn	Gly	Gly	Arg	Ser	Pro	Pro	Asn	Ala	Gly	Phe	Leu	Pro	Leu	Tyr
		210				215					220				
Ser	Gly	Arg	Thr	Val	Pro	Ser	Lys	Trp	Glu	Asp	Ala	Glu	Arg	Trp	Ile
225					230					235					240
Val	Ser	Pro	Leu	Ala	Lys	Glu	Gly	Ala	Ala	Arg	Thr	Ser	Phe	Gly	Ala
				245					250					255	
Ser	His	Glu	Arg	Arg	Pro	Lys	Ala	Lys	Ser	Gly	Pro	Leu	Gly	Pro	Pro
			260					265					270		
Gly	Phe	Ala	Tyr	Tyr	Ser	Leu	Tyr	Ser	Pro	Ala	Val	Pro	Met	Val	His
		275					280					285			
Gly	Gly	Asn	Met	Gly	Gly	Leu	Thr	Ala	Ser	Ser	Pro	Phe	Ser	Ala	Gly
		290				295					300				
Val	Leu	Pro	Glu	Thr	Val	Ser	Ser	Arg	Gly	Ser	Thr	Thr	Ala	Ala	Phe
305					310					315					320
Pro	Gln	Arg	Ile	Asp	Pro	Ser	Met	Ala	Arg	Ser	Val	Ser	Ile	His	Gly
				325					330					335	
Cys	Ser	Glu	Thr	Leu	Ala	Ser	Ser	Ser	Gln	Asp	Asp	Ile	His	Glu	Ser
			340					345					350		
Met	Lys	Asp	Ala	Ala	Thr	Asp	Ala	Gln	Ala	Val	Ser	Arg	Arg	Asp	Met
		355					360					365			
Ala	Thr	Gln	Met	Ser	Pro	Glu	Gly	Ser	Ile	Arg	Phe	Ser	Pro	Glu	Arg
		370					375				380				
Gln	Cys	Ser	Phe	Ser	Pro	Ser	Ser	Pro	Ser	Pro	Leu	Pro	Ile	Ser	Glu
385					390					395					400
Leu	Leu	Asn	Ala	His	Ser	Asn	Arg	Ala	Glu	Val	Lys	Asp	Leu	Gln	Val
				405					410					415	
Asp	Glu	Lys	Val	Thr	Val	Thr	Arg	Trp	Ser	Lys	Lys	His	Arg	Gly	Leu
			420					425					430		
Tyr	His	Gly	Asn	Gly	Ser	Lys	Met	Arg	Asp	His	Val	His	Gly	Lys	Ala
		435					440					445			
Thr	Asn	His	Glu	Asp	Leu	Thr	Cys	Ala	Thr	Glu	Glu	Ala	Arg	Ile	Ile
		450				455					460				
Ser	Trp	Glu	Asn	Leu	Gln	Lys	Ala	Lys	Ala	Glu	Ala	Ala	Ile	Arg	Lys
465					470					475					480
Leu	Glu	Lys	Tyr	Phe	Pro	Gln	Met	Lys	Leu	Glu	Lys	Lys	Arg	Ser	Ser

PF58787.ST25.txt

```

                485                490                495
Ser Met Glu Lys Ile Met Arg Lys Val Lys Ser Ala Glu Lys Arg Ala
                500                505                510
Glu Glu Met Arg Arg Ser Val Leu Asp Asn Arg Val Ser Thr Ala Ser
                515                520                525
His Gly Lys Ala Ser Ser Phe Lys Arg Ser Gly Lys Lys Lys Ile Pro
                530                535                540
Ser Leu Ser Gly Cys Phe Thr Cys His Val Phe
545                550                555

```

<210> 244
 <211> 1652
 <212> DNA
 <213> Arabidopsis thaliana

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<400> 244
ctgtactttc acaagcttcc aagctctctt atcattcact gattttttggt tctcgagaaa      60
aaagtgaaga tttttgagat tctcttttga tggattacga acgaatcgga aagaccagg      120
ttactagtag cggcggcgga ttttctccgg ggaagttaag gagtatgctt cttctagggtg      180
ttgatagaaa gaagaatgaa gaagaagaat caactcctac aatgagatct gggcttaatc      240
aaattgatga ccctagggtt tatgttgcta gtggattaga tgattgcaa gatgttgatg      300
ttgtgagtga gattactgat tgttctactt cagggatagc tagatcgatt agtttgggtc      360
ttcaagagta ttctgattat gataatgtga atgagatcaa gagtgtttct gcatcatctg      420
tctttgagtt tcaaaagact gagaaggaaa aagttaatca aagaatgcct attagatcat      480
tctctaaacc agctccatct aaatgggatg atgctcagaa atggattgct agtcctacgg      540
ctaaccgacc gaagactgga caggttcagg ttccgggttc gaagaaaggg cctagctttg      600
gtcgtcagtc ttctatgaag attgttgaag ttgtcgaaca tagagtgggt gaagagcctg      660
atacaaagag aatagatgta agccaagtga aaaaggatat gggaaacaag tttggtagct      720
gggaagttga ttcgtacact accgtggatt catatgtcaa accggttctt atggttgaga      780
actctattgt agaatcagca actgaagtta atctcagccg tcatgactcg tcagtgcgaa      840
ctgctgttgc tcaaccgcct tcaacggcaa ggtctgtgtc aatgagagac atgggaaactg      900
aaatgactcc tatagcgagc caagaacctt ctagaaacgg gacaccgatt agggcaacaa      960
cgccaatacg aagtcctata tcttctgaac cttcaagtcc aggcagacaa gcatcagctt     1020
ctcctatgag taacaaggaa ctgtcagaga aagagcttca aatgaaaact aggagagaga     1080
taatggtggt gggactcaa cttggtaaat ttaacattgc tgcttgggct agcaaggagg     1140
atgaagataa agacgcattc acatcattaa agaccaaagc ttctctacaa acttctaaaa     1200
gtgtttctga agctcgtgct acagcgtggg aggaagcggg aaaagctaag cacatggcta     1260
ggttcagacg cgaagagatg aagattcaag catgggagaa tcatcagaag gcgaaatctg     1320
aagccgagat gaagaaaacc gaggttaaaag ttgagaggat taagggacga gcacaagacc     1380
ggttgatgaa gaaactcgct acaatcgagc gcaaagcaga ggaaaagcga gcagcggctg     1440
aagcaaagaa ggatcatcag gcagctaaaa cagagaaaca agctgaacaa atccgaagaa     1500
caggcaaagt accttcattg ttgttctctt gctttagctt ttgttcttaa atccaatcct     1560
attgtgaatg tgatgttggt aattctcaag aacacatctt tctatcatca tttgtataat     1620
aaaagctttg aaaaacttat ttcttgtgat ct                                     1652

```

<210> 245
 <211> 486
 <212> PRT
 <213> Arabidopsis thaliana

```

<400> 245
Met Asp Tyr Glu Arg Ile Gly Lys Thr Gln Val Thr Ser Ser Gly Gly
1                5                10                15
Gly Phe Ser Pro Gly Lys Leu Arg Ser Met Leu Leu Leu Gly Val Asp
                20                25                30
Arg Lys Lys Asn Glu Glu Glu Glu Ser Thr Pro Thr Met Arg Ser Gly
                35                40                45
Ser Asn Gln Ile Asp Asp Pro Arg Val Tyr Val Ala Ser Gly Leu Asp
                50                55                60

```


PF58787.ST25.txt

Asp	Cys	Lys	Asp	Val	Asp	Val	Val	Ser	Glu	Ile	Thr	Asp	Cys	Ser	Thr
65					70					75					80
Ser	Gly	Ile	Ala	Arg	Ser	Ile	Ser	Leu	Gly	Leu	Gln	Glu	Tyr	Ser	Asp
				85					90					95	
Tyr	Asp	Asn	Val	Asn	Glu	Ile	Lys	Ser	Val	Ser	Ala	Ser	Ser	Val	Phe
			100					105						110	
Glu	Phe	Gln	Lys	Thr	Glu	Lys	Glu	Lys	Val	Asn	Gln	Arg	Met	Pro	Ile
		115					120					125			
Arg	Ser	Phe	Ser	Lys	Pro	Ala	Pro	Ser	Lys	Trp	Asp	Asp	Ala	Gln	Lys
	130					135					140				
Trp	Ile	Ala	Ser	Pro	Thr	Ala	Asn	Arg	Pro	Lys	Thr	Gly	Gln	Val	Gln
145					150					155					160
Val	Pro	Gly	Ser	Lys	Lys	Gly	Pro	Ser	Phe	Gly	Arg	Gln	Ser	Ser	Met
				165					170						175
Lys	Ile	Val	Glu	Val	Ala	Glu	His	Arg	Val	Val	Glu	Glu	Pro	Asp	Thr
		180						185					190		
Lys	Arg	Ile	Asp	Val	Ser	Gln	Val	Lys	Lys	Asp	Met	Gly	Asn	Lys	Phe
	195						200					205			
Gly	Ser	Trp	Glu	Val	Asp	Ser	Tyr	Thr	Thr	Val	Asp	Ser	Tyr	Val	Lys
	210					215					220				
Pro	Val	Leu	Met	Val	Glu	Asn	Ser	Ile	Val	Glu	Ser	Ala	Thr	Glu	Val
225					230					235					240
Asn	Leu	Ser	Arg	His	Asp	Ser	Ser	Val	Ala	Thr	Ala	Phe	Ala	Gln	Pro
				245					250					255	
Pro	Ser	Thr	Ala	Arg	Ser	Val	Ser	Met	Arg	Asp	Met	Gly	Thr	Glu	Met
			260					265					270		
Thr	Pro	Ile	Ala	Ser	Gln	Glu	Pro	Ser	Arg	Asn	Gly	Thr	Pro	Ile	Arg
	275						280					285			
Ala	Thr	Thr	Pro	Ile	Arg	Ser	Pro	Ile	Ser	Ser	Glu	Pro	Ser	Ser	Pro
	290						295				300				
Gly	Arg	Gln	Ala	Ser	Ala	Ser	Pro	Met	Ser	Asn	Lys	Glu	Leu	Ser	Glu
305					310					315					320
Lys	Glu	Leu	Gln	Met	Lys	Thr	Arg	Arg	Glu	Ile	Met	Val	Leu	Gly	Thr
			325						330					335	
Gln	Leu	Gly	Lys	Phe	Asn	Ile	Ala	Ala	Trp	Ala	Ser	Lys	Glu	Asp	Glu
			340					345					350		
Asp	Lys	Asp	Ala	Ser	Thr	Ser	Leu	Lys	Thr	Lys	Ala	Ser	Leu	Gln	Thr
	355						360					365			
Ser	Lys	Ser	Val	Ser	Glu	Ala	Arg	Ala	Thr	Ala	Trp	Glu	Glu	Ala	Glu
	370					375					380				
Lys	Ala	Lys	His	Met	Ala	Arg	Phe	Arg	Arg	Glu	Glu	Met	Lys	Ile	Gln
385					390					395					400
Ala	Trp	Glu	Asn	His	Gln	Lys	Ala	Lys	Ser	Glu	Ala	Glu	Met	Lys	Lys
			405						410					415	
Thr	Glu	Val	Lys	Val	Glu	Arg	Ile	Lys	Gly	Arg	Ala	Gln	Asp	Arg	Leu
		420						425					430		
Met	Lys	Lys	Leu	Ala	Thr	Ile	Glu	Arg	Lys	Ala	Glu	Glu	Lys	Arg	Ala
	435						440					445			
Ala	Ala	Glu	Ala	Lys	Lys	Asp	His	Gln	Ala	Ala	Lys	Thr	Glu	Lys	Gln
	450					455					460				
Ala	Glu	Gln	Ile	Arg	Arg	Thr	Gly	Lys	Val	Pro	Ser	Leu	Leu	Phe	Ser
465					470					475					480
Cys	Phe	Ser	Phe	Cys	Ser										
				485											

<210> 246

<211> 351

<212> DNA

<213> Arabidopsis thaliana

PF58787.ST25.txt

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<400> 246
atggagccaa atattccgat ccaaagaggt aactcatatc acagagtttt agtattgttt 60
agtttcatgt tgactcagaa gaagctacta gatatttcag gatgggagaa aaagaaaact 120
acaaagatcg aatctgaact cgctagaatt cagcgaaga tggacagtaa gaagatggag 180
aaatctgaga aactaaggaa cgaaaaagcg gcagttcatg caaaggcaca aaagaagaag 240
gcagatgttc aaaccagacg ggctcaagag atccttgatg cggaagaagc tgctgctagg 300
tttcaagccg caggaaagat acccaagaag tcatctttga gctgcttctg a 351
```

```
<210> 247
<211> 116
<212> PRT
<213> Arabidopsis thaliana
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<400> 247
Met Glu Pro Asn Ile Pro Ile Gln Arg Gly Asn Ser Tyr His Arg Val
1 5 10 15
Leu Val Leu Phe Ser Phe Met Leu Thr Gln Lys Lys Leu Leu Asp Ile
20 25 30
Ser Gly Trp Glu Lys Lys Lys Thr Thr Lys Ile Glu Ser Glu Leu Ala
35 40 45
Arg Ile Gln Arg Lys Met Asp Ser Lys Lys Met Glu Lys Ser Glu Lys
50 55 60
Leu Arg Asn Glu Lys Ala Ala Val His Ala Lys Ala Gln Lys Lys Lys
65 70 75 80
Ala Asp Val Gln Thr Arg Arg Ala Gln Glu Ile Leu Asp Ala Glu Glu
85 90 95
Ala Ala Ala Arg Phe Gln Ala Ala Gly Lys Ile Pro Lys Lys Ser Ser
100 105 110
Leu Ser Cys Phe
115
```

```
<210> 248
<211> 636
<212> DNA
<213> Arabidopsis thaliana
```

```
<400> 248
atgaagacta accggaaccg tccgatcaac atcctcatcg tcttcttctt tcttacgacc 60
gcaagagcag caacaagaaa ctggaccaac cgaactcacc gaaccgtccc taaggttcaa 120
cacgcgtact acgcataatc tcaccgttca tgcgaaatct tctctcgtcc atacgcacgc 180
tctatgtgca ttgagctcga aagaatccac agaagcagtc gacaaccgct tttctctcct 240
ccgcctctc cgacggagat tgatcaaagc gtcatgaacg aatccacagt gcaacgagcg 300
aaacctgaac atatggcagc tgttgtggat caatggaagg aaacagagat aagcaaatcg 360
agaaagaagt acgagaagct aagtgagaag atttgtgcat gggaagataa gaagaggaaa 420
aaggcaaaga gaaaacttca tagaacagag agaagtgtag agaaaacaaa gttgaaggcg 480
accagagggt tcagggacga aaatgaacgt attgagatta tcgttgcaag tgcaagagca 540
catgcgtatg agagtcgaat aaaagaagag ttgaagggtta aggagaaagc aaacctcatg 600
agaacaactg gtaggaaacc ctctacatgc ctctga 636
```

```
<210> 249
<211> 211
<212> PRT
<213> Arabidopsis thaliana
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<400> 249
Met Lys Thr Asn Arg Asn Arg Pro Ile Asn Ile Leu Ile Val Phe Phe
1 5 10 15
Leu Leu Thr Thr Ala Arg Ala Ala Thr Arg Asn Trp Thr Asn Arg Thr
```

20							25							30						
His	Arg	Thr	Val	Pro	Lys	Val	Gln	His	Ala	Tyr	Tyr	Ala	Tyr	Pro	His					
35			40				45													
Arg	Ser	Cys	Glu	Ser	Phe	Ser	Arg	Pro	Tyr	Ala	Arg	Ser	Met	Cys	Ile					
50			55				60													
Glu	Leu	Glu	Arg	Ile	His	Arg	Ser	Ser	Arg	Gln	Pro	Leu	Phe	Ser	Pro					
65			70				75			80										
Pro	Pro	Pro	Pro	Thr	Glu	Ile	Asp	Gln	Ser	Val	Met	Asn	Glu	Ser	Thr					
85			90				95													
Val	Gln	Arg	Ala	Lys	Pro	Glu	His	Met	Ala	Ala	Val	Val	Asp	Gln	Trp					
100			105				110													
Lys	Glu	Thr	Glu	Ile	Ser	Lys	Ser	Arg	Lys	Lys	Tyr	Glu	Lys	Leu	Ser					
115			120				125													
Glu	Lys	Ile	Val	Ser	Trp	Glu	Asp	Lys	Lys	Arg	Lys	Lys	Ala	Lys	Arg					
130			135				140													
Lys	Leu	His	Arg	Thr	Glu	Arg	Ser	Val	Glu	Lys	Thr	Lys	Leu	Lys	Ala					
145			150				155			160										
Thr	Gln	Arg	Phe	Arg	Asp	Glu	Asn	Glu	Arg	Ile	Glu	Ile	Ile	Val	Ala					
165			170				175													
Ser	Ala	Arg	Ala	His	Ala	Tyr	Glu	Ser	Arg	Ile	Lys	Glu	Glu	Leu	Lys					
180			185				190													
Val	Lys	Glu	Lys	Ala	Asn	Leu	Met	Arg	Thr	Thr	Gly	Arg	Lys	Pro	Ser					
195			200				205													
Thr	Cys	Leu																		
210																				

```
<210> 250
<211> 537
<212> DNA
<213> Arabidopsis thaliana
```

<400>	250						
atgaagacta	accggaaccg	tccgatcaac	atcctcatcg	tcttcttctt	tcttacgacc		60
gcaagagcag	caacaagaaa	ctggaccaac	cgaactcacc	gaaccgtccc	taaggttcaa		120
cacgcgtact	acgcataatc	tcaccgttca	tgcgaatctt	tctctcgccc	atacgcacgc		180
tctatgtgca	ttgagctcga	aagaatccac	agaagcagtc	gacaaccgct	tttctctcct		240
ccgcctcctc	cgacggagat	tgatcaaagg	tacgagaagc	taagtggaga	gattgtgtca		300
tgggaagata	agaagaggga	aaaggcaaag	agaaaacttc	atagaacaga	gagaagtgtg		360
gagaaaaaca	agttgaaggc	gaccagaggg	ttcagggacg	aaaatgaacg	tattgagatt		420
atcgttgcaa	gtgcaagagc	acatgcgtat	gagagtcgaa	taaaagaaga	gttgaagggt		480
aaggagaaaa	caaactcat	gagaacaact	gtaggaaaac	cctctacatg	cctctgga		537

```
<210> 251
<211> 178
<212> PRT
<213> Arabidopsis thaliana
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<400> 251															
Met	Lys	Thr	Asn	Arg	Asn	Arg	Pro	Ile	Asn	Ile	Leu	Ile	Val	Phe	Phe
1				5					10					15	
Leu	Leu	Thr	Thr	Ala	Arg	Ala	Ala	Thr	Arg	Asn	Trp	Thr	Asn	Arg	Thr
			20					25					30		
His	Arg	Thr	Val	Pro	Lys	Val	Gln	His	Ala	Tyr	Tyr	Ala	Tyr	Pro	His
		35					40					45			
Arg	Ser	Cys	Glu	Ser	Phe	Ser	Arg	Pro	Tyr	Ala	Arg	Ser	Met	Cys	Ile
	50					55					60				
Glu	Leu	Glu	Arg	Ile	His	Arg	Ser	Ser	Arg	Gln	Pro	Leu	Phe	Ser	Pro
65					70					75					80
Pro	Pro	Pro	Pro	Thr	Glu	Ile	Asp	Gln	Arg	Tyr	Glu	Lys	Leu	Ser	Glu

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				85					90					95					
Lys	Ile	Val	Ser	Trp	Glu	Asp	Lys	Lys	Arg	Lys	Lys	Ala	Lys	Arg	Lys				
			100					105					110						
Leu	His	Arg	Thr	Glu	Arg	Ser	Val	Glu	Lys	Thr	Lys	Leu	Lys	Ala	Thr				
			115				120					125							
Gln	Arg	Phe	Arg	Asp	Glu	Asn	Glu	Arg	Ile	Glu	Ile	Ile	Val	Ala	Ser				
			130			135					140								
Ala	Arg	Ala	His	Ala	Tyr	Glu	Ser	Arg	Ile	Lys	Glu	Glu	Leu	Lys	Val				
			145		150					155					160				
Lys	Glu	Lys	Ala	Asn	Leu	Met	Arg	Thr	Thr	Gly	Arg	Lys	Pro	Ser	Thr				
				165					170					175					

Cys Leu

<210> 252
 <211> 639
 <212> DNA
 <213> Arabidopsis thaliana

<400> 252
 atggcgagg aacagaagat agcgtagaa tcagaatctc cggcgaaggt tacgactcct 60
 gctccagcag atacaccggc tccagctccg gcagagattc cggctccagc tccagctccg 120
 actccggctg atgtcacgaa agacgttgca gaggagaaaa ttcaaaaccc acctccggag 180
 caaattttcg atgactccaa agcccttact gttgttgaga aacctgtaga agagcctgca 240
 ccggcgaaac ctgctgtctgc atcgctcgat agagatgtta agctagctga tttgtcaaag 300
 gaaaagagat tgtctttcgt cagagcgtgg gaagaaagcg aaaagagcaa agcagagaac 360
 aaagctgaga agaagattgc agatgttcat gcttgggaaa acagcaagaa agcagctgtc 420
 gaagcgcaac tcaagaaaat cgaggagcaa ctagagaaga agaaagcaga gtatgcagag 480
 aggatgaaga ataaggttgc agcgattcac aaggaagcag aagagagaag agcaatgatt 540
 gaagctaagc gtggagaaga cgttcttaaa gcagaagaaa cggctgctaa atacagagcc 600
 actggaattg ttccaaaggc aacttggtga tgtttctaa 639

<210> 253
 <211> 212
 <212> PRT
 <213> Arabidopsis thaliana

<400> 253
 Met Ala Glu Glu Gln Lys Ile Ala Leu Glu Ser Glu Ser Pro Ala Lys
 1 5 10 15
 Val Thr Thr Pro Ala Pro Ala Asp Thr Pro Ala Pro Ala Pro Ala Glu
 20 25 30
 Ile Pro Ala Pro Ala Pro Ala Pro Thr Pro Ala Asp Val Thr Lys Asp
 35 40 45
 Val Ala Glu Glu Lys Ile Gln Asn Pro Pro Pro Glu Gln Ile Phe Asp
 50 55 60
 Asp Ser Lys Ala Leu Thr Val Val Glu Lys Pro Val Glu Glu Pro Ala
 65 70 75 80
 Pro Ala Lys Pro Ala Ser Ala Ser Leu Asp Arg Asp Val Lys Leu Ala
 85 90 95
 Asp Leu Ser Lys Glu Lys Arg Leu Ser Phe Val Arg Ala Trp Glu Glu
 100 105 110
 Ser Glu Lys Ser Lys Ala Glu Asn Lys Ala Glu Lys Lys Ile Ala Asp
 115 120 125
 Val His Ala Trp Glu Asn Ser Lys Lys Ala Ala Val Glu Ala Gln Leu
 130 135 140
 Lys Lys Ile Glu Glu Gln Leu Glu Lys Lys Lys Ala Glu Tyr Ala Glu
 145 150 155 160
 Arg Met Lys Asn Lys Val Ala Ala Ile His Lys Glu Ala Glu Glu Arg

[illegible]

```
<210> 254
<211> 528
<212> DNA
<213> Arabidopsis thaliana
```

<400>	254					
atgacttttag	aggagcagaa	gaaagtcata	atgcccgagg	ccgtcgcatac	ggagccatca	60
ccaccatcca	aggaggagaa	gtccgacgat	tcgaaagcta	ttgttctcgt	cgtcgctgca	120
aaagaacctta	cggaagacaa	gaaagtaggt	tcagttcacc	gagatgctgt	tttggttaga	180
ctcgagcaag	ataagaggat	atctctaatac	aaagcttggg	aagaggctga	gaaatccaaa	240
gtggagaaca	aagctcagaa	gaagattttct	tcagttggag	cttgggaaaa	cagcaagaaa	300
gcttctgtgg	aagctgagct	aaaaaagatc	gaggagcaac	taaataagaa	gaaagcacac	360
tacacagagc	aaatgaagaa	caagatagct	caaatccaca	aggaagctga	ggagaagaga	420
gcgatgaccg	aagctaaccg	cggagaagat	gttctcaaag	ccgaagaaat	ggctgcaaag	480
taccgtgccca	ccggaactgc	tccaaccaag	ctatttggat	tcttctga		528

```
<210> 255
<211> 175
<212> PRT
<213> Arabidopsis thaliana
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<400>	255														
Met	Thr	Leu	Glu	Glu	Gln	Lys	Lys	Val	Ile	Met	Pro	Glu	Ala	Val	Ala
1				5					10					15	
Ser	Glu	Pro	Ser	Pro	Pro	Ser	Lys	Glu	Glu	Lys	Ser	Asp	Asp	Ser	Lys
			20					25					30		
Ala	Ile	Val	Leu	Val	Val	Ala	Ala	Lys	Glu	Pro	Thr	Glu	Asp	Lys	Lys
		35					40					45			
Val	Gly	Ser	Val	His	Arg	Asp	Ala	Val	Leu	Val	Arg	Leu	Glu	Gln	Asp
	50					55					60				
Lys	Arg	Ile	Ser	Leu	Ile	Lys	Ala	Trp	Glu	Glu	Ala	Glu	Lys	Ser	Lys
65					70					75					80
Val	Glu	Asn	Lys	Ala	Gln	Lys	Lys	Ile	Ser	Ser	Val	Gly	Ala	Trp	Glu
				85					90					95	
Asn	Ser	Lys	Lys	Ala	Ser	Val	Glu	Ala	Glu	Leu	Lys	Lys	Ile	Glu	Glu
			100					105					110		
Gln	Leu	Asn	Lys	Lys	Lys	Ala	His	Tyr	Thr	Glu	Gln	Met	Lys	Asn	Lys
		115					120					125			
Ile	Ala	Gln	Ile	His	Lys	Glu	Ala	Glu	Glu	Lys	Arg	Ala	Met	Thr	Glu
	130					135					140				
Ala	Lys	Arg	Gly	Glu	Asp	Val	Leu	Lys	Ala	Glu	Glu	Met	Ala	Ala	Lys
145					150					155					160
Tyr	Arg	Ala	Thr	Gly	Thr	Ala	Pro	Thr	Lys	Leu	Phe	Gly	Phe	Phe	
			165						170					175	

```
<210> 256
<211> 771
<212> DNA
<213> Arabidopsis thaliana
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<400> 256

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```

atgacgacga cgacagagct tactcggccca caacaaaggg gatcaggagg aggataacttg      60
tctccggtcga ggtctattgc ttttagcgac ggaactactt cttccggtga gaatttcacc      120
accgtgagca gagagttcaa cgctctagtc atcgccggat cttccatgga caacaacagt      180
aacggaacta accaatcagg tggctcatcgt gacgtcatac gtgatgaaag aaacgagctg      240
actaggatcg gcgaaaacga tgacgttggg gatcatggtc aggtgcctga ggaggattca      300
aatccatggg cgattgtacc ggacgattac aacaaccggg acggttcaga gaataatatt      360
gtgttggcgt catcaggtgg tcagaaccgg atggtgacga ctgcttcggt gcagaggggtg      420
aagagagaag aggtggaagc aaagataacg gcgtggcaaa cggcgaaggt ggctaagatt      480
aataatagggt ttaagagaca agacgccgtt attaacgggt ggttgaatga gcaggttcat      540
agagctaact cttggatgaa gaaaatcgag aggaaactgg aagataggag agcgaaggcg      600
atggagaaaa cacaaaacaa agtggcaaaa gctcagagga aggcggagga gaggagagcc      660
acggcggaag gtaaacgagg gacggagggtt gcgagggttc ttgaagttgc taatctcatg      720
agagccggtt gacgacctcc ggccaaacga tcattcttct ctctttccta g              771

```

<210> 257

<211> 256

<212> PRT

<213> Arabidopsis thaliana

<400> 257

```

Met Thr Thr Thr Thr Glu Leu Thr Arg Pro Gln Gln Arg Gly Ser Gly
1      5      10      15
Gly Gly Tyr Leu Ser Pro Ser Arg Ser Ile Ala Phe Ser Asp Gly Thr
20      25      30
Thr Ser Ser Gly Glu Asn Phe Thr Thr Val Ser Arg Glu Phe Asn Ala
35      40      45
Leu Val Ile Ala Gly Ser Ser Met Asp Asn Asn Ser Asn Gly Thr Asn
50      55      60
Gln Ser Gly Gly His Arg Asp Val Ile Arg Asp Glu Arg Asn Glu Leu
65      70      75      80
Thr Arg Ile Gly Glu Asn Asp Asp Val Gly Asp His Gly Gln Val Pro
85      90      95
Glu Glu Asp Ser Asn Pro Trp Ala Ile Val Pro Asp Asp Tyr Asn Asn
100     105     110
Arg Asp Gly Ser Glu Asn Asn Ile Val Leu Ala Ser Ser Gly Gly Gln
115     120     125
Asn Arg Met Val Thr Thr Ala Ser Val Gln Arg Val Lys Arg Glu Glu
130     135     140
Val Glu Ala Lys Ile Thr Ala Trp Gln Thr Ala Lys Val Ala Lys Ile
145     150     155     160
Asn Asn Arg Phe Lys Arg Gln Asp Ala Val Ile Asn Gly Trp Leu Asn
165     170     175
Glu Gln Val His Arg Ala Asn Ser Trp Met Lys Lys Ile Glu Arg Lys
180     185     190
Leu Glu Asp Arg Arg Ala Lys Ala Met Glu Lys Thr Gln Asn Lys Val
195     200     205
Ala Lys Ala Gln Arg Lys Ala Glu Glu Arg Arg Ala Thr Ala Glu Gly
210     215     220
Lys Arg Gly Thr Glu Val Ala Arg Val Leu Glu Val Ala Asn Leu Met
225     230     235     240
Arg Ala Val Gly Arg Pro Pro Ala Lys Arg Ser Phe Phe Ser Leu Ser
245     250     255

```

<210> 258

<211> 1044

<212> DNA

<213> Arabidopsis thaliana

<400> 258

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atgagatcta gtgtagaaga taacaaagga tggataggac cagcgacacc ggagatatcg      60
aacgggttttg agtttcagaa aggttcgaac cggacaccaa accatcaccg gtctactatg    120
gggaagccag cgccgtcaaa atgggacgat gctcagaaat ggctttcttg tgtaggggtt    180
gctcgtggag gtggtggagg tggtgacaag agtagtcac actcaagaag taataagccg    240
agaaactcga acgcgatga tcttagactt atagcttcag cttcacagag agaacgtgaa    300
ggagaagatc agtacgttga gtatgatgat gaagagatgg cggcggaag accggagggt    360
gagacgaaga atgttgattg tggatgaatct gtttgaggga aagaaagtag tattaatcca    420
acggctgtga ttagatccgt ttgtgtgaga gatatgggga ctgagatgac tcctattggt    480
agtcaagagc cttctagaac agctacaccg gtgcgagcta ctacaccggt tgggaggagt    540
cctgtgactt caccggtgag ggcttcacaa cgtggtgagg cgggtgggggt tgtgatggag    600
acggtgacgg aggttaggag ggtagagagt aataatagtg agaagggtta tggttttgtg    660
gagagtaaga aggctatgag tgctatggaa gctcgagcca tggcttgga tgaagcagaa    720
cgtgctaaat tcatggctag gtataagaga gaggaagtga agatacaagc ttggggagaat    780
cacgagaaga gaaaggctga gatggagatg aagaaaatgg aggtgaaggc ggagaggatg    840
aaagcaaggg cagaggagaa gttggccaac aagctagctg cgacgaaaag gatagcggaa    900
gagaggaggg cgaatgcgga ggctaagtta aacgaaaagg cgggtgaagac atcggagaaa    960
gctgattata taaggaggag tggtcacttg cttctctctt tttctttctc ctttaagctt   1020
ccctctcggt gttggtgtca ataa                                     1044

```

<210> 259
 <211> 347
 <212> PRT
 <213> Arabidopsis thaliana

<400> 259

Met	Arg	Ser	Ser	Val	Glu	Asp	Asn	Lys	Gly	Trp	Ile	Gly	Pro	Ala	Thr
1				5					10					15	
Pro	Glu	Ile	Ser	Asn	Gly	Phe	Glu	Phe	Gln	Lys	Gly	Ser	Asn	Arg	Thr
			20					25					30		
Pro	Asn	His	His	Arg	Ser	Thr	Met	Gly	Lys	Pro	Ala	Pro	Ser	Lys	Trp
		35					40					45			
Asp	Asp	Ala	Gln	Lys	Trp	Leu	Ser	Gly	Val	Gly	Phe	Ala	Arg	Gly	Gly
	50					55					60				
Gly	Gly	Gly	Gly	Asp	Lys	Ser	Ser	His	His	Ser	Arg	Ser	Asn	Lys	Pro
65				70						75				80	
Arg	Asn	Ser	Asn	Ala	Asp	Asp	Leu	Arg	Leu	Ile	Ala	Ser	Ala	Ser	Gln
				85					90					95	
Arg	Glu	Arg	Glu	Gly	Glu	Asp	Gln	Tyr	Val	Glu	Tyr	Asp	Asp	Glu	Glu
			100					105					110		
Met	Ala	Ala	Gly	Arg	Pro	Glu	Val	Glu	Thr	Lys	Asn	Val	Asp	Cys	Gly
		115					120					125			
Glu	Ser	Val	Trp	Arg	Lys	Glu	Ser	Ser	Ile	Asn	Pro	Thr	Ala	Val	Ile
	130					135					140				
Arg	Ser	Val	Cys	Val	Arg	Asp	Met	Gly	Thr	Glu	Met	Thr	Pro	Ile	Gly
145					150					155				160	
Ser	Gln	Glu	Pro	Ser	Arg	Thr	Ala	Thr	Pro	Val	Arg	Ala	Thr	Thr	Pro
				165					170					175	
Val	Gly	Arg	Ser	Pro	Val	Thr	Ser	Pro	Val	Arg	Ala	Ser	Gln	Arg	Gly
			180					185					190		
Glu	Ala	Val	Gly	Val	Val	Met	Glu	Thr	Val	Thr	Glu	Val	Arg	Arg	Val
		195					200					205			
Glu	Ser	Asn	Asn	Ser	Glu	Lys	Val	Asn	Gly	Phe	Val	Glu	Ser	Lys	Lys
	210					215					220				
Ala	Met	Ser	Ala	Met	Glu	Ala	Arg	Ala	Met	Ala	Trp	Asp	Glu	Ala	Glu
225					230					235				240	
Arg	Ala	Lys	Phe	Met	Ala	Arg	Tyr	Lys	Arg	Glu	Glu	Val	Lys	Ile	Gln
				245					250					255	
Ala	Trp	Glu	Asn	His	Glu	Lys	Arg	Lys	Ala	Glu	Met	Glu	Met	Lys	Lys
			260					265					270		

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```

Met Glu Val Lys Ala Glu Arg Met Lys Ala Arg Ala Glu Glu Lys Leu
    275                                280                285
Ala Asn Lys Leu Ala Ala Thr Lys Arg Ile Ala Glu Glu Arg Arg Ala
    290                                295                300
Asn Ala Glu Ala Lys Leu Asn Glu Lys Ala Val Lys Thr Ser Glu Lys
    305                                310                315                320
Ala Asp Tyr Ile Arg Arg Ser Gly His Leu Pro Ser Ser Phe Ser Phe
    325                                330                335
Ser Phe Lys Leu Pro Ser Arg Cys Trp Cys Gln
    340                                345

```

<210> 260
 <211> 825
 <212> DNA
 <213> Arabidopsis thaliana

```

<400> 260
atgctgactc tttaccatca agaaaggtca ccggacgccca caagtaatga tcgcatgag      60
acgccagaga ctgtggttag agaagtccac gcgctaactc cagcgccgga ggataattcc      120
cggacgatga cggcgacgct acctccaccg cctgctttcc gaggctatct ttctcctcca      180
aggtcagcga cgacgatgag cgaaggagag aacttcacaa ctataagcag agagttcaac      240
gctctagtca tcgccggatc ctccatggag aacaacgaac taatgactcg tgacgtcacg      300
cagcgtgaag atgagagaca agacgagttg atgagaatcc acgaggacac ggatcatgaa      360
gaggaaacga atccttttagc aatcgtgccg gatcagtatc ctgggttcggg tttggatcct      420
ggaagtgata atgggccggg tcagagtcgg gttgggtcga cggtgcaaag agttaagagg      480
gaagaggtgg aagcgaagat aacggcgtgg cagacggcaa aactggctaa gattaataac      540
aggtttaaga gggaagacgc cgttattaac ggttggttta atgaacaagt taacaaggcc      600
aactcttgga tgaagaaaat tgagaggaag ctagaggaga gaaaagcaaa agcgatggag      660
aaaacgcaaa acaatgtggc gaaagcgcag aggaaagcgg aggagagaag agcgacggca      720
gaggcaaaga gagggacaga ggttgcaaaa gtagttgaag ttgctaattc catgagagcc      780
cttggacgct ctccctgccaa acgctccttc ttctctttct cctaa      825

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<210> 261
 <211> 274
 <212> PRT
 <213> Arabidopsis thaliana

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<400> 261
Met Leu Thr Leu Tyr His Gln Glu Arg Ser Pro Asp Ala Thr Ser Asn
1      5      10      15
Asp Arg Asp Glu Thr Pro Glu Thr Val Val Arg Glu Val His Ala Leu
20     25     30
Thr Pro Ala Pro Glu Asp Asn Ser Arg Thr Met Thr Ala Thr Leu Pro
35     40     45
Pro Pro Pro Ala Phe Arg Gly Tyr Phe Ser Pro Pro Arg Ser Ala Thr
50     55     60
Thr Met Ser Glu Gly Glu Asn Phe Thr Thr Ile Ser Arg Glu Phe Asn
65     70     75     80
Ala Leu Val Ile Ala Gly Ser Ser Met Glu Asn Asn Glu Leu Met Thr
85     90     95
Arg Asp Val Thr Gln Arg Glu Asp Glu Arg Gln Asp Glu Leu Met Arg
100    105    110
Ile His Glu Asp Thr Asp His Glu Glu Thr Asn Pro Leu Ala Ile
115    120    125
Val Pro Asp Gln Tyr Pro Gly Ser Gly Leu Asp Pro Gly Ser Asp Asn
130    135    140
Gly Pro Gly Gln Ser Arg Val Gly Ser Thr Val Gln Arg Val Lys Arg
145    150    155    160
Glu Glu Val Glu Ala Lys Ile Thr Ala Trp Gln Thr Ala Lys Leu Ala

```


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```

                165                170                175
Lys Ile Asn Asn Arg Phe Lys Arg Glu Asp Ala Val Ile Asn Gly Trp
                180                185                190
Phe Asn Glu Gln Val Asn Lys Ala Asn Ser Trp Met Lys Lys Ile Glu
                195                200                205
Arg Lys Leu Glu Glu Arg Lys Ala Lys Ala Met Glu Lys Thr Gln Asn
                210                215                220
Asn Val Ala Lys Ala Gln Arg Lys Ala Glu Glu Arg Arg Ala Thr Ala
225                230                235                240
Glu Ala Lys Arg Gly Thr Glu Val Ala Lys Val Val Glu Val Ala Asn
                245                250                255
Leu Met Arg Ala Leu Gly Arg Pro Pro Ala Lys Arg Ser Phe Phe Ser
                260                265                270
Phe Ser

```

<210> 262
 <211> 1071
 <212> DNA
 <213> Arabidopsis thaliana

```

<400> 262
atggatacct taatcaagca gacaaggagg aagcatccag cttcccagga aaaaattaga      60
gaggttggtg gctcaactag agagaaaaaa gtgtcagcaa ggaagtctgt ttcattcaaa    120
gaagataaga agaagccttc aaactgggta cagaagcagt tctcgaggca aatgagtggc    180
caaagttatg atcccatcgg agaaatggat catgcagctg cagttgcagc cactgcctat    240
gccatagcca cttttgaaga aacttgggcta gagaactatc atgtaacggt ttttaaaaac    300
agagtttttg ttagaagtgg ccttgaactt ggaccttctt cgtcaaggag caagagcaga    360
agtgaagaac tggtgccttt agaggaacca agaagcttat caagaagatt ctcagggcaa    420
ctttcggtta tagattcaga gacgaaagat cataaacctc ctacactaaa gtccccaatg    480
agaaaagtcac cttcggtaaa aaagactttc tccatgaact tgatgggaga ccacaccaa    540
cagaatcaag attcagagga gaaacatgaa agacaaagaa aaccggtttc tgaaccacca    600
cggatacaac caccgcttag gacacgatca gaacctcgtg ctccaccgcc acctcctcct    660
cctcttctat caccttcgcc tctgcggtt ccacctaggg aaaccaaag gcagagttct    720
gagcatacta gtcgaaagga tgattctaca gctgatgctt gggaaaaagc tgaactatct    780
aagatcaaag caaggtatga gaagttaaac agaaagatag atttgtggga agcgaagaaa    840
agggaaaaag ctcgaaggaa gctggacata tctgagcaga gcgaactaga acagaggaga    900
aagagagggt tgagagatt tagagaagac acagaataca ttgaacagat tgctgctgga    960
gccagagctc aggcggagaa agacagacag agcaaagagt tcaaggtgaa ggagaaggcc   1020
ggtgttatcc gtagtaccgg taaactccct ggaaatgcat gctgtttctg a           1071

```

<210> 263
 <211> 356
 <212> PRT
 <213> Arabidopsis thaliana

```

<400> 263
Met Asp Thr Leu Ile Lys Gln Thr Arg Arg Lys His Pro Ala Ser Gln
1                5                10                15
Glu Lys Ile Arg Glu Val Gly Ser Ser Thr Arg Glu Lys Lys Val Ser
                20                25                30
Ala Arg Lys Ser Val Ser Phe Lys Glu Asp Lys Lys Lys Pro Ser Asn
                35                40                45
Trp Leu Gln Lys Gln Phe Ser Arg Gln Met Ser Gly Gln Ser Tyr Asp
50                55                60
Pro Ile Gly Glu Met Asp His Ala Ala Ala Val Ala Ala Thr Ala Tyr
65                70                75                80
Ala Ile Ala Thr Phe Glu Glu Thr Trp Leu Glu Asn Tyr His Val Thr
                85                90                95

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Val	Phe	Lys	Asn	Arg	Val	Phe	Val	Arg	Ser	Gly	Leu	Glu	Leu	Gly	Pro
			100					105					110		
Ser	Ser	Ser	Arg	Ser	Lys	Ser	Arg	Ser	Glu	Glu	Leu	Leu	Pro	Leu	Glu
		115					120					125			
Glu	Pro	Arg	Ser	Leu	Ser	Arg	Arg	Phe	Ser	Gly	Gln	Leu	Ser	Phe	Ile
	130					135					140				
Asp	Ser	Glu	Thr	Lys	Asp	His	Lys	Pro	Pro	Thr	Leu	Lys	Ser	Pro	Met
145					150					155					160
Arg	Lys	Ser	Ser	Ser	Val	Lys	Lys	Thr	Phe	Ser	Met	Asn	Leu	Met	Gly
			165						170					175	
Asp	His	Thr	Lys	Gln	Asn	Gln	Asp	Ser	Glu	Glu	Lys	His	Glu	Arg	Gln
		180					185						190		
Arg	Lys	Pro	Val	Ser	Glu	Pro	Pro	Arg	Ile	Gln	Pro	Pro	Leu	Arg	Thr
	195						200					205			
Arg	Ser	Glu	Pro	Arg	Ala	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Leu	Leu	Ser
	210					215						220			
Pro	Ser	Pro	Leu	Arg	Leu	Pro	Pro	Arg	Glu	Thr	Lys	Arg	Gln	Ser	Ser
225					230					235					240
Glu	His	Thr	Ser	Arg	Lys	Asp	Asp	Ser	Thr	Ala	Asp	Ala	Trp	Glu	Lys
			245						250					255	
Ala	Glu	Leu	Ser	Lys	Ile	Lys	Ala	Arg	Tyr	Glu	Lys	Leu	Asn	Arg	Lys
		260					265						270		
Ile	Asp	Leu	Trp	Glu	Ala	Lys	Lys	Arg	Glu	Lys	Ala	Arg	Arg	Lys	Leu
	275						280					285			
Asp	Ile	Ser	Glu	Gln	Ser	Glu	Leu	Glu	Gln	Arg	Arg	Lys	Arg	Gly	Leu
	290					295					300				
Gln	Arg	Phe	Arg	Glu	Asp	Thr	Glu	Tyr	Ile	Glu	Gln	Ile	Ala	Ala	Gly
305					310					315					320
Ala	Arg	Ala	Gln	Ala	Glu	Lys	Asp	Arg	Gln	Ser	Lys	Glu	Phe	Lys	Val
			325						330					335	
Lys	Glu	Lys	Ala	Gly	Val	Ile	Arg	Ser	Thr	Gly	Lys	Leu	Pro	Gly	Asn
		340						345					350		
Ala	Cys	Cys	Phe												
			355												

<210> 264
 <211> 540
 <212> DNA
 <213> Oryza sativa

<400> 264
 atggagaccc aggaggcgaa gagagcagat gtggcggcgg cgccggcgac ggcgaccggc 60
 ggtgaggccg tcaaaccggc cgccggcgat gctggcgag taaccaagac gaatggacct 120
 tcagcaccag caggcaaagc tgcaactcca acgggttcgg ttgacagaga cgccatactc 180
 gcaaacgtgg agctggagag gaaactgtca atgatcaagg cgtgggagga gagcgagaag 240
 agcaaagcgg agaacaaggc tcagaagaag atgtcatcca tactctcatg ggagaacacg 300
 aggaaggcag ctatagaagc aaaactgcga acacaagagg agaagctgga gaggaagaag 360
 gcggagtacg cggagaagat gaggaaccag gtagcggcga tccacaaggc ggcggaggag 420
 aagagggcga cgggtggagg gacgcggcac gaggagataa tcaagtatga ggagatggcc 480
 gccaaacaca ggtccaaggg gactacaccc accaaattcc tctcttgttt cggctcctag 540

<210> 265
 <211> 179
 <212> PRT
 <213> Oryza sativa

<400> 265
 Met Glu Thr Gln Glu Ala Lys Arg Ala Asp Val Ala Ala Ala Pro Ala
 1 5 10 15

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

<210> 266
 <211> 612
 <212> DNA
 <213> Oryza sativa

<400> 266
 atggccggggg aggcattgaa ggaggcgggg gcgacgcccg ccgcagcgaa cgcgggggag 60
 gagaaggccg tcatcccggc ggcttcgaca tcgccggtga tctccaagac cgatgatgac 120
 acggagccgc cggccgatga ctccaaggct ctgctcgtct tcgtcgagaa ggttgctgat 180
 aaacctcatg ctgagaaggc aacagcaaca gcaacaccaa caaggacctc aaatgacaga 240
 gatattgccc ttgcaaaggt ggagacagac aagcgagaat cgttgatcaa agcatgggag 300
 gagaacgaaa aggcaaaagc ggagaacagg gcctctaaga agttattgga tattatttca 360
 tgggagaaca caaagaaggc agtaataaaa actcaactga aaaagaagga agaagagttg 420
 gaaaggaaga aggcagagta cgctgagaag gcgaagaaca aggaagcaat cgtccataag 480
 gaagctgaag aaaagagagc aatggtgatg gcccggcgcg gtgaagaagt gatcaaggcc 540
 gaggagatag cagctaagta ccgtgcaacc ggagtgcacac cgaagaaaca tatcggtgtg 600
 tttggggcat aa 612

<210> 267
 <211> 203
 <212> PRT
 <213> Oryza sativa

<400> 267
 Met Ala Gly Glu Ala Leu Lys Glu Ala Gly Ala Thr Pro Ala Ala Ala
 1 5 10 15
 Asn Ala Gly Glu Glu Lys Ala Val Ile Pro Ala Ala Ser Thr Ser Pro
 20 25 30
 Val Ile Ser Lys Thr Asp Asp Asp Thr Glu Pro Pro Ala Asp Asp Ser
 35 40 45
 Lys Ala Leu Val Val Phe Val Glu Lys Val Ala Asp Lys Pro His Ala
 50 55 60
 Glu Lys Ala Thr Ala Thr Ala Thr Pro Thr Arg Thr Ser Asn Asp Arg
 65 70 75 80
 Asp Ile Ala Leu Ala Lys Val Glu Thr Asp Lys Arg Glu Ser Leu Ile
 85 90 95

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Lys Ala Trp Glu Glu Asn Glu Lys Ala Lys Ala Glu Asn Arg Ala Ser
 100 105 110
 Lys Lys Leu Leu Asp Ile Ile Ser Trp Glu Asn Thr Lys Lys Ala Val
 115 120 125
 Ile Lys Thr Gln Leu Lys Lys Glu Glu Glu Leu Glu Arg Lys Lys
 130 135 140
 Ala Glu Tyr Ala Glu Lys Ala Lys Asn Lys Glu Ala Ile Val His Lys
 145 150 155 160
 Glu Ala Glu Glu Lys Arg Ala Met Val Met Ala Arg Arg Gly Glu Glu
 165 170 175
 Val Ile Lys Ala Glu Glu Ile Ala Ala Lys Tyr Arg Ala Thr Gly Val
 180 185 190
 Thr Pro Lys Lys His Ile Gly Cys Phe Gly Ala
 195 200

<210> 268
 <211> 1013
 <212> DNA
 <213> Oryza sativa

<400> 268
 acatcatccc tccgcgcaaa agcctatcaa cagctaagcc aaacaggggtc aggagccgga 60
 gccgtccggg agaggaaca ctcgagcgat ccgtccgtcc gcccgcccgt cgctcgtcgcg 120
 cgccatggct gaggaggagg ccaagaaggt ggaggtggag gtcaccgagg cgccaccgcg 180
 cgctgcccgt gccgcggaga cggagccggc tgccaaggac gtcgcccagg agaaggccgt 240
 catccccgcc cccgcgccgc cggccgagga ggagaagcct cccgtcgacg actccaaggc 300
 gctggccatc gtcgagaagg ttgcagatga acctcctgcc gagaaacctg ctcaaggggg 360
 ctctaataag agagatgttg ctcttgcaag ggtggaaact gagaagagga actcattgat 420
 caaagcatgg gaggaaaatg agaagacaaa agctgagaac aaggcttcga agaagctatc 480
 tgctattcct tcctgggaga acacaaagaa agcaaacata gaagctcaac tgaagaagat 540
 tgaggagcaa ctggaaaaga agaaggctga atatgcagag aagatgaaga acaaagtcgc 600
 gatcgccac aaggaagctg aggagaagag agcaatggtc gaggcaaagc gcggcgagga 660
 agtcctaaag gccgaggaga tggcagccaa gtaccgtgcc accggccatg ctccaagaa 720
 actcatcggg tgctttgggg cctaaagaaa ttttcgattc acaacgagca aacgtgaaag 780
 tggtcatcag tggttgcttt gcttctttca cctcccaag tgcgtagtgt gtttgttggt 840
 gcaagaaagg tcgtgccttg tgtgtaaagt ctggtgttgc tgtatataac atattactcc 900
 caagacagat atgtttggtg ctgtacatgt ttgatgcttg acaggcaaca ttcttatgtg 960
 tagttaagaa gccacattgt tattgttatt gacagtaagc tgtttgttct ttt 1013

<210> 269
 <211> 206
 <212> PRT
 <213> Oryza sativa

<400> 269
 Met Ala Glu Glu Glu Ala Lys Lys Val Glu Val Glu Val Thr Glu Ala
 1 5 10 15
 Pro Pro Ala Ala Ala Ala Ala Glu Thr Glu Pro Ala Ala Lys Asp
 20 25 30
 Val Ala Glu Glu Lys Ala Val Ile Pro Ala Pro Ala Pro Pro Ala Glu
 35 40 45
 Glu Glu Lys Pro Pro Val Asp Asp Ser Lys Ala Leu Ala Ile Val Glu
 50 55 60
 Lys Val Ala Asp Glu Pro Pro Ala Glu Lys Pro Ala Gln Gly Gly Ser
 65 70 75 80
 Asn Asp Arg Asp Val Ala Leu Ala Arg Val Glu Thr Glu Lys Arg Asn
 85 90 95
 Ser Leu Ile Lys Ala Trp Glu Glu Asn Glu Lys Thr Lys Ala Glu Asn
 100 105 110

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Lys Ala Ser Lys Lys Leu Ser Ala Ile Leu Ser Trp Glu Asn Thr Lys
 115 120 125
 Lys Ala Asn Ile Glu Ala Gln Leu Lys Lys Ile Glu Glu Gln Leu Glu
 130 135 140
 Lys Lys Lys Ala Glu Tyr Ala Glu Lys Met Lys Asn Lys Val Ala Ile
 145 150 155 160
 Val His Lys Glu Ala Glu Glu Lys Arg Ala Met Val Glu Ala Lys Arg
 165 170 175
 Gly Glu Glu Val Leu Lys Ala Glu Glu Met Ala Ala Lys Tyr Arg Ala
 180 185 190
 Thr Gly His Ala Pro Lys Lys Leu Ile Gly Cys Phe Gly Ala
 195 200 205

<210> 270
 <211> 1021
 <212> DNA
 <213> Oryza sativa

<400> 270
 agttcgtgtg cttctctcat ttgttccttg atatatattgc tacgtcgtca gagaactcgt 60
 gcagatagct tcttttggtg agttgttggg gatggcggag gtggcgccgc cggcgccggc 120
 gccggagccg accaaggaca tcgccgagga gagggccgcc gtgccggcgc cggaggagtc 180
 gaaggccatg accgtcgtcg atgatgctga gaaagctgca gcaacagggtg gctcacacga 240
 aagagacgct ctcctgacga cggtcgccac ggagaagagg atatcgctga tcaaggcgtg 300
 ggaggagAAC gaaaaggcca aggccgacaa caaggcggcc aagaagttgg ccgacatcgc 360
 ctcattggag aactccaagg tggccgagat cgaggccgag attaagaagt accaagtaag 420
 ttcagctcag ctaagttcat caacaagcag aacaaggaga gatcaattat gtgtgtgtga 480
 atcattgagt tgatcgatcg gttcatatat atgcaggagt acctggagag gaagaaggcg 540
 gagcagggtg agaagttgat gaacggcgtg gcgaaggtgc acagggcggc ggaggagaag 600
 cgagcggcga cggaggcgcg gcgaggggag gagtggtga aggccgagga ggccgcagca 660
 aagtaccgcg ccaagggaga gccgcccaag aagttgctct tcggttgaat ctcttctcgg 720
 tcatctccat tgatcgtcgt cgtcgtcgtc gttgtgtgaa atgtgtgtgc gacagtgtga 780
 gtgtaccggt gtcaagttca gatagctagt ggttgatgt attttctcag ttgtttgttt 840
 tcgtttaatt tcatgtacag ggcagctatt gcagtcctcat gtgaaaaagg gaacatttat 900
 tatgtacaga catgatgttt tggggctctt attcggattc ggcggtgaaa ttgtaacatt 960
 tttgtgcctg tgggtacttg ctagtactca tgtataagag gcttaccat ttgacattat 1020
 t 1021

<210> 271
 <211> 153
 <212> PRT
 <213> Oryza sativa

<400> 271
 Tyr Ile Cys Tyr Val Val Arg Glu Leu Val Gln Ile Ala Ser Leu Ala
 1 5 10 15
 Glu Leu Leu Glu Met Ala Glu Val Ala Pro Pro Ala Pro Ala Pro Glu
 20 25 30
 Pro Thr Lys Asp Ile Ala Glu Glu Arg Ala Ala Val Pro Ala Pro Glu
 35 40 45
 Glu Ser Lys Ala Met Thr Val Val Asp Asp Ala Glu Lys Ala Ala Ala
 50 55 60
 Thr Gly Gly Ser His Glu Arg Asp Ala Leu Leu Thr Thr Val Ala Thr
 65 70 75 80
 Glu Lys Arg Ile Ser Leu Ile Lys Ala Trp Glu Glu Asn Glu Lys Ala
 85 90 95
 Lys Ala Asp Asn Lys Ala Ala Lys Lys Leu Ala Asp Ile Ala Ser Trp
 100 105 110
 Glu Asn Ser Lys Val Ala Glu Ile Glu Ala Glu Ile Lys Lys Tyr Gln

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115 120 125
Val Ser Ser Ala Gln Leu Ser Ser Ser Thr Ser Arg Thr Arg Arg Asp
130 135 140
Gln Leu Cys Val Cys Glu Ser Leu Ser
145 150

<210> 272
<211> 981
<212> DNA
<213> Oryza sativa

<400> 272
gcttccactc ttctcctcca cctccaagaa ccccgcatcc atccatggcc accaccgccc 60
tctgatccga tcgataactga tcagccagta gctatgctgg gttcggacca gctcgagcac 120
cgccccggcgc cgtcgggtcc ccgcgcgcgag ccggacgatg tcgccgacga cgtggagggtg 180
gaggcggttc gggacatcca cccggagccg tcgcctccgc atctaccgcc gccgccgctc 240
aggcagccgt cgtgggacgc cgcgagccac cgctcgctgt cgtcctccgg cgcgggcggc 300
ggcggcgacg tcgagctgtt ccccaccatg agccgcgagt tcaccgccat ggtggcggcc 360
gggtcgctcgt ccgcgcccaag ccccgacgtt cccggcgacg cccccgccgc cgcgcgacctg 420
aacctgctgc agctggcgcg catcggcgag aacgagccgg cggccgaggc gaacgcgctc 480
gccatcgctgc cggcggcggc gggcagcggc ccgccggcgc cggtgaggca ggtgaagaag 540
gaggagggtg aggcgaaggt ggcggcgtgg caggcgagg aggtggccaa gatcaacaac 600
aagttcaagc gcgaggaggt cgtcatcaat ggctgggaga gccagcaagt cgacaaggcc 660
accgcctggc tcgccaagat cgagaggaag ctggaggagg agcgggcgaa ggcgacggag 720
aaggctcgca acgaggcggc ggcggcgcg cggaaaggcg aggagcgcg ggcgtcggcg 780
gaggcgcggc gcgggaggaa gacggcagag gtgctcgacc gtgccaaact ctgcaaggcc 840
gccggcaggg tgccatccaa gcgctccttc ttctccttct aaagttctaa ccaaagctag 900
ctagccttgc tcaattatat catctctagc tagctaatta tgattattac ttgttttcta 960
cttaattgat caatcaattt c 981

<210> 273
<211> 262
<212> PRT
<213> Oryza sativa

<400> 273
Met Leu Gly Ser Asp Gln Leu Glu His Arg Pro Ala Pro Ser Ala Pro
1 5 10 15
Arg Ala Glu Pro Asp Asp Val Ala Asp Asp Val Glu Val Glu Ala Phe
20 25 30
Arg Asp Ile His Pro Glu Pro Ser Pro Pro His Leu Pro Pro Pro
35 40 45
Leu Arg Gln Pro Ser Trp Asp Ala Ala Ser His Arg Ser Leu Ser Ser
50 55 60
Ser Gly Ala Gly Gly Gly Gly Asp Val Glu Leu Phe Ala Thr Met Ser
65 70 75 80
Arg Glu Phe Thr Ala Met Val Ala Ala Gly Ser Ser Ser Ala Pro Ser
85 90 95
Pro Asp Val Pro Gly Asp Ala Pro Ala Ala Asp Leu Asn Leu Leu
100 105 110
Gln Leu Ala Arg Ile Gly Glu Asn Glu Pro Ala Ala Glu Ala Asn Ala
115 120 125
Leu Ala Ile Val Pro Ala Ala Ala Gly Ser Gly Pro Pro Ala Pro Val
130 135 140
Glu Gln Val Lys Lys Glu Glu Val Glu Ala Lys Val Ala Ala Trp Gln
145 150 155 160
Ala Glu Glu Val Ala Lys Ile Asn Asn Lys Phe Lys Arg Glu Glu Val
165 170 175
Val Ile Asn Gly Trp Glu Ser Gln Gln Val Asp Lys Ala Thr Ala Trp

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180      185      190
Leu Ala Lys Ile Glu Arg Lys Leu Glu Glu Glu Arg Ala Lys Ala Thr
195      200      205
Glu Lys Ala Arg Asn Glu Ala Ala Ala Arg Arg Lys Ala Glu Glu
210      215      220
Arg Arg Ala Ser Ala Glu Ala Arg Arg Gly Arg Lys Thr Ala Glu Val
225      230      235      240
Leu Asp Arg Ala Asn Phe Cys Lys Ala Ala Gly Arg Val Pro Ser Lys
245      250      255
Arg Ser Phe Phe Ser Phe
260

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<210> 274
 <211> 1031
 <212> DNA
 <213> Oryza sativa

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<400> 274
cgttgtccat cacaattgct aattaactaa gacacccttc cttgattgtg acactagcac      60
gacgcacttt cctctatata catatacata tatcctcctt ctgtccagct aacggtttat      120
atgcttagct agctgtttgt tttggcgata ccatttgcac tgcttgccca gcatcgctgt      180
cgtcgctgctc gggagcaagg aggaggagag accatcgatc ttgattgatt tgaagctaga      240
tgccgagagga ggcgaagaag gtggaggtga ccaaggacat cgccgaagag aaggcagtgg      300
tgccgctgcc gacgccgccg gccaccgagc acgacgactc caaggccatc gtcctcgta      360
aggaagctga ggctacagga ggttcagctg aaagagatgc ttatctcgca aaaattgtgt      420
cggagaagag atttgtactg atcaatgcct gggaggaaag cgagaaagct agagcagaga      480
acaggggcggc caagaagctg tcatacatca cttcatggga gaatgcaaag aaagcagaga      540
tgagggtgta gctgaaaagg atcgagcaag aactggagaa gaagaaggcg gcgtacgaag      600
agaagctgaa gaacaagctg gcattgctgc acaagacggc ggaggagaag agggcgctca      660
ccacggcgaa gcgtggcgag gagctgatca tggcggagga gatggccgcc aagtaccgtg      720
caaaggcgga ggctccgacg aagctgttcg ggctcttgaa agcctgagag aaatcatgag      780
gagttcatca tacatatatg ctgggatttg gtgtgttgta ttagtctgtg aacttacaga      840
aatttgatata tgtgcaatgc atggcatccg tgtttgcgtc gtgtgtatgt cgtctaattg      900
aaggggcatt tggtttgat tttgtcagtt ggggtggttg atttctggtg cgttttgtaa      960
aggaattgtg tatatgcata ggggagtgca ggcaggggat gatggattat gaatacgctt     1020
attctttcat g                                     1031

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<210> 275
 <211> 175
 <212> PRT
 <213> Oryza sativa

```

<400> 275
Met Ala Glu Glu Ala Lys Lys Val Glu Val Thr Lys Asp Ile Ala Glu
1      5      10      15
Glu Lys Ala Val Val Pro Leu Pro Thr Pro Pro Ala Thr Glu His Asp
20      25      30
Asp Ser Lys Ala Ile Val Leu Val Lys Glu Ala Glu Ala Thr Gly Gly
35      40      45
Ser Ala Glu Arg Asp Ala Tyr Leu Ala Lys Ile Val Ser Glu Lys Arg
50      55      60
Leu Val Leu Ile Asn Ala Trp Glu Glu Ser Glu Lys Ala Arg Ala Glu
65      70      75      80
Asn Arg Ala Ala Lys Lys Leu Ser Tyr Ile Thr Ser Trp Glu Asn Ala
85      90      95
Lys Lys Ala Glu Met Glu Ala Glu Leu Lys Arg Ile Glu Gln Glu Leu
100      105      110
Glu Lys Lys Lys Ala Ala Tyr Glu Glu Lys Leu Lys Asn Lys Leu Ala
115      120      125

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Leu Leu His Lys Thr Ala Glu Glu Lys Arg Ala Leu Thr Thr Ala Lys
 130 135 140
 Arg Gly Glu Glu Leu Ile Met Ala Glu Glu Met Ala Ala Lys Tyr Arg
 145 150 155 160
 Ala Lys Gly Glu Ala Pro Thr Lys Leu Phe Gly Leu Leu Lys Ala
 165 170 175

<210> 276
 <211> 1526
 <212> DNA
 <213> Oryza sativa

<400> 276
 accactcacc accacagctc agctcggaga agcgaagagg aggaagaaga gcaagacgcc 60
 gatggttaac cgtgtgtgct agtggctgag cactagcggc ggcggcggcg gcgacggcga 120
 cgacgacctc acccacggcg gcgacacatg ttgagtgaac aaacggcggc tagtggtagc 180
 agcagcagca gccgcggcgc cgacgaccgg gagattgtca tcagcaccgg ccgggagatc 240
 gtcgtcagaa gcagcggggg tgaggagagg gaggaggagg tgggtggtga ggaggagctc 300
 gaggagccgg agttcaggga catccacgcg ctgagcccgc cgccgacgcc gacgccgagc 360
 cagccgctcgt cgtcgtacca ccggcggagg agggagtcgt gggagtccgc ggccggggagc 420
 aggcacacgt cgatccgctc cgtgggggagc gacaccgccc caagtgagct cttccctact 480
 atgagcaggg agttctcggc catggtcgcc gcagcagcca acgccaacgc cgccgccgcc 540
 gcagccgcga acggcggcga ctccagccgc gccggggtgg acgacgcgct ggggaggatc 600
 ggggaggatg agctcgagga gacgaacccg ctccgccatg tcccgacag caaccccatc 660
 ccgtccccctc gccgcgcca cctcgcgctc cccgcccccg gcgacgtgtc gtcggcgggc 720
 ggcggccacg gcgacgaggt gtcggtgggg caggtgaaga aggaggaggt ggagtccaag 780
 atcgcccgct ggcagatcgc cgaggtcgcc aaggtcaaca accgcttcaa gcgcgaggag 840
 gtcgtcatca atggctggga gggcgaccag gtcgagaagg ccaacgcctg gctcaagaag 900
 tacgagagga agctggagga gaagagggcc aagcgatgg agaaggcgca gaacgagggtg 960
 gcgaaggcgc ggcggaaggc ggaggagaag cgggcgtcgg cggaggcgaa gaggggcacc 1020
 aaggtggcgc gcgtgctgga gctcgccaac ttcattgagg ccgtggggag ggcgccatcc 1080
 aagcgctcct tcttctgagc gaccgcgcca cctcttccc ctctctctcc tctctctgc 1140
 tttgctcgcc gccgtcgccg tcgtcgtcgt cgccggcgcc ggcggtgat cgttcaccgc 1200
 ttcgcttcac acgcagggat cagtgtctgt atgtggttgc tgtgtggaac tctcgtttta 1260
 gtgttgtatc cacatgtatg atgtactgtc atcatatcct ctcttttttt tctttttttc 1320
 ttgttctctt tactttcttg tgcttgataa gggatttgca aagttgggag ggacagacag 1380
 aacaagtaaa tagcataagt tggatggtgc tctgcccctt atagcttatg gtgaggggga 1440
 caagagctgc ctgtaatttg ttttttgtca tcatcaagga ttgtgtatgt caatatgaac 1500
 aagatatgga gctacctgtt ttgtgt 1526

<210> 277
 <211> 316
 <212> PRT
 <213> Oryza sativa

<400> 277
 Met Leu Ser Glu Gln Thr Ala Ala Ser Gly Ser Ser Ser Ser Ser Arg
 1 5 10 15
 Gly Ala Asp Asp Arg Glu Ile Val Ile Ser Thr Gly Arg Glu Ile Val
 20 25 30
 Val Arg Ser Ser Gly Gly Glu Glu Arg Glu Glu Glu Val Val Glu
 35 40 45
 Glu Glu Leu Glu Glu Pro Glu Phe Arg Asp Ile His Ala Leu Ser Pro
 50 55 60
 Pro Pro Thr Pro Thr Pro Ser Gln Pro Ser Ser Tyr His Arg Arg
 65 70 75 80
 Arg Arg Glu Ser Trp Glu Ser Ala Ala Gly Ser Arg His Thr Ser Ile
 85 90 95
 Arg Ser Val Gly Ser Asp Thr Ala Pro Ser Glu Leu Phe Pro Thr Met

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

<210> 278
 <211> 1234
 <212> DNA
 <213> Oryza sativa

<400> 278

gcaccacctc agctcgccag cagcaaccac ggcggcgctt cggatgcacg gcggcggagc	60
ctccacgacg accaccgcca tcgccgcccgc gcgggtagca catgttgcat gacgagcacg	120
cgccgcgcgc gcagccggag cccgaggttt cgctacagct gtcggcgccc gccaccgccc	180
ccgacgatgt cgctgcaggc gacgacgagg aggtcaccgt cgtcaccacg taccgcgaca	240
tccaccctct gacgccgccg tcgccgacga cgacgacgac gccaccacg cggtcgggt	300
ccgccgcgta ctctgtgggac acggccagca gccaccggtc cgtgtcgtcc gaggagcagt	360
tcatgacgat gagccgggag ttcacggcca tggtcgccgc cgggacgacc atgcagactg	420
gccccaacga cggcaacaac ggcgggtgacc agtcaccag catcggcgag gacgagctgg	480
aggagaccaa cccgctggca attgtgccg acagccacc gatcgccacg ccggccagga	540
gcaggggcgtc ccagctggag gttgtccccg cggcagggcc atcgccggcg ccgccggtg	600
aggcgaggca ggtgaagaag gaggaggtgg agacgaaggt gtcggcgtgg cagacggcgg	660
aggtggccaa gatcaacaac cggttcaaga gggaggaggt tgtcatcaac gggtagggaga	720
ccgagcaggt cgagaaagca tccgcatggc tcaagaagat cgagagaaag ctggacgagc	780
agcgcgccaa ggcgctggag aggacgcaga acgacatgc gaaggcgcgg cgcaaggcgg	840
aggagaagag ggcgtcggcg gaggcgaaga gaggcctcaa gctcgccaag gtgctcgagc	900
tcgccaaact catgaaggct gttgggaggg tgcctaccaa gcatccttc ttctagcttc	960
ctgcagccag cctctgcaaa ccttcgatct tgatcgatct gctgctgctc tgtttctttc	1020
agtgcctttt gtgtgctgga ttaatctagc tgccgttctt cgtgtgatgt ttgcttagct	1080
gtgcgcatcc gagaacctaa ttgtaaaaaa gattttaaaa caagttgtat atttgctgtt	1140
gctgctgttg cctctgctg cttgtgatca cagagtggcc cttgtttttc ccctggcttg	1200
tattatccat acggcataaa tggtttgttt gctc	1234

<210> 279
 <211> 284
 <212> PRT

PF58787.ST25.txt

<213> Oryza sativa

<400> 279

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Met Leu His Glu Gln His Ala Pro Pro Pro Gln Pro Glu Pro Glu Val
1      5      10      15
Ser Leu Gln Leu Ser Ala Pro Ala Thr Ala Ala Asp Asp Val Ala Ala
20     25     30
Gly Asp Asp Glu Glu Val Thr Val Val Thr Thr Tyr Arg Asp Ile His
35     40     45
Pro Leu Thr Pro Pro Ser Pro Thr Thr Thr Thr Thr Pro Pro Thr Arg
50     55     60
Leu Gly Ser Ala Ala Tyr Ser Trp Asp Thr Ala Ser Ser His Arg Ser
65     70     75     80
Val Ser Ser Glu Glu Gln Phe Met Thr Met Ser Arg Glu Phe Thr Ala
85     90     95
Met Val Ala Ala Gly Thr Thr Met Gln Thr Gly Pro Asn Asp Gly Asn
100    105    110
Asn Gly Gly Asp Gln Leu Thr Ser Ile Gly Glu Asp Glu Leu Glu Glu
115    120    125
Thr Asn Pro Leu Ala Ile Val Pro Asp Ser His Pro Ile Ala Thr Pro
130    135    140
Ala Arg Ser Arg Ala Ser Gln Leu Glu Val Val Pro Ala Ala Gly Pro
145    150    155    160
Ser Pro Ala Pro Pro Val Glu Ala Arg Gln Val Lys Lys Glu Glu Val
165    170    175
Glu Thr Lys Val Ser Ala Trp Gln Thr Ala Glu Val Ala Lys Ile Asn
180    185    190
Asn Arg Phe Lys Arg Glu Glu Val Val Ile Asn Gly Trp Glu Thr Glu
195    200    205
Gln Val Glu Lys Ala Ser Ala Trp Leu Lys Lys Ile Glu Arg Lys Leu
210    215    220
Asp Glu Gln Arg Ala Lys Ala Leu Glu Arg Thr Gln Asn Asp Ile Ala
225    230    235    240
Lys Ala Arg Arg Lys Ala Glu Glu Lys Arg Ala Ser Ala Glu Ala Lys
245    250    255
Arg Gly Leu Lys Leu Ala Lys Val Leu Glu Leu Ala Asn Phe Met Lys
260    265    270
Ala Val Gly Arg Val Pro Thr Lys Arg Ser Phe Phe
275    280

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<210> 280

<211> 717

<212> DNA

<213> Oryza sativa

<400> 280

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atggacggcg acttgaagaa gctaagggtt cgatttcctg gattaggaaa gggaaacaaa      60
ggtggcagac aggctccaac aatactgcaa gaagaagaca catctcttca aagagccaat      120
gtatctgtaa ggaggccact taaaccagca caaagaaagc aagaggacat agcttcagat      180
cagaagggtgc cacccaagat ggttgattct tctctgagcg cgaagaaagg ttcggggttcc      240
tctagcaaat tgcaagacaa gaaagggagc aagaagtttg agcaagagca ggtgattcag      300
aagaccccat ccaccacaag gccagcaaca tcgtatcatt ctagacggaa tggagatggt      360
actgttggat taactgctgt tggcccagca gacacaaaaa ctaatgaatg ggagaaggcg      420
aagctcgcta gcattacgga agagtataag aacatgatgg ataccatagc tgaatgggag      480
aatgagaaga aggtgaaggc taagcgccaa aaagagcaaa aagagaaagt gttggaccaa      540
aagagagcaa aggcactaga agaatacagc caggaaataa caaggatcaa caaaattgct      600
ggaggagcaa ggacaatggc agaggaaagg aaatataacg atgagaaaaa gatcaaagaa      660
aaggcaaata aaagacggtt atcggaagg gctccccgcg catgcgcttg ctttttaa      717

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PF58787.ST25.txt

<210> 281
 <211> 238
 <212> PRT
 <213> Oryza sativa

<400> 281
 Met Asp Gly Asp Leu Lys Lys Leu Arg Val Arg Phe Pro Gly Leu Gly
 1 5 10 15
 Lys Gly Asn Lys Gly Gly Arg Gln Ala Pro Thr Ile Leu Gln Glu Glu
 20 25 30
 Asp Thr Ser Leu Gln Arg Ala Asn Val Ser Val Arg Arg Pro Leu Lys
 35 40 45
 Pro Ala Gln Arg Lys Gln Glu Asp Ile Ala Ser Asp Gln Lys Val Pro
 50 55 60
 Pro Lys Met Val Asp Ser Ser Leu Ser Ala Lys Lys Gly Ser Gly Ser
 65 70 75 80
 Ser Ser Lys Leu Gln Asp Lys Lys Gly Ser Lys Lys Phe Glu Gln Glu
 85 90 95
 Gln Val Ile Gln Lys Thr Pro Ser Thr Thr Arg Pro Ala Thr Ser Tyr
 100 105 110
 His Ser Arg Arg Asn Gly Asp Gly Thr Val Gly Leu Thr Ala Val Gly
 115 120 125
 Pro Ala Asp Thr Lys Thr Asn Glu Trp Glu Lys Ala Lys Leu Ala Ser
 130 135 140
 Ile Thr Glu Glu Tyr Lys Asn Met Met Asp Thr Ile Ala Glu Trp Glu
 145 150 155 160
 Asn Glu Lys Lys Val Lys Ala Lys Arg Gln Lys Glu Gln Lys Glu Lys
 165 170 175
 Val Leu Asp Gln Lys Arg Ala Lys Ala Leu Glu Glu Tyr Ser Gln Glu
 180 185 190
 Ile Thr Arg Ile Asn Lys Ile Ala Gly Gly Ala Arg Thr Met Ala Glu
 195 200 205
 Glu Arg Lys Tyr Asn Asp Glu Lys Lys Ile Lys Glu Lys Ala Asn Lys
 210 215 220
 Arg Arg Leu Ser Glu Lys Ala Pro Arg Ala Cys Ala Cys Phe
 225 230 235

<210> 282
 <211> 1242
 <212> DNA
 <213> Oryza sativa

<400> 282
 ggagggtggca gtagcagctg gcatacctcct cctctgatct cctcctcggg cacttcagtg 60
 cttacttgcc ggtgatgagg aggtcttctc aggggaagag ctccagcggc ggcggcggtg 120
 gcggcgtagc gaggtatgac gtgcacggtg gtggttaactt gctggcctgc tacgcgaagg 180
 cggcgaggcc gaggccgtcc aagtgggacg acgcgcagaa gtggctctcc cgggcgggcg 240
 acgacgactg cggcggcgaa gctacccggc ggaggagctc ctgcgccagc gccgacgacg 300
 ggctgctgct gcctcctccg ccggcgggcg ggaagggggc cggcggctgg cgatcgtgga 360
 gcaacgtgga atgggagggc gcgcccgcgg cgatggcgcc ggcgctgaag gccgcgcgcg 420
 gcgacgaggg ggtggacacc aaggtggtgg acgccgtgca ggcgtagctg ccgcagcggg 480
 gcgtggtgtc gctgagggac gtcggcacgg agatgacgcc cggcgggagc aaggagccgt 540
 cgagggcgaa cactccccgc gtcgtcgcgc cggcggcgac cgcccgtgtc gtcgcgcggg 600
 gcacggcttc gccctgggcaa tgcgacggcg ggtcgcgtga cagcgccgtc gccggcgggc 660
 tgggtgatct ccgggcggct cgcaagcgcg ccgatcaggg gcacgacgaa gtcgcgggca 720
 cgatcacggc cgtgtcgcgc gcgacggcgt gggcgacgc ggagcgcgcc aagtacatgg 780
 ccaggtacag gcgcgaggag atgagaatcc aggcgtggga gaaccgggag cggcggaagg 840
 cggagctgca gatgcggacg gcggaggaga aggccgagcg gatgaggctg cgcgcgacgg 900
 cgaggacggc ggggaagctg gcgacggcgc aggcggaggc caaggcgcg cgcgcgcgcg 960

PF58787.ST25.txt

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ccgaggccga gctggcgctg ggccgcccgg gaggcgggtgc caaggggttg ctgctcacgc 1020
ggagcgcgag ctggagcagc ggcagcggcc gctcgccctc ctctctctcg ctccggttgc 1080
cgctgctgtg ccgctgagaa aaatccactg ccacagtcaa aaggctcgtg atcgatctga 1140
gagtttccgc tgcttggtga aggcgggttc tgatgtacta ctagtaccag gcacagaaga 1200
attttatctt tgtaccatca atgaagaccc gtttagtttc cc 1242

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<210> 283
 <211> 340
 <212> PRT
 <213> *Oryza sativa*

<400> 283

Met	Arg	Arg	Ser	Ser	Gln	Gly	Lys	Ser	Ser	Ser	Gly	Gly	Gly	Val	Gly
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Gly	Val	Arg	Arg	Tyr	Asp	Val	His	Gly	Gly	Gly	Asn	Leu	Leu	Ala	Cys
		20						25				30			
Tyr	Ala	Lys	Ala	Ala	Arg	Pro	Arg	Pro	Ser	Lys	Trp	Asp	Asp	Ala	Gln
		35					40				45				
Lys	Trp	Leu	Ser	Arg	Ala	Gly	Asp	Asp	Asp	Cys	Gly	Gly	Glu	Ala	Thr
	50					55					60				
Arg	Arg	Arg	Ser	Ser	Cys	Ala	Ser	Ala	Asp	Asp	Gly	Leu	Leu	Leu	Pro
65					70				75						80
Pro	Pro	Pro	Ala	Ala	Arg	Lys	Gly	Ala	Gly	Gly	Trp	Arg	Ser	Trp	Ser
					85				90					95	
Asn	Val	Glu	Trp	Glu	Gly	Ala	Pro	Ala	Ala	Met	Ala	Pro	Ala	Leu	Lys
			100					105					110		
Ala	Ala	Arg	Gly	Asp	Glu	Gly	Val	Asp	Thr	Lys	Val	Val	Asp	Ala	Val
		115					120					125			
Gln	Ala	Tyr	Val	Pro	Gln	Arg	Cys	Val	Val	Ser	Leu	Arg	Asp	Val	Gly
	130						135				140				
Thr	Glu	Met	Thr	Pro	Gly	Gly	Ser	Lys	Glu	Pro	Ser	Arg	Ala	Asn	Thr
145					150					155					160
Pro	Arg	Val	Val	Ala	Pro	Ala	Ala	Thr	Ala	Arg	Val	Val	Ala	Arg	Gly
				165					170					175	
Thr	Ala	Ser	Pro	Gly	Gln	Cys	Asp	Gly	Gly	Ser	Arg	Asp	Ser	Ala	Val
			180					185					190		
Ala	Gly	Gly	Val	Val	Asp	Leu	Arg	Ala	Ala	Arg	Lys	Arg	Ala	Asp	Gln
		195					200					205			
Gly	His	Asp	Glu	Val	Ala	Gly	Thr	Ile	Thr	Ala	Val	Ser	Pro	Ala	Thr
	210					215					220				
Ala	Trp	Gly	Asp	Ala	Glu	Arg	Ala	Lys	Tyr	Met	Ala	Arg	Tyr	Arg	Arg
225					230					235					240
Glu	Glu	Met	Arg	Ile	Gln	Ala	Trp	Glu	Asn	Arg	Glu	Arg	Arg	Lys	Ala
				245					250					255	
Glu	Leu	Gln	Met	Arg	Thr	Ala	Glu	Glu	Lys	Ala	Glu	Arg	Met	Arg	Leu
			260					265					270		
Arg	Ala	Gln	Ala	Arg	Thr	Ala	Gly	Lys	Leu	Ala	Thr	Ala	Gln	Ala	Glu
		275					280					285			
Ala	Lys	Ala	Arg	Arg	Ala	Arg	Ala	Glu	Ala	Glu	Leu	Ala	Leu	Gly	Arg
	290					295					300				
Pro	Gly	Gly	Gly	Ala	Lys	Gly	Trp	Leu	Leu	Thr	Arg	Ser	Ala	Ser	Trp
305					310					315					320
Ser	Ser	Gly	Ser	Gly	Arg	Ser	Pro	Ser	Ser	Leu	Ser	Leu	Arg	Leu	Pro
				325					330					335	
Leu	Leu	Cys	Arg												
			340												

<210> 284
 <211> 1653

PF58787.ST25.txt

<212> DNA

<213> *Oryza sativa*

<400> 284

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aacgtttgct tcctctctag aaatcaaggg gagggcaccg ccaccggaag agggcaagaa      60
gaacggcgag aagatggcgg ccgccgccgc gatcccgatc ccgatcccct gcgtcgcgga      120
gccacccgcg gcgtcccggc tctcgccggg ctctgccccg gcccgctccg acgcctccga      180
ggcgccgagg ttctacgccg ccgacaccga ggccgagccg gaggcgtccg tcgggaggag      240
cacgcagatg ctgctcgcca tggccgccat ggccggccgc ggggggccct acggccgccg      300
cccggcgtct tcctacggca gctgcgccgc gtggagcgcc gggtcgctca ccgaccaccg      360
ccccgcctcg ccgtcccaaa tctgcagccc cgtgagcagc aatggagggg agggctgccg      420
cgacggtgat gacgcctcct cgttcgtcac gccacgctg gaagaagacc aagaaaggct      480
gccaaacaga ggagatttca taaatccgtc taccacacca cgacacatca gactgcaaac      540
gccagacaaa ccttcccttc tggataggag atttgagaga actaatccag tgccaccaag      600
attcatccac aaggccacgc cagctagatt gatcgccgga gtcgctcct cacataatta      660
ccgtaggcgt ttgggggcaa tggatgctat caatgaatgg agattgccca aagtcagtga      720
agaagaggat gaagcagtg atcaaacgga ttggcaggct gatactctgt cttctcgtat      780
atcctcagct cgtgattgga actttgaggc tgggtgtgcc tatgagggaa gtgatcataa      840
tggcggtgcg tttaaccatt cagatggcga aaatagccca gttgcagtgc aaagaatggg      900
gagatggccc cagggttctg cggtaaaaca taaggaaaat tttgtccacg ccaagttggt      960
tgcttggaa aatgcggaga ttgaaaagct catagacaag ctgagaagga aagaggccga     1020
tatcgatgaa tggcagatga atcaggttac acaggcaaag gagaagatga aaagaattga     1080
gatcaagttg gagaagaaga gagcgagagc agcagagaag atgcaaaaag caataaaaga     1140
tgcacaaaag aaagctgata agaagaaaat caaggagcat gcagcaaccg acaatcagat     1200
agctagtgtt gagagagcaa tgggtgaagat gtctaggaca ggaaagctcc cctggtcact     1260
ggcttttctg taaacgagtt cttcacttgt ggtagatcca agcaagccga ttgttttgaa     1320
acctcttgcc gagatgccag cacggagaga ctaaaatgag cgcacatgct gtcagtactc     1380
agaagcagtg ccaactactg aaatcagaaa atttgttgta tataatagca gtggtttgtc     1440
gtccttagat gatagaagtt tcaggctgta tacctgattg gcatttgaac actgttctta     1500
aacatgacac gaacagtcag ggccaaatta tagtactttc cttctgttg tggtttcaag     1560
tactgttctc aggcacaaca ttatttcccc agtaggattt ggatgtacat gtacagtggc     1620
aaactgacaa gtttcttggt ttggtatgat ctg                                     1653

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<210> 285

<211> 399

<212> PRT

<213> *Oryza sativa*

<400> 285

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

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PF58787.ST25.txt

Ser Leu Leu Asp Arg Arg Phe Glu Arg Thr Asn Pro Val Pro Pro Arg
165 170 175
Phe Ile His Lys Ala Thr Pro Ala Arg Leu Met Arg Arg Ala Arg Ser
180 185 190
Ser His Asn Tyr Arg Arg Arg Leu Gly Ala Met Asp Ala Ile Asn Glu
195 200 205
Trp Arg Leu Pro Lys Val Ser Glu Glu Glu Asp Glu Ala Val Asp Gln
210 215 220
Thr Asp Trp Gln Ala Asp Thr Leu Ser Ser Arg Ile Ser Ser Ala Arg
225 230 235 240
Asp Trp Asn Phe Glu Ala Gly Gly Ala Tyr Glu Gly Ser Asp His Asn
245 250 255
Gly Gly Ala Phe Asn His Ser Asp Gly Glu Asn Ser Pro Val Ala Val
260 265 270
Gln Arg Met Gly Arg Trp Pro Gln Gly Ser Ala Val Lys His Lys Glu
275 280 285
Asn Phe Val His Ala Lys Leu Val Ala Trp Lys Asn Ala Glu Ile Glu
290 295 300
Lys Leu Ile Asp Lys Leu Arg Arg Lys Glu Ala Asp Ile Asp Glu Trp
305 310 315 320
Gln Met Asn Gln Val Thr Gln Ala Lys Glu Lys Met Lys Arg Ile Glu
325 330 335
Ile Lys Leu Glu Lys Lys Arg Ala Arg Ala Ala Glu Lys Met Gln Lys
340 345 350
Ala Ile Lys Asp Ala Gln Lys Lys Ala Asp Lys Lys Lys Ile Lys Glu
355 360 365
His Ala Ala Thr Asp Asn Gln Ile Ala Ser Val Glu Arg Ala Met Val
370 375 380
Lys Met Ser Arg Thr Gly Lys Leu Pro Trp Ser Leu Ala Phe Leu
385 390 395

<210> 286
<211> 1578
<212> DNA
<213> Oryza sativa

<400> 286
actaaccaca ctataatacg gtacaaatag atcatatata cactagcata gcacgaaatc 60
gcaaagtcca ctaacatccc actccccctt ccaagcttct tgtctcctct cctctcccca 120
actcccacgc catctcgcca ccaccaaccg attcaggccg cgcacgccat taatggagta 180
cgagcgcac caccgcccc cgctccaacg tcagtcgggt ggattctccc cagctaagct 240
acgagcaatg cttctcggac tagagaaaaa tcagcacaac ggggaggaca catcgccctga 300
ggccaacgat tccggcgagc tggacgacca gaggagcatg gagtgcctca cctccaccga 360
aatgtcgcgc aacagtggcc acagatcaag aaaccgagct caggacgcgc acagcttcga 420
ctccgagagc agctcgtcgc gcccgcgcgc ggtgaagagg ccggcggcgc tgaccgcctt 480
gctgccaccg ttctctaggc cgacgcgcgc gaagtgggat gatgcagaga agtggatttc 540
tagccccacg gcgaaccgcg gtggccgtgt ggggagtgc gctggggctg cgccgaagaa 600
atcggcgcgtg gcatttcctg aacatgtaag ccggcctcca gccgttgcta agtggtttgc 660
tgagggtccc atcaacactg gaaccttggt gaagaattca gttgctctcg cacagcctat 720
ttcatttaat cctgcacaaa gtgcttcgat agttgatgaa ccagctcctg cagttaggctc 780
tgtttcgatg agagacatgg gcacagaaat gactcctatt gccagccagg agccctctcg 840
gactgggact cctattatag cttctagtcc aacctcctct cggacaccaa caccacaacg 900
taatgcagaa atcagtattg gtgaatttgg tccaaataag atggaaatgt ctgaggagga 960
actacaaatg aatacaagaa aggaaatcat ggatcttggc caacggctgg gaaagacaac 1020
tatagctgca tgggctagca aggaagagaa atctacaaca agtttcgcaa atgtcataac 1080
cgacaaggct gtagaaatcg acagagaggc tcgtgctgca gattgggagg aggcagagaa 1140
agcaaaatat cttgcaaggt ttcagagggg agaggtaaag attcaagctt gggaaaacca 1200
ccagaaagca aaaattgaag ctgaaatgaa gaggatggag gcaaagatag agatcaagag 1260
agctcgcgag caggacaggc tttcgagcaa gttggcagct gcaaggcaca aggcagagggc 1320

PF58787.ST25.txt

gaggagggag gccgctgagt ccaggaagaa ccaagaagca gcaagaactg aagagcaggc 1380
 ggctcagatc cggaaaaccg ggcacatacc ttcctcaatc tcctgctggt gctgggtgcct 1440
 gtgattcttc actctgccat gatcatctgt tatttgggta gaagaaaaat acttgctcct 1500
 tgcacgacca tgtaaaatat tcgctactgg ttggttcacg gttcagtgat caatgccaat 1560
 gagtcgcat ttttgtcc 1578

<210> 287
 <211> 423
 <212> PRT
 <213> Oryza sativa

<400> 287
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 1 5 10 15
 Gly Phe Ser Pro Ala Lys Leu Arg Ala Met Leu Leu Gly Leu Glu Lys
 20 25 30
 Asn Gln His Asn Gly Glu Asp Thr Ser Pro Glu Ala Asn Asp Ser Gly
 35 40 45
 Glu Leu Asp Asp Gln Arg Ser Met Glu Cys Ser Thr Ser Thr Glu Met
 50 55 60
 Ser Ser Asn Ser Gly His Arg Ser Arg Asn Arg Ala Gln Asp Asp Asp
 65 70 75 80
 Ser Phe Asp Ser Glu Ser Ser Ser Ser Gly Pro Pro Thr Val Lys Arg
 85 90 95
 Pro Ala Ala Val Thr Ala Leu Leu Pro Pro Phe Ser Arg Pro Thr Pro
 100 105 110
 Ser Lys Trp Asp Asp Ala Glu Lys Trp Ile Ser Ser Pro Thr Ala Asn
 115 120 125
 Arg Gly Gly Arg Val Gly Ser Ala Ala Gly Ala Ala Pro Lys Lys Ser
 130 135 140
 Ala Leu Ala Phe Pro Glu His Val Ser Arg Pro Pro Ala Val Ala Lys
 145 150 155 160
 Val Val Ala Glu Val Pro Ile Asn Thr Gly Thr Leu Val Lys Asn Ser
 165 170 175
 Val Ala Leu Ala Gln Pro Ile Ser Phe Asn Pro Ala Gln Ser Ala Ser
 180 185 190
 Ile Val Asp Glu Pro Ala Pro Ala Val Arg Ser Val Ser Met Arg Asp
 195 200 205
 Met Gly Thr Glu Met Thr Pro Ile Ala Ser Gln Glu Pro Ser Arg Thr
 210 215 220
 Gly Thr Pro Ile Ile Ala Ser Ser Pro Thr Ser Ser Arg Thr Pro Thr
 225 230 235 240
 Pro Gln Arg Asn Ala Glu Ile Ser Ile Gly Glu Phe Gly Pro Asn Lys
 245 250 255
 Met Glu Met Ser Glu Glu Glu Leu Gln Met Asn Thr Arg Lys Glu Ile
 260 265 270
 Met Asp Leu Gly Gln Arg Leu Gly Lys Thr Thr Ile Ala Ala Trp Ala
 275 280 285
 Ser Lys Glu Glu Lys Ser Thr Thr Ser Phe Ala Asn Val Ile Thr Asp
 290 295 300
 Lys Ala Val Glu Ile Asp Arg Glu Ala Arg Ala Ala Asp Trp Glu Glu
 305 310 315 320
 Ala Glu Lys Ala Lys Tyr Leu Ala Arg Phe Gln Arg Glu Glu Val Lys
 325 330 335
 Ile Gln Ala Trp Glu Asn His Gln Lys Ala Lys Ile Glu Ala Glu Met
 340 345 350
 Lys Arg Met Glu Ala Lys Ile Glu Ile Lys Arg Ala Arg Glu Gln Asp
 355 360 365
 Arg Leu Ser Ser Lys Leu Ala Ala Ala Arg His Lys Ala Glu Ala Arg

PF58787.ST25.txt

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      370              375              380
Arg Glu Ala Ala Glu Ser Arg Lys Asn Gln Glu Ala Ala Arg Thr Glu
385              390              395              400
Glu Gln Ala Ala Gln Ile Arg Lys Thr Gly His Ile Pro Ser Ser Ile
      405              410              415
Ser Cys Trp Cys Trp Cys Leu
      420

```

<210> 288
 <211> 1873
 <212> DNA
 <213> Oryza sativa

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<400> 288
agctttttaac tgctcgtctc atcaactctcc acctctctctc ctctctctctc cttcctcgcg 60
ctcccacgcc acgcagcagc cgcagatctc caccgcgctc cggcgagccc gccgccgccg 120
ccgccgccat ggagtacgag cgcacgcaga agccgttccc caccagggc ggtgggttct 180
cgccgaagcg gctgcgcgcg atgttgctgg ggttgagaa gcggcggaag gggcaggagg 240
aggaggagga gggggacgcc ggggaggtgg acgacgagta cggcgcggtg cccaagtcc 300
ctgtcagatc cgacgccgac tccgatgcgc gcagaggagg tagcatgtgc gaagaataca 360
aggatgtaga tgtggtgagc accatctcag aatcttcac ctcgttgagg acagggagtg 420
ggcaccgacg gcgtgacacc cactccatgg gttcacgagt aagggtgcct gaggaggact 480
cctgtgactc tgagagtgtg gcttcaaact ttgagttcca taaggagcga ggggcctctg 540
ctcggctctg gacggcggca atcgttcctc cattctcaaa gcctgcacca tcaaagtggg 600
acgatgcccc gaaatggatc gccagcccga caacaaaccg tcctggtagg gctggtggag 660
tgccacagag gaagatggaa aaaactagct ttggtggcgg gagggtgccg gctacgaagg 720
ttgtgttgga ggccacagag gagatagata ctaagagggt tgatccaagc caagagaaaa 780
gggaaattgg gtggcaaaaa gcggtgaatt gggccccacc tgatccatat ccagaagttg 840
agacttgtgc aaagtctgca cttgctgaag aaattacagt agctgattca gctgttactt 900
ttagtgccca tgattcatct gccacgcttc agagcgcgac aacatgcata cctccccac 960
caacagtccg atcagtgtca atgagagaca tgggtacaga aatgaccctt attgcgagcc 1020
aggagccatc ccgaacagga acaccggtga gagcaacgag tccagattgt tctcgcccaa 1080
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gtagcaacgt ggaattaagt gaacaagaat tgcaaatgaa gactaggagg gagataatgc 1200
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tgagccagct cgcacgcgcg agacacactg ccgacgagaa gcgggccgcg gcggagctga 1560
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ctgtttttac cgtgatcttg tagaatattg tcttttgatt ggtttcagta gatataagtc 1800
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cctttttctg tgc
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<210> 289
 <211> 510
 <212> PRT
 <213> Oryza sativa

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<400> 289
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Phe Ser Pro Lys Arg Leu Arg Ala Met Leu Leu Gly Val Glu Lys Arg
      20              25              30
Arg Lys Gly Gln Glu Glu Glu Glu Glu Gly Asp Ala Gly Glu Val Asp
      35              40              45

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Asp	Glu	Tyr	Gly	Ala	Val	Pro	Lys	Ser	Ser	Val	Arg	Ser	Asp	Ala	Asp
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65					70				75						80
Asp	Val	Val	Ser	Thr	Ile	Ser	Glu	Ser	Ser	Ser	Leu	Glu	Thr	Gly	
				85					90					95	
Ser	Gly	His	Arg	Ser	Arg	Asp	Thr	His	Ser	Met	Gly	Ser	Arg	Val	Arg
			100					105					110		
Val	Pro	Glu	Glu	Asp	Ser	Cys	Asp	Ser	Glu	Ser	Val	Ala	Ser	Asn	Phe
		115					120					125			
Glu	Phe	His	Lys	Glu	Arg	Gly	Ala	Ser	Ala	Arg	Ser	Val	Thr	Ala	Ala
	130					135					140				
Ile	Val	Pro	Pro	Phe	Ser	Lys	Pro	Ala	Pro	Ser	Lys	Trp	Asp	Asp	Ala
145					150					155					160
Gln	Lys	Trp	Ile	Ala	Ser	Pro	Thr	Thr	Asn	Arg	Pro	Gly	Arg	Ala	Gly
				165					170					175	
Gly	Val	Pro	Gln	Arg	Lys	Met	Glu	Lys	Thr	Ser	Phe	Gly	Gly	Gly	Arg
			180					185					190		
Leu	Pro	Ala	Thr	Lys	Val	Val	Leu	Glu	Ala	Thr	Glu	Glu	Ile	Asp	Thr
		195					200					205			
Lys	Arg	Val	Asp	Pro	Ser	Gln	Glu	Lys	Arg	Glu	Ile	Gly	Trp	Gln	Lys
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Ala	Val	Asn	Trp	Ala	Pro	Pro	Asp	Pro	Tyr	Pro	Glu	Val	Glu	Thr	Cys
225					230				235						240
Ala	Lys	Ser	Ala	Leu	Ala	Glu	Glu	Ile	Thr	Val	Ala	Asp	Ser	Ala	Val
				245					250					255	
Thr	Phe	Ser	Arg	His	Asp	Ser	Ser	Ala	Thr	Leu	Gln	Ser	Ala	Thr	Thr
			260					265					270		
Cys	Ile	Pro	Pro	Pro	Pro	Thr	Val	Arg	Ser	Val	Ser	Met	Arg	Asp	Met
		275					280					285			
Gly	Thr	Glu	Met	Thr	Pro	Ile	Ala	Ser	Gln	Glu	Pro	Ser	Arg	Thr	Gly
	290					295					300				
Thr	Pro	Val	Arg	Ala	Thr	Ser	Pro	Asp	Cys	Ser	Arg	Pro	Thr	Thr	Pro
305					310				315						320
Arg	Lys	Thr	Ile	Gly	Pro	Asn	Ala	Ile	Gly	Ala	Val	Ile	Gly	His	Gly
				325					330					335	
Glu	Cys	Ser	Asn	Val	Glu	Leu	Ser	Glu	Gln	Glu	Leu	Gln	Met	Lys	Thr
			340					345					350		
Arg	Arg	Glu	Ile	Met	Leu	Leu	Gly	Thr	Gln	Leu	Gly	Lys	Thr	Asn	Ile
		355					360					365			
Ala	Ala	Trp	Ala	Ser	Asn	Lys	Glu	Glu	Glu	Lys	Asp	Ala	Ser	Leu	Ser
	370					375					380				
Leu	Lys	Gly	Val	Pro	Met	Asp	Gln	Ser	Thr	Gln	Lys	Val	Thr	Glu	Ile
385					390					395					400
Arg	Ala	Ala	Ala	Trp	Glu	Glu	Ala	Glu	Lys	Ala	Lys	Tyr	Leu	Ala	Arg
				405					410					415	
Phe	Lys	Arg	Glu	Glu	Ile	Lys	Ile	Gln	Ala	Trp	Glu	Asp	His	Gln	Arg
			420					425					430		
Ala	Lys	Ile	Glu	Ala	Glu	Met	Arg	Lys	Ile	Glu	Val	Asp	Val	Glu	Arg
		435					440					445			
Met	Arg	Ala	Arg	Ala	Gln	Asp	Lys	Leu	Met	Ser	Gln	Leu	Ala	Ser	Ala
	450					455					460				
Arg	His	Thr	Ala	Asp	Glu	Lys	Arg	Ala	Ala	Ala	Glu	Leu	Lys	Arg	Ser
465					470					475					480
Arg	Ala	Ala	Ala	Lys	Thr	Ala	Glu	Gln	Ala	Asp	His	Ile	Arg	Arg	Thr
				485					490					495	
Gly	Arg	Met	Pro	Ser	Ser	Ile	Gly	Cys	Trp	Asn	Trp	Cys	Ser		
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<210> 290
<211> 1108
<212> DNA
<213> Oryza sativa

<400> 290
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gcagttcatt cgggtgtccgt gagagatgtg ggcacagaaa tgactcccat accgagtcag 180
gatccttcaa ggacaggaac tccacttgga tcaatgacac caactcgtag cccaaattgc 240
tctataccat caactcctgt aggaggacgg tcaacagcat caccaggaga tgacaacaca 300
gatgatggac catatttcaa cagaaaaggt ggcacaaatg aaatatcaga cgatgaaatg 360
agattgaaga caaggaaaga aattgccgcc ctgggtatac aactaggaaa gatgaacatt 420
gctacatggg ctagcaaaga ggagctagaa ctagtctctg catccccaag cattgctgat 480
ttggagcgga tgaagaaaga atatgcagct cgtgcagcag catatgaaga agcagaaaaat 540
tttaagcata cagcaagatt caagaaggaa gagttgaaga ttgaagcatg ggagagcctt 600
caaaaagcaa aaatagaatc tgaaatgaag agaataagagg aacatgcaga gaaattgcga 660
agcgaagcca tggcgaagat ggctgaaaag ctagaaatga caccggcgttt agctgaagag 720
aaacgagcct cagccaatgc aaggatgaac caacaagcag caaaggcggt tcacaaggct 780
gagctgattc gccagacagg acgagttcca gggctcatgta tcctatgctg cagtggttgc 840
ttctgtcaac actagtgtat gcttgacaat tagggagtta aatatggtcg tgaaaaatct 900
aaaccccatg ttctataatc agcattcctt ggttttagta tggaaaggaa tgtctgatac 960
tttgattagg tattcagatg tacaaattct tgcttgatcat aaaagtcaat ccaatgctta 1020
catttgcttg gtcggctact cgggttaaaga acacttggtt gttgctcaac gaattgaatc 1080
attggaaaat gacgagcatt tcttgact 1108

<210> 291
<211> 284
<212> PRT
<213> Oryza sativa

<400> 291
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Tyr Gln Thr Lys Ala Thr Asp Asn Ser Ser Ser Ile Glu Ile Arg Pro
20 25 30
Tyr Lys Asp Pro Lys Ala Ile Pro Ala Val His Ser Val Ser Val Arg
35 40 45
Asp Val Gly Thr Glu Met Thr Pro Ile Pro Ser Gln Asp Pro Ser Arg
50 55 60
Thr Gly Thr Pro Leu Gly Ser Met Thr Pro Thr Arg Ser Pro Asn Cys
65 70 75 80
Ser Ile Pro Ser Thr Pro Val Gly Gly Arg Ser Thr Ala Ser Pro Gly
85 90 95
Asp Asp Asn Thr Asp Asp Gly Pro Tyr Phe Asn Arg Lys Gly Gly Thr
100 105 110
Asn Glu Ile Ser Asp Asp Glu Met Arg Leu Lys Thr Arg Lys Glu Ile
115 120 125
Ala Ala Leu Gly Ile Gln Leu Gly Lys Met Asn Ile Ala Thr Trp Ala
130 135 140
Ser Lys Glu Glu Leu Glu Leu Val Ser Ala Ser Pro Ser Ile Ala Asp
145 150 155 160
Leu Glu Arg Met Lys Lys Glu Tyr Ala Ala Arg Ala Ala Tyr Glu
165 170 175
Glu Ala Glu Asn Phe Lys His Thr Ala Arg Phe Lys Lys Glu Glu Leu
180 185 190
Lys Ile Glu Ala Trp Glu Ser Leu Gln Lys Ala Lys Ile Glu Ser Glu
195 200 205
Met Lys Arg Ile Glu Glu His Ala Glu Lys Leu Arg Ser Glu Ala Met

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210	215	220
Ala Lys Met Ala Glu Lys Leu Glu Met Thr Arg Arg Leu Ala Glu Glu		
225	230	235
Lys Arg Ala Ser Ala Asn Ala Arg Met Asn Gln Gln Ala Ala Lys Ala		240
	245	250
Val His Lys Ala Glu Leu Ile Arg Gln Thr Gly Arg Val Pro Gly Ser		255
	260	265
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275	280	

<210> 292
 <211> 1452
 <212> DNA
 <213> Oryza sativa

<400> 292

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gcatcggcag	ggttgacgag	gcaaagaagt	cgccgcgagc	gtcgcgggcg	aggctcgcag	300
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attatcccaa	ggaccagtgc	gattcttctc	gctcgcgctc	cgacgcgagc	catgggagag	420
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cgccgcgggc	ggcgggtggc	gtggtcggcg	ggacgttctt	caggcaggtg	ccgtcaaagt	540
ggaacgacgc	cgagaagtgg	ctcgccggga	gacacgtcgt	gactccaac	ccaatcttct	600
ccaagaaggc	cgccgccgca	gcagcggccg	tgtccggccg	cgttgcgccg	gaggcctcgg	660
cgtcgtcgtc	gccgccgtcg	gtggcgagca	ggcagcgcca	gcagaagagg	ctccgcgtgt	720
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gcaaggagca	gtcgcggagc	ggcacgccc	ccggcgccgc	cacgccgtcg	ctgagtcggc	840
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gggagctcca	gatcaggacg	cgccgcgaga	tcgcgcgct	cgggctgcag	ctgggcaaga	960
tgaacatcgc	gtcgtggggc	agcaaggacg	acgacgacga	gtcccccg	gcctcgcgg	1020
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tcgaagccaa	gatgaggcac	gcagaggtgc	aggcagagca	gatgaaggcg	agggcggaag	1260
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tggaggtcgc	ccggagccgc	caggcgggcg	ggctggcccc	ccaggtgcac	cgcacccggg	1380
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<210> 293
 <211> 427
 <212> PRT
 <213> Oryza sativa

<400> 293

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20	30
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35	45
Asp Ala Asp Glu Asp Asp Asp His Pro Lys Asn Ser Leu Leu Pro	
50	60
Gln Glu Leu Asp Glu Asp Tyr Pro Lys Asp Gln Ser Asp Ser Ser Arg	
65	80
Ser Arg Ser Asp Ala Ser His Gly Arg Ala Gly Asn Gly Tyr Asp Ser	

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			100					105						110					
Ala	Ala	Val	Ala	Val	Val	Gly	Gly	Thr	Phe	Phe	Arg	Gln	Val	Pro	Ser				
		115					120					125							
Lys	Trp	Asn	Asp	Ala	Glu	Lys	Trp	Leu	Ala	Gly	Arg	His	Val	Val	His				
	130					135					140								
Ser	Asn	Pro	Ile	Phe	Ser	Lys	Lys	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Val				
145					150				155						160				
Ser	Gly	Arg	Val	Ala	Pro	Glu	Ala	Ser	Ala	Ser	Ser	Ser	Pro	Pro	Ser				
			165					170					175						
Val	Ala	Ser	Arg	Gln	Arg	Gln	Gln	Lys	Arg	Leu	Arg	Val	Ser	Ser	Glu				
			180					185				190							
Ala	Ala	Ala	Val	Ser	Met	Arg	Asp	Val	Gly	Thr	Glu	Met	Thr	Pro	Met				
	195					200					205								
Ala	Ser	Lys	Glu	Gln	Ser	Arg	Ser	Gly	Thr	Pro	Ala	Gly	Ala	Ala	Thr				
	210					215				220									
Pro	Ser	Leu	Ser	Pro	Leu	Cys	Ser	Val	Pro	Thr	Ser	Pro	Arg	Gly	Ala				
225					230				235						240				
Ala	Ser	Ala	Ser	Ser	Ala	Ser	Ser	Glu	Arg	Glu	Leu	Gln	Ile	Arg	Thr				
			245					250					255						
Arg	Arg	Glu	Ile	Ala	Ala	Leu	Gly	Leu	Gln	Leu	Gly	Lys	Met	Asn	Ile				
		260					265					270							
Ala	Ser	Trp	Ala	Ser	Lys	Asp	Asp	Asp	Asp	Glu	Leu	Pro	Arg	Ala	Ser				
	275					280						285							
Pro	Glu	Lys	Arg	Pro	Arg	Pro	Arg	Pro	Arg	Pro	His	Ser	Gly	Asp	Gly				
	290				295					300									
Gly	Gly	Glu	Ala	Lys	Lys	Arg	Glu	Phe	Glu	Ala	Arg	Ala	Met	Ala	Trp				
305					310				315						320				
Gln	Glu	Thr	His	Lys	Cys	Lys	Leu	Ala	Leu	Arg	Phe	Gln	Arg	Lys	Glu				
			325					330					335						
Val	Lys	Ile	Gln	Glu	Trp	Glu	Ser	Cys	Gln	Lys	Ala	Lys	Phe	Glu	Ala				
		340					345						350						
Lys	Met	Arg	His	Ala	Glu	Val	Gln	Ala	Glu	Gln	Met	Lys	Ala	Arg	Ala				
	355					360					365								
Lys	Gln	Lys	Leu	Ser	Arg	Arg	Leu	Ser	Ala	Leu	Ser	His	Lys	Ala	Glu				
	370				375				380										
Gly	Lys	Gln	Ala	Arg	Val	Glu	Ala	Arg	Arg	Ser	Arg	Gln	Ala	Ala	Arg				
385					390				395						400				
Leu	Ala	Arg	Gln	Val	His	Arg	Ile	Arg	Glu	Thr	Gly	Ala	Ala	Pro	Ser				
			405					410					415						
Arg	Leu	Arg	Arg	Cys	Cys	Ser	Trp	Leu	Phe	Leu									
		420						425											

<210> 294
 <211> 1739
 <212> DNA
 <213> Oryza sativa

<400> 294																			
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acattgccat	caacaagaag	aaactcattc	caaggagtgg	gagctgaagc	tggaggagga														180
ggaggaggca	tgaaccatt	cgggcccaca	ttcagtggac	cactctgcag	cctcaacctc														240
aaggagacct	cagagtctgt	gaggtcatcc	ttcccatgg	ctaccatggc	gaggagcaac														300
agcagcaacg	gcgccaccgg	caatggcggc	catggctacc	accgcgagac	ctccacggcc														360
tcttcacctc	cttctcctc	ggcctcagct	cagaggaggc	gagccgagca	gcagcagcag														420
caggtgccag	ctactccagg	gcggccattg	ctgttcttca	attcctcgag	ccctgcacat														480
caccagctcg	tctccgcgag	gaggtcggtg	ccttccaagt	gggaggatgc	ggagaagtgg														540

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gctcttgctc tctacactgc tcctgctgca gaagtgttcc tcaaagacaa gttcactgac 720
aatgtggagc cctccaagga gagcttcgtg ttccggagct cctactgcga gccaacaaag 780
aacacggcgg cgagggcggg ggccgcccgc aacggcatcg accaccggcg tgacatcggc 840
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<210> 295
 <211> 493
 <212> PRT
 <213> *Oryza sativa*

<400> 295

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

PF58787.ST25.txt

Thr Glu Met Thr Pro Leu Gly Ser Ser Thr Thr Ser Arg Cys His Thr
260 265 270
Pro Ile Lys Ser Thr Ser Pro Ala Arg His Asn Thr Pro Ala Ser Arg
275 280 285
Ser Gly Pro Leu Val Pro Tyr Ala Gly Gly Gly Gly Ala Gly Gln
290 295 300
Asp Ile Ser Asp Leu Ala Asp Cys His Phe Ala Lys Leu Asp Leu Gly
305 310 315 320
Ala Gln Phe Asp Ala Met Leu Ile Asn Trp Ser Ser Lys Glu Glu Glu
325 330 335
Glu Glu Glu Val Ser Lys Ser Leu Arg His Phe Glu Ala Ser Val Ala
340 345 350
Ala Val Gly Glu Lys Arg Gly Gly Ala Gly Asp Cys Arg Trp Glu Asp
355 360 365
Asp Asp Arg Ala Lys Ser Cys Ile Arg Tyr Gln Arg Glu Glu Ala Lys
370 375 380
Ile Gln Ala Trp Ile Asn Leu Glu Ser Ala Lys Ala Glu Ala Gln Ser
385 390 395 400
Arg Lys Leu Glu Val Lys Ile Gln Lys Met Arg Ser Asn Leu Glu Glu
405 410 415
Lys Leu Met Arg Arg Met Thr Thr Val His Arg Arg Ala Glu Glu Trp
420 425 430
Arg Ala Thr Ala Gln Ala Gln His Leu Gln Gln Leu Lys Arg Ala Ala
435 440 445
Glu Gln Val Arg Arg Ala Lys Ala Thr Ser His His His His His His
450 455 460
His Leu Ala Gly Ser Asn Ala Ser Cys Gly Cys Phe Pro Cys Asn Gly
465 470 475 480
Ser Asn Asn Ile Ile Ser Gly Asn Leu Leu Asn Tyr Tyr
485 490

<210> 296
<211> 1261
<212> DNA
<213> Oryza sativa

<400> 296
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 <211> 357
 <212> PRT
 <213> Oryza sativa

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 Glu Pro Ser Thr Thr Pro Thr Leu Lys Leu Pro Pro Asn Arg Gln Gly
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 Ile Leu Lys Arg Pro Arg Gln Thr Glu Gly Ser Arg Ile Thr Arg Arg
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 Lys Lys Gly Ser Met Lys Phe Glu Gln Glu Gln Ala Ile Pro Thr Val
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 Pro Pro Asn Val Arg Pro Thr Ala Leu Phe Pro Arg Glu Lys Lys Glu
 180 185 190
 Ser Lys Lys Phe Asp Gln Asp Gln Ala Ile Pro Arg Val Pro Pro Asp
 195 200 205
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 210 215 220
 Phe Glu Gln Asp Lys Ala Asn Gln Met Pro Ser Leu Ala Ser Ala Pro
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 Thr Ile Val Glu Trp Glu Ala Glu Lys Lys Ala Lys Ala Lys Arg Gln
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 <213> Oryza sativa

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<400> 298

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<210> 299

<211> 620

<212> PRT

<213> *Oryza sativa*

<400> 299

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Ala	Gln	Val	Met	Arg	Glu	Thr	Ala	Ala	Ala	Asn	Gln	Asp	Glu	Gln	Ser
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 <212> DNA
 <213> Oryza sativa

<400> 300

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 <213> Oryza sativa

<400> 301

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85      90      95
Gly Val Lys Gly Glu Gly Trp Met Gln Val Gln Gly Pro Ile Lys Asn
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Ser Ala Ala Arg Ser Thr Gly Glu Cys Gln Asp Gln Arg Tyr Arg Leu
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130     135     140
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Ser Tyr Asn Arg Gln Gly Ala Thr Val Val Gly Tyr Gln Gln Gly Trp
195     200     205
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Cys Val Ser Ser Ser His Ala Gly Arg Asp Leu Ser Gly Ala Ser Gly
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355     360     365
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 <212> DNA
 <213> Oryza sativa

<400> 302

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cccagacccc	ggtaccccaa	actaccaccg	gcattgcgct	agcaccatgc	agtaccctaa	360
gggatggagc	tcagagcggg	tgccacttgg	aggtggtacc	aataggaggt	atgggggcag	420
tggggttggt	cttcctttca	acaatgggag	gaagctgcca	tcaaatggg	aggatgcaga	480
gaagtggatc	ctaagtcag	tttctgtga	tgggattgga	aggatgtcag	ccccggcgcc	540
tcaccataga	cggcccaagt	caaagagtgg	cccacttggc	caccagggcg	gaataccggg	600
tgcttatgcg	gctgcttcgc	cgtttgtgcc	ctgctttgat	ggtgttctgg	cagcggctaa	660
ttttgcagca	cattctcctt	tttctgctgg	ggttctcatg	ccagagcacg	tgcgcaatgg	720
tgacttcagc	agtggaagag	gtagaagtgg	ggatgatggc	agtagccgat	cttactctgc	780
agagaaggac	ccatatactt	tgagatcagc	aagtatacat	gcgtggacag	agacacttat	840
ggaagcatcc	gcctttgcta	atatctcaga	agaaactgca	caagatgata	aattgcaagg	900
cctgcgagga	gaaactcctg	ccatttccag	tccaataata	aagaaagatg	ttgccacaca	960
aatgagtcct	gatgacagta	tatcgtcttc	tccaaaagca	agacattcat	gttccagttt	1020
accatcagga	catcctatta	aagaaccaa	tagtaatgca	cttaaacctg	aagtccgaga	1080
tgtccaggta	gatgatcaag	taactgtgac	ccggtgggtc	aagcgacatg	taacacgagg	1140
gtctgatagg	cggccaacaa	atattgtcga	gtggaggaag	aaaacaattg	agactcgagc	1200
tccatctttt	gatgaaaaag	aaagagaaa	ctgcgtatca	aagtgaaga	gggaggaagc	1260
gaagatcact	gcttgggaaa	atctgcagaa	agcaaaaagc	gaggcagcaa	ttcgaaagtt	1320
agagatgaag	cttgaaaaaga	agaggtcatc	atcgatggat	agaatcttgg	gcaaaactacg	1380
cactgctcaa	aagaaagcgc	aagacatgcg	tagtgcagtt	tctgtgagtg	aagatcaatg	1440
tggagtgaga	gcaaccaaga	aagcatcata	cttgaggaga	acgggcaaat	cattcagttg	1500
ctgtttcacc	tatcgtgctt	gctagtgttg	acatagttgg	taccgtgggc	gtagcaatgg	1560
atgtaccttt	gtagaaaactt	tttggtacgtt	gcagctcatg	tcagccaaca	aatcagaatt	1620

PF58787.ST25.txt

```
aatcaggaag tcagattttt ccttgctgtg gcagctggag gtgacggggt tatttaaaga 1680
gaatttgcat ggtctgacg atgaaatacc ttagtgcca gtggagtgg ataaatcagt 1740
catcgagcaa aatctatatt gtagttaatt tcgtggatta ttgctcccg tattctgtgc 1800
ctacaatcaa tctctgtaca cccaatagaa gtccttcga gttcgagagc tttatgctag 1860
tcaccaccag attggccagg ttcagtgggt ctcatctctga ttgatatgta tctttccatg 1920
ggattctgta agcaaagcaa gccttggggc ttg 1953
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<210> 303
 <211> 423
 <212> PRT
 <213> *Oryza sativa*

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<400> 303
Met Ser Lys Ser Ser Thr Ala Ser Ser Arg Ser Arg Ser Gly Thr Phe
1 5 10 15
Pro Ser Pro Gly Thr Pro Asn Tyr His Arg His Cys Ala Ser Thr Met
20 25 30
Gln Tyr Pro Lys Gly Trp Ser Ser Glu Arg Val Pro Leu Gly Gly Gly
35 40 45
Thr Asn Arg Arg Tyr Gly Gly Ser Gly Val Val Leu Pro Phe Asn Asn
50 55 60
Gly Arg Lys Leu Pro Ser Lys Trp Glu Asp Ala Glu Lys Trp Ile Leu
65 70 75 80
Ser Pro Val Ser Cys Asp Gly Ile Gly Arg Met Ser Ala Pro Ala Pro
85 90 95
His His Arg Arg Pro Lys Ser Lys Ser Gly Pro Leu Gly His Pro Gly
100 105 110
Gly Ile Pro Gly Ala Tyr Ala Ala Ser Pro Phe Val Pro Cys Phe
115 120 125
Asp Gly Val Leu Ala Ala Ala Asn Phe Ala Ala His Ser Pro Phe Ser
130 135 140
Ala Gly Val Leu Met Pro Glu His Val Arg Asn Gly Asp Phe Ser Ser
145 150 155 160
Gly Arg Gly Arg Ser Gly Asp Asp Gly Ser Ser Arg Ser Tyr Ser Ala
165 170 175
Glu Lys Asp Pro Tyr Ile Leu Arg Ser Ala Ser Ile His Ala Trp Thr
180 185 190
Glu Thr Leu Met Glu Ala Ser Ala Phe Ala Asn Ile Ser Glu Glu Thr
195 200 205
Ala Gln Asp Asp Lys Leu Gln Gly Leu Arg Gly Glu Thr Pro Ala Ile
210 215 220
Ser Ser Pro Ile Ile Lys Lys Asp Val Ala Thr Gln Met Ser Pro Asp
225 230 235 240
Asp Ser Ile Ser Ser Ser Pro Lys Ala Arg His Ser Cys Ser Ser Leu
245 250 255
Pro Ser Gly His Pro Ile Lys Glu Pro Asn Ser Asn Ala Leu Lys Pro
260 265 270
Glu Val Arg Asp Val Gln Val Asp Asp Gln Val Thr Val Thr Arg Trp
275 280 285
Ser Lys Arg His Val Thr Arg Gly Ser Asp Arg Arg Ser Thr Asn Ile
290 295 300
Val Glu Trp Arg Lys Lys Thr Ile Glu Thr Arg Ala Pro Ser Phe Asp
305 310 315 320
Glu Lys Glu Arg Glu Ser Cys Val Ser Lys Cys Lys Arg Glu Glu Ala
325 330 335
Lys Ile Thr Ala Trp Glu Asn Leu Gln Lys Ala Lys Ala Glu Ala Ala
340 345 350
Ile Arg Lys Leu Glu Met Lys Leu Glu Lys Lys Arg Ser Ser Ser Met
355 360 365
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PF58787.ST25.txt

Asp Arg Ile Leu Gly Lys Leu Arg Thr Ala Gln Lys Lys Ala Gln Asp
 370 375 380
 Met Arg Ser Ala Val Ser Val Ser Glu Asp Gln Cys Gly Val Arg Ala
 385 390 395 400
 Thr Lys Lys Ala Ser Tyr Leu Arg Arg Thr Gly Lys Ser Phe Ser Cys
 405 410 415
 Cys Phe Thr Tyr Arg Ala Cys
 420

<210> 304
 <211> 1824
 <212> DNA
 <213> Zea mays

<400> 304
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 gcctccacca cctcgtcttc gtcgtctctc tccacggcct cggctcagaa acgaaggggg 120
 gaggtcgacg agcaggccgc cgtcgtcccg gcgacgcccg ggccgggtcc ggcgctgcag 180
 ttctctcgca gcccgcgcgc gcaccaccac cacccccaga ccagctcgt cgcgccgagg 240
 aggtcggtgc cgtccaagtg ggaggacgcg gagaagtggc tgcggcagtc gtcgtcgtcc 300
 tcgggttccg accaccacct ccacggcaac gcgaggccg ccttctccag gcagcggagc 360
 ggcgggctcg gacaccgagg cggcgccgga ggcgggggtg gggacgagaa gagcgcggcg 420
 gtggcggtga ggaggtcgtt ggacgcgctc cgggacgccc actcgtctcg gctgtacgcg 480
 gcgcccgcag cggaggtgct cctcaaagac aagttcaccg acaatgagga gccgtccaag 540
 gagagcttcg tgttcgagc ctcgtgctgc gaggctgctg aaccggcgaa ggcgcgcgac 600
 gacgacgacg acggtcgtcg ccagcggagg agggacgtcg gcacggagat gacgccgctg 660
 ggcagctcgt gccacacgcc gctcaagagc gcgtcccccg cgcggcacia cacgccggcg 720
 agccggtcgt cgggcccgtt ggtgccgtac accggcggcg gcggaacgga catctcggag 780
 ctggcgggat tccgcctcgc caagctggac ctgggcgcgc ggttcggcgc ccacgccacg 840
 ctcgtcggct ggagctccaa ggaggaggag gaggacgacg acgaggacgt gtccaagagc 900
 ctcaggcact tcgaggccac cgtcggcggg acagcctgcg atagacgcgg cgcgcggcggc 960
 gactgccgtt gggatgacga cgacagggcc aagagctgca tcaggtatca gagggaagag 1020
 gcgaagatcc aggcctgggt taacctggag agcgccaagg ctgaagcgca gtcaagaaag 1080
 ctggagggtga agatccagaa gatgcggtgc aacctagagg agaagctgat gcggcggatg 1140
 acgacggtgc agcggcgcgc gggggagtgg cgcgccacgg cgcgggcgca gcacctccag 1200
 cagctgcggc gcgcggccgc ccacggcgac ggcgacggac ggcggctcag ggccacggcc 1260
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 gtcgcgacag agcacggcca tctatgccgc gcaggcgggg ggcccctgtc gtggagccgt 1440
 gtgtccatgt cggggagcga gaagggggcg gctgaaccaa cgcgaggtga tggccaacca 1500
 cgccgtggat gttactgcag cctgctgcta ctttcctcca ctgccgtgcc gcagcagcag 1560
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 accacgttcc ccgagtccca cgtcgacggc ggaggtcgag gtcgtcgtcg gccgtcgggg 1680
 tcggggcacg acctcaccag gcctcctgct cctccatgga ctggggccac caacgggtgat 1740
 gggagtatta cgtggggccc cccgcctcct gagcgcaccg gccgtccttg cacggccatc 1800
 caggacggca aggcctgta ctag 1824

<210> 305
 <211> 607
 <212> PRT
 <213> Zea mays

<400> 305
 Met Ala Thr Thr Leu Ala Arg Ser Ile Ser Asn Ser Asn Gly His Glu
 1 5 10 15
 Arg Arg His Glu Ala Ser Thr Thr Ser Ser Ser Ser Ser Ser Ser Thr
 20 25 30
 Ala Ser Ala Gln Lys Arg Arg Gly Glu Ser Gln Gln Gln Ala Ala Val
 35 40 45

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```

Val Pro Ala Thr Pro Gly Pro Gly Pro Ala Leu Gln Phe Leu Ala Ser
50          55          60
Pro Ala Ala His His His His Pro Gln Thr Gln Leu Val Ala Pro Arg
65          70          75          80
Arg Ser Val Pro Ser Lys Trp Glu Asp Ala Glu Lys Trp Leu Arg Gln
85          90          95
Ser Ser Ser Ser Ser Gly Ser Asp His His Leu His Gly Asn Ala Arg
100         105         110
Ala Ala Phe Ser Arg Gln Arg Ser Gly Gly Leu Gly His Arg Gly Gly
115         120         125
Ala Gly Gly Gly Gly Gly Asp Glu Lys Ser Ala Ala Val Ala Val Arg
130         135         140
Arg Ser Val Asp Ala Leu Arg Asp Ala His Ser Leu Ala Leu Tyr Ala
145         150         155         160
Ala Pro Ala Ala Glu Val Leu Leu Lys Asp Lys Phe Thr Asp Asn Glu
165         170         175
Glu Pro Ser Lys Glu Ser Phe Val Phe Arg Ser Ser Cys Cys Glu Ala
180         185         190
Ala Glu Pro Ala Lys Gly Ala Asp Asp Asp Asp Asp Gly Arg Cys Gln
195         200         205
Arg Arg Arg Asp Val Gly Thr Glu Met Thr Pro Leu Gly Ser Ser Cys
210         215         220
His Thr Pro Leu Lys Ser Ala Ser Pro Ala Arg His Asn Thr Pro Ala
225         230         235         240
Ser Arg Ser Ser Gly Pro Leu Val Pro Tyr Thr Gly Gly Gly Gly Thr
245         250         255
Asp Ile Ser Glu Leu Ala Gly Phe Arg Leu Ala Lys Leu Asp Leu Gly
260         265         270
Ala Arg Phe Gly Ala His Ala Thr Leu Val Gly Trp Ser Ser Lys Glu
275         280         285
Glu Glu Glu Asp Asp Asp Glu Asp Val Ser Lys Ser Leu Arg His Phe
290         295         300
Glu Ala Thr Val Gly Gly Thr Ala Cys Asp Arg Arg Gly Gly Gly Gly
305         310         315         320
Asp Cys Arg Trp Asp Asp Asp Asp Arg Ala Lys Ser Cys Ile Arg Tyr
325         330         335
Gln Arg Glu Glu Ala Lys Ile Gln Ala Trp Val Asn Leu Glu Ser Ala
340         345         350
Lys Ala Glu Ala Gln Ser Arg Lys Leu Glu Val Lys Ile Gln Lys Met
355         360         365
Arg Cys Asn Leu Glu Glu Lys Leu Met Arg Arg Met Thr Thr Val Gln
370         375         380
Arg Arg Ala Gly Glu Trp Arg Ala Thr Ala Arg Ala Gln His Leu Gln
385         390         395         400
Gln Leu Arg Arg Ala Ala Ala His Gly Asp Gly Asp Gly Arg Arg Leu
405         410         415
Arg Ala Thr Ala Thr Ser Thr Ala His His His His Arg His Leu Pro
420         425         430
Gly Ser Ser Asp Ala Pro Ser Cys Ala Cys Phe Pro Cys Ser Thr Ser
435         440         445
Thr Ser Gly Gly Gly Gly Val Phe Tyr Leu Lys Arg Val Ala Thr Glu
450         455         460
His Gly His Leu Cys Arg Ala Gly Gly Gly Pro Leu Ser Trp Ser Arg
465         470         475         480
Val Ser Met Ser Gly Ser Glu Lys Gly Ala Ala Glu Pro Thr Arg Gly
485         490         495
Asp Gly Gln Pro Arg Arg Gly Cys Tyr Cys Ser Leu Leu Leu Leu Ser
500         505         510
Ser Thr Ala Val Pro Gln Gln Gln Gln Ala Glu Val Gly Leu Asp Trp

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PF58787.ST25.txt

515	520	525
Thr Glu Lys Glu Glu Val Pro Ser Cys Leu Ala Leu Thr Thr Phe Pro		
530	535	540
Glu Ser His Val Asp Gly Gly Gly Arg Gly Arg Arg Pro Ser Gly		
545	550	555
Ser Gly His Asp Leu Thr Arg Pro Pro Ala Pro Pro Trp Thr Gly Ala		
565	570	575
Thr Asn Gly Asp Gly Ser Ile Thr Trp Ala Arg Pro Ala Ser Glu Arg		
580	585	590
Thr Gly Arg Leu Gly Thr Ala Ile Gln Asp Gly Lys Ala Leu Tyr		
595	600	605

<210> 306
 <211> 946
 <212> DNA
 <213> Solanum tuberosum

<400> 306
 ttaccttctt ccaactacta aatatcttct tctttgaaga attctctgtt ttcttgattc 60
 tgtttgtagc catggcagaa ttggaagcta agaaagtaga aattgtggac cctgcacccc 120
 ctgcgccagg acctgttgaa gctcctaaag aagtgggtggc tgatgagaaa gccatagttg 180
 caccagctct gctcctcct gcagaagaaa aagaaaaacc cgatgactcg aaagcattag 240
 ttgtcgttga aactaaagca ccagaacctg ctgatgagaa aaaagaggga tctattgaca 300
 gagatgctgt gcttgctcgc gttgcaacag agaagagagt atcactcatc aaagcatggg 360
 aggaaagtga gaaatcaaaa gccgaaaaca aagctcagaa gaaggtatct gcaattggtg 420
 catggggagaa cagcaagaaa gctaacctag aggtgagct caaaaagatg gaggaacagt 480
 tggagaaaaa gaaggccgaa tatactgaga aaatgaaaaa caaaattgct ctactccaca 540
 aggaagcaga agaaaagaga gcgatgattg aagctaaacg tggagaagat cttctcaagg 600
 cagaggagct tgcagcaaaa taccgtgcca ctggaactgc tccaaagaaa atccttggaa 660
 tattttgaag cagcaagcac caggtctgca tcggtagtga ttgggagtta cattttgtaa 720
 agttttgtga atttgaattt tgtttcttgt tagattacat ttgtgtgatt atgtatttta 780
 gaaccattta ttgtttattg ttacgtgtgc atagtgtatg atttccagtg tatatagcac 840
 ctggacaaat taactttgtg ggattgtatg aaaaaaaatg ttgaaggaaa tcttcatggt 900
 agtacacaac tcttgcagaa aaaaaaaaaa aaaaaaaaaa aaaaaa 946

<210> 307
 <211> 198
 <212> PRT
 <213> Solanum tuberosum

<400> 307
 Met Ala Glu Leu Glu Ala Lys Lys Val Glu Ile Val Asp Pro Ala Pro
 1 5 10 15
 Pro Ala Pro Gly Pro Val Glu Ala Pro Lys Glu Val Val Ala Asp Glu
 20 25 30
 Lys Ala Ile Val Ala Pro Ala Leu Pro Pro Pro Ala Glu Glu Lys Glu
 35 40 45
 Lys Pro Asp Asp Ser Lys Ala Leu Val Val Val Glu Thr Lys Ala Pro
 50 55 60
 Glu Pro Ala Asp Glu Lys Lys Glu Gly Ser Ile Asp Arg Asp Ala Val
 65 70 75 80
 Leu Ala Arg Val Ala Thr Glu Lys Arg Val Ser Leu Ile Lys Ala Trp
 85 90 95
 Glu Glu Ser Glu Lys Ser Lys Ala Glu Asn Lys Ala Gln Lys Lys Val
 100 105 110
 Ser Ala Ile Gly Ala Trp Glu Asn Ser Lys Lys Ala Asn Leu Glu Ala
 115 120 125
 Glu Leu Lys Lys Met Glu Glu Gln Leu Glu Lys Lys Lys Ala Glu Tyr
 130 135 140

PF58787.ST25.txt

Thr Glu Lys Met Lys Asn Lys Ile Ala Leu Leu His Lys Glu Ala Glu
 145 150 155 160
 Glu Lys Arg Ala Met Ile Glu Ala Lys Arg Gly Glu Asp Leu Leu Lys
 165 170 175
 Ala Glu Glu Leu Ala Ala Lys Tyr Arg Ala Thr Gly Thr Ala Pro Lys
 180 185 190
 Lys Ile Leu Gly Ile Phe
 195

<210> 308
 <211> 1581
 <212> DNA
 <213> Glycine max

<400> 308
 atggcgagg tagggtttca ggaacgaagc tcgtggagag tggggctgag agcgcgctat 60
 agcagccccg actctgtggt ttctactctc gaatcgaact tgagcctctt ctcctatgcg 120
 tccgcgagcg ttgatcgatg ctctttttca tctgattcac acgaccacga ctctttcgtc 180
 tccgaaaatct cactggatat gcggtggtgg tggcataata ataataataa tggaaaagat 240
 tacaaacacg ccacgagggc ttttaatttc ggaaaaattg acgctgatat tcaagaaccc 300
 gtggagttgg attctgccag aaactctttc tctttagccc tcaaagaggc tgcttctttg 360
 gatctgaaca atgcctctgg ctctggatct ttgccgcgcc ttcaaacatt gaaaaagact 420
 tccatttctt ctgcaaggctc tgggtactgcc actttcccta gtcctggtac actcaattat 480
 cgcgttgcaa tgcacaaggg atggagctcc gagcgagttc ccttgcatgc aggtgctacc 540
 cggaagcacg ttttgccgtt caacaatggg aaaacattgc cgtcaaagtg ggaagatgct 600
 gagaggtgga ttctcagccc tgtttcggca gatggcactg ggagggcctc gcttaatgca 660
 ccccaaagga ggccaaagtc caagagcggg cctcttgac cccctggtgt tgcgtatcat 720
 tctatgtact cgccggccgc gccggtgttt gaagtgggga atggggggag ttttatggaa 780
 ggttctccgt ttacagtgga tgggttaata atctgcaccg gtggccatgg tggagctctt 840
 tccgtgagaa cagaaccttg catggcacgc tcagcaagtg tccacggatg ctctaagata 900
 cagagtcagt catcatcaat gccctccaa gaggataagt ttggtgggtt caaagatgtg 960
 ggcaccaatg tgtcccgtgc cacttcaagg agggacatgg cgaccagat gagccacag 1020
 ggtagctcac gctcctctcc taatctgagg ccttctttct ctgcctccac cccatcaacc 1080
 ttgctgtca cagaattgcg gactgttggt tcctctaaag tggatattag ggatgtgcag 1140
 gtagatgaac acgttaccgt gacaagatgg tccaagaaac atagggccct attcactggc 1200
 agaggctcag aaaaagtcga aagctggaaa aaagaactaa gcaactcaatc gtcaacttgg 1260
 gacgtttctg aaacgtcaaa gcctgcctca aagacaagaa gtgaggaagc caaaatctct 1320
 gcatgggaga acttgcaaaa ggcaaaagca gaagcagcaa tacggaaact agagatgaaa 1380
 ttggaaaaaa ggcgagcatc ctctatggat aagattatga acaagcttag attggcccag 1440
 aaaaaagctc aggaaatgag aagttcagtt ccacacaacc aaaccgatcg ggttgtaaga 1500
 acttcacaca aggttcctc atttcttaga accagccaga tgcgttcttt gagtggttgt 1560
 ttcacttgcc atgtctttta a 1581

<210> 309
 <211> 526
 <212> PRT
 <213> Glycine max

<400> 309
 Met Ala Glu Val Gly Phe Gln Glu Arg Ser Ser Trp Arg Val Gly Leu
 1 5 10 15
 Arg Ala Arg Tyr Ser Ser Pro Asp Ser Val Val Phe Thr Leu Glu Ser
 20 25 30
 Asn Leu Ser Leu Phe Ser Tyr Ala Ser Ala Ser Val Asp Arg Cys Ser
 35 40 45
 Phe Ser Ser Asp Ser His Asp His Asp Ser Phe Val Ser Glu Ile Ser
 50 55 60
 Leu Asp Met Arg Trp Trp Trp His Asn Asn Asn Asn Asn Gly Lys Asp
 65 70 75 80

PF58787.ST25.txt

```

Tyr Lys His Ala Thr Arg Ala Phe Asn Phe Gly Lys Ile Asp Ala Asp
      85                      90                      95
Ile Gln Glu Pro Val Glu Leu Asp Ser Ala Arg Asn Ser Phe Ser Leu
      100                    105                    110
Ala Leu Lys Glu Ala Ala Ser Leu Asp Leu Asn Asn Ala Ser Gly Ser
      115                    120                    125
Gly Ser Leu Pro Arg Leu Gln Thr Leu Lys Lys Thr Ser Ile Ser Ser
      130                    135                    140
Arg Arg Ser Gly Thr Ala Thr Phe Pro Ser Pro Gly Thr Leu Asn Tyr
      145                    150                    155                    160
Arg Val Ala Met His Lys Gly Trp Ser Ser Glu Arg Val Pro Leu His
      165                    170                    175
Ala Gly Ala Thr Arg Lys His Val Leu Pro Phe Asn Asn Gly Lys Thr
      180                    185                    190
Leu Pro Ser Lys Trp Glu Asp Ala Glu Arg Trp Ile Leu Ser Pro Val
      195                    200                    205
Ser Ala Asp Gly Thr Gly Arg Ala Ser Leu Asn Ala Pro Gln Arg Arg
      210                    215                    220
Pro Lys Ser Lys Ser Gly Pro Leu Gly Pro Pro Gly Val Ala Tyr His
      225                    230                    235                    240
Ser Met Tyr Ser Pro Ala Ala Pro Val Phe Glu Val Gly Asn Gly Gly
      245                    250                    255
Ser Phe Met Glu Gly Ser Pro Phe Thr Gly Asp Gly Leu Ile Ile Cys
      260                    265                    270
Thr Gly Gly His Gly Gly Ala Leu Ser Val Arg Thr Glu Pro Cys Met
      275                    280                    285
Ala Arg Ser Ala Ser Val His Gly Cys Ser Lys Ile Gln Ser Gln Ser
      290                    295                    300
Ser Ser Met Pro Leu Gln Glu Asp Lys Phe Gly Gly Phe Lys Asp Val
      305                    310                    315                    320
Gly Thr Asn Val Ser Arg Ala Thr Ser Arg Arg Asp Met Ala Thr Gln
      325                    330                    335
Met Ser Pro Gln Gly Ser Ser Arg Ser Ser Pro Asn Leu Arg Pro Ser
      340                    345                    350
Phe Ser Ala Ser Thr Pro Ser Thr Leu Pro Val Thr Glu Leu Arg Thr
      355                    360                    365
Val Gly Ser Ser Lys Val Asp Ile Arg Asp Val Gln Val Asp Glu His
      370                    375                    380
Val Thr Val Thr Arg Trp Ser Lys Lys His Arg Ala Leu Phe Thr Gly
      385                    390                    395                    400
Arg Gly Ser Glu Lys Val Glu Ser Trp Lys Lys Glu Leu Ser Thr Gln
      405                    410                    415
Ser Ser Thr Trp Asp Val Ser Glu Thr Ser Lys Pro Ala Ser Lys Thr
      420                    425                    430
Arg Ser Glu Glu Ala Lys Ile Ser Ala Trp Glu Asn Leu Gln Lys Ala
      435                    440                    445
Lys Ala Glu Ala Ala Ile Arg Lys Leu Glu Met Lys Leu Glu Lys Arg
      450                    455                    460
Arg Ala Ser Ser Met Asp Lys Ile Met Asn Lys Leu Arg Leu Ala Gln
      465                    470                    475                    480
Lys Lys Ala Gln Glu Met Arg Ser Ser Val Pro His Asn Gln Thr Asp
      485                    490                    495
Arg Val Val Arg Thr Ser His Lys Ala Ser Ser Phe Leu Arg Thr Ser
      500                    505                    510
Gln Met Arg Ser Leu Ser Gly Cys Phe Thr Cys His Val Phe
      515                    520                    525

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<210> 310

<211> 840

PF58787.ST25.txt

<212> DNA

<213> Medicago truncatula

<400> 310

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atgttgaata ataatctaaa tacttccacc agccatatat cagaggaaaa ccaagaagat    60
gaacaaataa cagaaataag agaaatccat gccttaacac cacctcgtct tccacctcct    120
ccaccaccaa ccaaccgcgg cagccatagc caccgttcat catctctatc catggctagc    180
acagatagtg aaaacttcac aactataagc agagaattca atgctctagt tctagcagga    240
tcaactgttg accacaacaa cataagtcct catgaacatg aaacagctaa caacaacaat    300
aacaataaca gcaacaattt gaggaggatt agagaagatg atcatatgat ggaagaaacc    360
aatccttttg cgattgtggt agataacagc ccttttgatc ctattccatc tcctactagc    420
agaagaaata tggctagtgg aagttcacgt gcaagtgggc aaggtggtag tgaagaacat    480
gtgtcgggtg atagggtgaa gaaggaggaa gttgatgcaa agatatcagc ttggcagaat    540
gctaaagttg ctaagattaa taacaggttc aagagagatg atgctgtcat caatggctgg    600
gagagtgaac aggttcagaa agctacttca tggatgaaaa aagttgagag gaagctggaa    660
gagaaaagag caagagcctt ggagaagacg caaaacaaaa tagcgaaagc tcgaagaaaa    720
gccgaagaga ggaaagcatc agcagaggca aaaagaggaa ctaaagtggc tagagttcct    780
gagattgcta atcttatgag agcagttgga agacctcctg ctaaaaaatc tttcttctaa    840

```

<210> 311

<211> 279

<212> PRT

<213> Medicago truncatula

<400> 311

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Met Leu Asn Asn Asn Leu Asn Thr Ser Thr Ser His Ile Ser Glu Glu
1      5      10      15
Asn Gln Glu Asp Glu Gln Ile Thr Glu Ile Arg Glu Ile His Ala Leu
20     25     30
Thr Pro Pro Arg Leu Pro Pro Pro Pro Pro Thr Asn Arg Gly Ser
35     40     45
His Ser His Arg Ser Ser Ser Leu Ser Met Ala Ser Thr Asp Ser Glu
50     55     60
Asn Phe Thr Thr Ile Ser Arg Glu Phe Asn Ala Leu Val Leu Ala Gly
65     70     75     80
Ser Thr Val Asp His Asn Asn Ile Ser Pro His Glu His Glu Thr Ala
85     90     95
Asn Asn Asn Asn Asn Asn Asn Ser Asn Asn Leu Arg Arg Ile Arg Glu
100    105    110
Asp Asp His Met Met Glu Glu Thr Asn Pro Leu Ala Ile Val Val Asp
115    120    125
Asn Ser Pro Phe Asp Pro Ile Pro Ser Pro Thr Ser Arg Arg Asn Met
130    135    140
Ala Ser Gly Ser Ser Arg Ala Ser Gly Gln Gly Gly Ser Glu Glu His
145    150    155    160
Val Ser Val Asp Arg Val Lys Lys Glu Glu Val Asp Ala Lys Ile Ser
165    170    175
Ala Trp Gln Asn Ala Lys Val Ala Lys Ile Asn Asn Arg Phe Lys Arg
180    185    190
Asp Asp Ala Val Ile Asn Gly Trp Glu Ser Glu Gln Val Gln Lys Ala
195    200    205
Thr Ser Trp Met Lys Lys Val Glu Arg Lys Leu Glu Glu Lys Arg Ala
210    215    220
Arg Ala Leu Glu Lys Thr Gln Asn Lys Ile Ala Lys Ala Arg Arg Lys
225    230    235    240
Ala Glu Glu Arg Lys Ala Ser Ala Glu Ala Lys Arg Gly Thr Lys Val
245    250    255
Ala Arg Val Leu Glu Ile Ala Asn Leu Met Arg Ala Val Gly Arg Pro
260    265    270

```

PF58787.ST25.txt

Pro Ala Lys Lys Ser Phe Phe
275

<210> 312
<211> 1863
<212> DNA
<213> *Medicago truncatula*

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<400> 312
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acacgcaaca ccaccgcaa caccgtcacc ggcgcgcgcg atacaagtcc tgactccgtc      120
atcttcactc tcgaatctaa cttaagtctc ttctcctccg cttccgccag cgtcgatcgc      180
tgctccttcg cttccgatgc tcacgaccgc gactccttaa actccgaaat ctactgcat      240
ttggcagggtc acggtggtga ttttgctccc agtgaaagct ggagtgggtc agatccggat      300
ccggatccga atcaaaatca taacagaaaa caacatgcag attcagattc agttcagaaa      360
aagaaacttg gcgaaactct tttctctgga aaagcagaaa aaacaaaagt tcaaaaggaa      420
gatagtgaca ttgattctaa agacggaaat caactttcgg aatttgattc tgcgagaaac      480
tctttctctc tagctctcaa agaattgtcaa gatcggagat cgagatgtga atctttattt      540
aaaaagcaag atcggcgaag acctgcttcg ttagatctga acaatgctaa tgcaactgga      600
actggttctt cgcctcgatt agttggagct gtgaagaaga gtatggttca gtctaggaaa      660
tcgggaacgg gtacagcgac ggggactggt acatttccga gtcctgggac tccgaattat      720
cgtcattgtc aaggcgggtg tgcaatgcaa aaaggttggg gttctgagag agttgcaagt      780
gggggccgca agcaagttgg taatggtgtg actgctttgt gtttaagtaa tgggagaacg      840
ttgccgtcga agtggaaga tgctgagagg tggattttga gtcctgtttc agggggtgat      900
ggaactggaa gggtttcagt tccacagcca ttaaggaggc cgaagtcgaa gagtgggtccg      960
cttggtccac ctggtgttgc gtattattcg ttgtattcgc ctgcagggtc cttttttgat     1020
ggagggaatt ttatgacggc tgcttcacct tttctgctg ctgttaatgc ttcagctgat     1080
gggtttacaa atagtcttg tggaatggt ggtggagggc ttcccacacg aacggatcct     1140
tgcattgctc gctcagttag tgtacatgga tgctctcaga tgcagggtca atcgtcgatt     1200
ccttcccagag aggagaagtt tgatgctttc aaggatgcgg gcaccaatgt atctcctgct     1260
gtttcaagaa gggacatggc aaccagatg agcccagagg gtagctcgtg ctctctctcc     1320
aatatgatga cttctttctc tgcttccatt ccacctaccc tgcccgtaac cgatttgtag     1380
agtatctctt tctctaaaat ggatatcagg gatgtgcagg tggatgaacg tgtaaccatg     1440
acaaggtggt ccaagaagca caaggcccta ttcactggta gaggttcaga aaatgttgac     1500
agctggaaaa agaaagaaac cagcactcga tcttcatctt gggaaatttc tgaacgctca     1560
aagactgttt cgaaggctaa aaggaggaa gccaaaatca ccgcatggga aaatttgcaa     1620
aaggcaaaaag ctgaagcagc aatacagaaa ctagagatga agttggaaaa gaagcgagca     1680
tcttccatgg ataagattat gaacaaactg aaattcgctc agaaaaaggc tcaggaaatg     1740
aggagttcag tttcagtcga ccaggctcat caagttgccg gaacttctca caaggttatg     1800
tcatttcgga gagctggcca gatgggttct ttgagtgggt gtttcacctg tcatgccttt     1860
taa

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<210> 313
<211> 620
<212> PRT
<213> *Medicago truncatula*

```

<400> 313
Met Arg Asp Leu Gly Phe His Glu Gln Arg Arg Ser Trp Arg Arg Asn
1          5          10          15
Thr Gly Ser Arg Thr Arg Asn Thr Thr Ala Asn Thr Val Thr Gly Gly
20          25          30
Gly Asp Thr Ser Pro Asp Ser Val Ile Phe Thr Leu Glu Ser Asn Leu
35          40          45
Ser Leu Phe Ser Ser Ala Ser Ala Ser Val Asp Arg Cys Ser Phe Ala
50          55          60
Ser Asp Ala His Asp Arg Asp Ser Leu Asn Ser Glu Ile Ser Leu His
65          70          75          80
Leu Ala Gly His Gly Gly Asp Phe Ala Pro Ser Glu Ser Trp Ser Gly

```

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				85					90					95			
Pro	Asp	Pro	Asp	Pro	Asp	Pro	Asn	Gln	Asn	His	Asn	Arg	Lys	Gln	His		
			100					105					110				
Ala	Asp	Ser	Asp	Ser	Val	Gln	Lys	Lys	Lys	Leu	Gly	Glu	Thr	Leu	Phe		
		115					120					125					
Ser	Gly	Lys	Ala	Glu	Lys	Thr	Lys	Val	Gln	Lys	Glu	Asp	Ser	Asp	Ile		
	130					135					140						
Asp	Ser	Lys	Asp	Gly	Asn	Gln	Leu	Ser	Glu	Phe	Asp	Ser	Ala	Arg	Asn		
145					150					155					160		
Ser	Phe	Ser	Leu	Ala	Leu	Lys	Glu	Cys	Gln	Asp	Arg	Arg	Ser	Arg	Cys		
				165					170					175			
Glu	Ser	Leu	Phe	Lys	Lys	Gln	Asp	Arg	Arg	Arg	Pro	Ala	Ser	Leu	Asp		
			180					185					190				
Leu	Asn	Asn	Ala	Asn	Ala	Thr	Gly	Thr	Gly	Ser	Ser	Pro	Arg	Leu	Val		
	195						200					205					
Gly	Ala	Val	Lys	Lys	Ser	Met	Val	Gln	Ser	Arg	Lys	Ser	Gly	Thr	Gly		
	210					215					220						
Thr	Ala	Thr	Gly	Thr	Gly	Thr	Phe	Pro	Ser	Pro	Gly	Thr	Pro	Asn	Tyr		
225					230					235					240		
Arg	His	Cys	Gln	Gly	Gly	Val	Ala	Met	Gln	Lys	Gly	Trp	Ser	Ser	Glu		
			245						250					255			
Arg	Val	Ala	Ser	Gly	Gly	Arg	Lys	Gln	Val	Gly	Asn	Gly	Val	Thr	Ala		
		260						265					270				
Leu	Cys	Leu	Ser	Asn	Gly	Arg	Thr	Leu	Pro	Ser	Lys	Trp	Glu	Asp	Ala		
	275					280						285					
Glu	Arg	Trp	Ile	Leu	Ser	Pro	Val	Ser	Gly	Gly	Asp	Gly	Thr	Gly	Arg		
	290					295					300						
Val	Ser	Val	Pro	Gln	Pro	Leu	Arg	Arg	Pro	Lys	Ser	Lys	Ser	Gly	Pro		
305					310					315					320		
Leu	Gly	Pro	Pro	Gly	Val	Ala	Tyr	Tyr	Ser	Leu	Tyr	Ser	Pro	Ala	Gly		
				325					330					335			
His	Phe	Phe	Asp	Gly	Gly	Asn	Phe	Met	Thr	Ala	Ala	Ser	Pro	Phe	Ser		
		340						345					350				
Ala	Ala	Val	Asn	Ala	Ser	Ala	Asp	Gly	Phe	Thr	Asn	Ser	Ser	Gly	Gly		
		355					360					365					
Asn	Gly	Gly	Gly	Gly	Leu	Pro	Thr	Arg	Thr	Asp	Pro	Cys	Met	Ala	Arg		
	370					375					380						
Ser	Val	Ser	Val	His	Gly	Cys	Ser	Gln	Met	Gln	Gly	Gln	Ser	Ser	Ile		
385					390					395					400		
Pro	Ser	Arg	Glu	Glu	Lys	Phe	Asp	Ala	Phe	Lys	Asp	Ala	Gly	Thr	Asn		
			405						410					415			
Val	Ser	Pro	Ala	Val	Ser	Arg	Arg	Asp	Met	Ala	Thr	Gln	Met	Ser	Pro		
		420						425					430				
Glu	Gly	Ser	Ser	Cys	Ser	Ser	Pro	Asn	Met	Met	Thr	Ser	Phe	Ser	Ala		
	435						440					445					
Ser	Ile	Pro	Pro	Thr	Leu	Pro	Val	Thr	Asp	Leu	Gln	Ser	Ile	Ser	Phe		
	450					455					460						
Ser	Lys	Met	Asp	Ile	Arg	Asp	Val	Gln	Val	Asp	Glu	Arg	Val	Thr	Met		
465					470					475					480		
Thr	Arg	Trp	Ser	Lys	Lys	His	Lys	Ala	Leu	Phe	Thr	Gly	Arg	Gly	Ser		
			485						490					495			
Glu	Asn	Val	Asp	Ser	Trp	Lys	Lys	Lys	Glu	Thr	Ser	Thr	Arg	Ser	Ser		
		500						505					510				
Ser	Trp	Glu	Ile	Ser	Glu	Arg	Ser	Lys	Thr	Val	Ser	Lys	Ala	Lys	Arg		
	515						520					525					
Glu	Glu	Ala	Lys	Ile	Thr	Ala	Trp	Glu	Asn	Leu	Gln	Lys	Ala	Lys	Ala		
	530					535					540						
Glu	Ala	Ala	Ile	Gln	Lys	Leu	Glu	Met	Lys	Leu	Glu	Lys	Lys	Arg	Ala		
545					550					555					560		

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Ser Ser Met Asp Lys Ile Met Asn Lys Leu Lys Phe Ala Gln Lys Lys
565 570 575
Ala Gln Glu Met Arg Ser Ser Val Ser Val Asp Gln Ala His Gln Val
580 585 590
Ala Arg Thr Ser His Lys Val Met Ser Phe Arg Arg Ala Gly Gln Met
595 600 605
Gly Ser Leu Ser Gly Cys Phe Thr Cys His Ala Phe
610 615 620

<210> 314
<211> 1392
<212> DNA
<213> Medicago truncatula

<400> 314
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ttaccagttt caaacaccaa tgcagaaaaa agaagactca gcaatgattc tgtaacacaa 180
atgagaaaaa tagaagctcc ttctacacct ggtagaccac ttttcagctt cagttcttct 240
tcttcttcaa gcattgttgg tagaaacctt ccaagaaaga gttttccttc taaatgggat 300
gatgctgaaa aatggcttat aagcacttct tgtcatgact caccagctca taataacaac 360
actttgaaag gtgtttcatc tttagaatct ggaacaagac attgtgataa tggttttaag 420
cagaaaatgg aagaagggtt ttcagagaaa tcaagggtca tagaagaaaa agtgttgtca 480
aaaagtgtta ctaattttca aagttcttct tcaagtttg accacaataa cagtgttgga 540
gctttcaatg gtatctcatg tccaccaaca gacatagtac taaaagataa gtacacagac 600
agcatagagc caattttacc aaaattccgg tattcagaac caacaaaaga aggattctta 660
ttcagaaatc aagcttgtga ggcaatgcat gaatcttaca cagaagtgat tcatgaagtt 720
aaacacaaag atgttggcac agaaatgact ccattaggaa gttccacaac ttcaagatgt 780
cacacaccat tcaagagttc atcgctgctg cgccataaca ctctgctag taggtcagga 840
ccattggcat tatctaact tgacagcaat ggatgcagtg ttgatgctat tcagctagaa 900
gagtgtcatt tttctaaact gcaatttggg acgacaaagt atgatttggg tgcaccaa 960
tgagagctcaa gtgaagagga ggaaaaggaa atatcgaaaa gtttgagaca taatgctagt 1020
ttgaaagcgg attctgattg tatagctgcc agttgggaag aagatgagaa gaacaagtgc 1080
tgtcttaggt atcagagaga agaagcaaaa atccaagcat ggataaacct ccaaaatgct 1140
aaagcagaag ccaggtcaaa aaagcttgag gtgaaaatcc aaaagatgag atcaaacct 1200
gaagagaagt taatgaagag gatgtcagtg gttcacagga aagctgagga ttggagagaa 1260
acagctagac aacaacactt agagcaaatg gagaatcaa ctcaacatgc taaaagatt 1320
attcataggc ataactcaca attttctagg cacagttcat gtggatgctt tccttgcaat 1380
aacaaccatt aa 1392

<210> 315
<211> 463
<212> PRT
<213> Medicago truncatula

<400> 315
Met Asn Met Tyr Ser Lys Asn Lys Asp Tyr Tyr Asn Asn Lys Asn Asn
1 5 10 15
Pro Phe Val Asp Asp Phe Ile Asp Pro Leu Cys Lys Leu Asn Leu Lys
20 25 30
Glu Thr Ser Glu Phe Val Lys Ser Leu Pro Val Ser Asn Thr Asn Ala
35 40 45
Glu Asn Arg Arg Leu Ser Asn Asp Ser Val Thr Gln Met Arg Lys Leu
50 55 60
Glu Ala Pro Ser Thr Pro Gly Arg Pro Leu Phe Ser Phe Ser Ser Ser
65 70 75 80
Ser Ser Ser Ser Ile Val Gly Arg Asn Leu Pro Arg Lys Ser Phe Pro
85 90 95
Ser Lys Trp Asp Asp Ala Glu Lys Trp Leu Ile Ser Thr Ser Cys His

PF58787.ST25.txt

										100					105					110					
Asp	Ser	Pro	Ala	His	Asn	Asn	Asn	Thr	Leu	Lys	Gly	Val	Ser	Ser	Leu										
										115					120					125					
Glu	Ser	Gly	Thr	Arg	His	Cys	Asp	Asn	Gly	Phe	Lys	Gln	Lys	Met	Glu										
										130					135					140					
Glu	Gly	Phe	Ser	Glu	Lys	Ser	Arg	Val	Ile	Glu	Glu	Lys	Val	Leu	Ser										
145											150					155					160				
Lys	Ser	Val	Thr	Asn	Phe	Gln	Ser	Ser	Ser	Ser	Ser	Leu	Asp	His	Asn										
										165					170					175					
Asn	Ser	Val	Gly	Ala	Phe	Asn	Gly	Ile	Ser	Cys	Pro	Pro	Thr	Asp	Ile										
										180					185					190					
Val	Leu	Lys	Asp	Lys	Tyr	Thr	Asp	Ser	Ile	Glu	Pro	Ile	Leu	Pro	Lys										
										195					200					205					
Phe	Arg	Tyr	Ser	Glu	Pro	Thr	Lys	Glu	Gly	Phe	Leu	Phe	Arg	Asn	Gln										
210											215					220									
Ala	Cys	Glu	Ala	Met	His	Glu	Ser	Tyr	Thr	Glu	Val	Ile	His	Glu	Val										
225											230					235					240				
Lys	His	Lys	Asp	Val	Gly	Thr	Glu	Met	Thr	Pro	Leu	Gly	Ser	Ser	Thr										
										245					250					255					
Thr	Ser	Arg	Cys	His	Thr	Pro	Phe	Lys	Ser	Ser	Ser	Pro	Ala	Arg	His										
										260					265					270					
Asn	Thr	Pro	Ala	Ser	Arg	Ser	Gly	Pro	Leu	Ala	Leu	Ser	Asn	Ile	Asp										
										275					280					285					
Ser	Asn	Gly	Cys	Ser	Val	Asp	Ala	Ile	Gln	Leu	Glu	Glu	Cys	His	Phe										
290											295					300									
Ser	Lys	Leu	Gln	Phe	Gly	Thr	Thr	Lys	Tyr	Asp	Leu	Val	Ala	Pro	Asn										
305											310					315					320				
Trp	Ser	Ser	Ser	Glu	Glu	Glu	Glu	Lys	Glu	Ile	Ser	Lys	Ser	Leu	Arg										
										325					330					335					
His	Asn	Ala	Ser	Leu	Lys	Ala	Asp	Ser	Asp	Cys	Ile	Ala	Ala	Ser	Trp										
										340					345					350					
Glu	Glu	Asp	Glu	Lys	Asn	Lys	Cys	Cys	Leu	Arg	Tyr	Gln	Arg	Glu	Glu										
										355					360					365					
Ala	Lys	Ile	Gln	Ala	Trp	Ile	Asn	Leu	Gln	Asn	Ala	Lys	Ala	Glu	Ala										
370											375					380									
Arg	Ser	Lys	Lys	Leu	Glu	Val	Lys	Ile	Gln	Lys	Met	Arg	Ser	Asn	Leu										
385											390					395					400				
Glu	Glu	Lys	Leu	Met	Lys	Arg	Met	Ser	Val	Val	His	Arg	Lys	Ala	Glu										
										405					410					415					
Asp	Trp	Arg	Glu	Thr	Ala	Arg	Gln	Gln	His	Leu	Glu	Gln	Met	Glu	Lys										
										420					425					430					
Ser	Thr	Gln	His	Ala	Lys	Lys	Ile	Ile	His	Arg	His	Asn	Ser	Gln	Phe										
										435					440					445					
Ser	Arg	His	Ser	Ser	Cys	Gly	Cys	Phe	Pro	Cys	Asn	Asn	Asn	His											
450											455					460									

<210> 316

<211> 594

<212> DNA

<213> Lycopersicon esculentum

<400> 316

atggcagaat	tggaagctaa	gaaagtagaa	attgtggacc	ctgcccctgc	acaagaacca	60
gttgaagctc	ctaaagaagt	ggtggctgat	gagaaagcca	tagttgaacc	agctccgcct	120
cctcctgcag	aagaaaaaga	aaaacccgat	gactcgaaag	cactagtgtg	tgtcgaaaat	180
aaagcagaag	aagctgctga	tgagaaaaaa	gagggatcta	ttgatagaga	tgctgtgctt	240
gcacgcgttg	caactgagaa	gaggctatca	ctcatcaaag	catgggaaga	aagtgagaaa	300
tcaaaagccg	aaaacaaagc	tcagaagaag	gtgtctgcaa	ttggtgcatg	ggagaacagc	360
aagaaagcaa	acctagagtc	tgagctcaaa	aagatggagg	aacagttgga	gaaaaagaag	420

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gcaatatata	ctgagaaaat	gaaaaacaaa	attgctctac	tccacaagga	agcagaagaa	480
aagagagcga	tgattgaagc	taaacgtgga	gaagatcttc	tcaaggcaga	ggagcttgca	540
gcaaaatacc	gcgccactgg	aactgctcca	aagaaaatcc	ttggaatatt	ttga	594

<210> 317
 <211> 197
 <212> PRT
 <213> Lycopersicon esculentum

<400> 317
 Met Ala Glu Leu Glu Ala Lys Lys Val Glu Ile Val Asp Pro Ala Pro
 1 5 10 15
 Ala Gln Glu Pro Val Glu Ala Pro Lys Glu Val Val Ala Asp Glu Lys
 20 25 30
 Ala Ile Val Glu Pro Ala Pro Pro Pro Ala Glu Glu Lys Glu Lys
 35 40 45
 Pro Asp Asp Ser Lys Ala Leu Val Val Val Glu Asn Lys Ala Glu Glu
 50 55 60
 Ala Ala Asp Glu Lys Lys Glu Gly Ser Ile Asp Arg Asp Ala Val Leu
 65 70 75 80
 Ala Arg Val Ala Thr Glu Lys Arg Leu Ser Leu Ile Lys Ala Trp Glu
 85 90 95
 Glu Ser Glu Lys Ser Lys Ala Glu Asn Lys Ala Gln Lys Lys Val Ser
 100 105 110
 Ala Ile Gly Ala Trp Glu Asn Ser Lys Lys Ala Asn Leu Glu Ser Glu
 115 120 125
 Leu Lys Lys Met Glu Glu Gln Leu Glu Lys Lys Lys Ala Ile Tyr Thr
 130 135 140
 Glu Lys Met Lys Asn Lys Ile Ala Leu Leu His Lys Glu Ala Glu Glu
 145 150 155 160
 Lys Arg Ala Met Ile Glu Ala Lys Arg Gly Glu Asp Leu Leu Lys Ala
 165 170 175
 Glu Glu Leu Ala Ala Lys Tyr Arg Ala Thr Gly Thr Ala Pro Lys Lys
 180 185 190
 Ile Leu Gly Ile Phe
 195

<210> 318
 <211> 525
 <212> DNA
 <213> Lycopersicon esculentum

atggcagaag	ctactgcagt	tgacagctcaa	cctcaaccag	aatcaacaac	tcctcctccc	60
atggccaaat	ctgatgactc	taaagctatt	gctactcttc	ccccaacaaa	gcctgactct	120
tcaacaaaga	aaagttcaaa	gggataccttc	gacagagatg	ttgctctcgc	acaccttgaa	180
gaagagaaaa	ggaattccta	tatcaaggca	tggaagaaa	gtgaaaaaag	caaggtgaat	240
aacaaggccg	agaagaagct	ctcgtcagtt	ggaacatggg	agaacaccaa	gaaagcaaat	300
attgaagcta	aactgaagaa	acttgaggaa	caactagagc	aaaagaaggc	agaatatgca	360
gagaagatta	aaaataaagt	agctgcagtt	cacatggagg	cagaggaaaa	gagagctatg	420
gttgaagcga	gacgaggaga	agaacttctt	aaagcagagg	agatagctgc	caagtatcgt	480
gctacgggac	aagcccctaa	gaagattgga	tgcttgat	gttaa		525

<210> 319
 <211> 174
 <212> PRT
 <213> Lycopersicon esculentum

<400> 319

PF58787.ST25.txt

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

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<210> 320

<211> 402

<212> DNA

<213> Medicago truncatula

<400> 320

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atggcagaga cacaagtaaa atcagaatca tcatctgata ttgttctagc agaagtgacc      60
aaagagaaaa agctatgtta tgtgaaagca tgggaagaaa gtgaaaaaac caaagcagat      120
aacaagctc acaagcacat ctcttcatt gctgcttggg aagacagcaa aaaggcagct      180
ctagaagctg agctcaaaaa aattgaggaa caactagaga gaaagaaagc aagatatggt      240
gaaataatga gaaacaagat agcattagtt cacaaggaag cagaggagaa gagggcaatg      300
attgaagcca aacgaggtga agaggttctt aaggtacagg aaatggctgc taaataccgt      360
gcaactggaa ccactccaaa aaagaccatt ggatgttttt ga      402

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<210> 321

<211> 133

<212> PRT

<213> Medicago truncatula

<400> 321

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Met Ala Glu Thr Gln Val Lys Ser Glu Ser Ser Ser Asp Ile Val Leu
1      5      10      15
Ala Glu Val Thr Lys Glu Lys Lys Leu Cys Tyr Val Lys Ala Trp Glu
20      25      30
Glu Ser Glu Lys Thr Lys Ala Asp Asn Lys Ala His Lys His Ile Ser
35      40      45
Ser Ile Ala Ala Trp Glu Asp Ser Lys Lys Ala Ala Leu Glu Ala Glu
50      55      60
Leu Lys Lys Ile Glu Glu Gln Leu Glu Arg Lys Lys Ala Arg Tyr Gly
65      70      75      80
Glu Ile Met Arg Asn Lys Ile Ala Leu Val His Lys Glu Ala Glu Glu
85      90      95
Lys Arg Ala Met Ile Glu Ala Lys Arg Gly Glu Glu Val Leu Lys Val
100     105     110
Gln Glu Met Ala Ala Lys Tyr Arg Ala Thr Gly Thr Thr Pro Lys Lys
115     120     125

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Thr Ile Gly Cys Phe
130

<210> 322
<211> 819
<212> DNA
<213> Musa acuminata

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<400> 322
atgttgaatg atcacaggca ccaccaccat cacgccgccg ccgctgctgg tgatgatgat      60
cacgacgaag gccccagcga cggcgccgag ttccgtgaca tccacgaatt agctccccat      120
tcccacccca gccaaggccg gcggagggag ctgtgggagg gcggcagcca ccgatcggcc      180
tccctctcca ccgggagcga cgcgcgccaac gacggcttca cgagcgtgag cagggagttc      240
agcgcgatgg tcgtcgccgg ctccgccatg cacaacggcg gcggcagcaa ccacgacaac      300
cacgccgaag acggggtcca gaaccagctc gcgcggatcg gggaggacga gctggaggag      360
acgaacccgc tggcgatcgt ccccgacaac aaccccatcc cctctccccg tcggccgctg      420
cctgctgggg actccggcgc cgccaaccct gccgacgagg tcccgggtaca cctggtgaag      480
aaggaggagg tggagtcgaa gatatcgga tggcagacgg cggaggtctc caagatcaac      540
aaccgcttca agcgccagga ggtgaccatc aacgggtggg agaacgagaa ggtggagaaa      600
gccacggcct ggttgaagaa agtagagagg aaactggagg agcagcgggc gagggcgatg      660
gagaagatgc agaacgacgt ggcgaaggcg caccacaagg cagcggagaa gcgggcgctc      720
gcggaggcca agaggggaac caaggttgcc aaggtgctgg aactggccaa cttcatgaga      780
gctgtgggga gagctccgtc caagcgctcc ttcttctag      819

```

<210> 323
<211> 272
<212> PRT
<213> Musa acuminata

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<400> 323
Met Leu Asn Asp His Arg His His His His His Ala Ala Ala Ala Ala
1      5      10      15
Gly Asp Asp Asp His Asp Glu Gly Pro Ser Asp Gly Ala Glu Phe Arg
20     25     30
Asp Ile His Glu Leu Ala Pro His Ser His Pro Ser Gln Gly Arg Arg
35     40     45
Arg Glu Leu Trp Glu Gly Gly Ser His Arg Ser Ala Ser Leu Ser Thr
50     55     60
Gly Ser Asp Ala Ala Asn Asp Gly Phe Thr Ser Val Ser Arg Glu Phe
65     70     75     80
Ser Ala Met Val Val Ala Gly Ser Ala Met His Asn Gly Gly Gly Ser
85     90     95
Asn His Asp Asn His Ala Asp Asp Gly Leu Gln Asn Gln Leu Ala Arg
100    105    110
Ile Gly Glu Asp Glu Leu Glu Glu Thr Asn Pro Leu Ala Ile Val Pro
115    120    125
Asp Asn Asn Pro Ile Pro Ser Pro Arg Arg Pro Leu Pro Ala Gly Asp
130    135    140
Ser Gly Ala Ala Asn Pro Ala Asp Glu Val Pro Val His Leu Val Lys
145    150    155    160
Lys Glu Glu Val Glu Ser Lys Ile Ser Ala Trp Gln Thr Ala Glu Val
165    170    175
Ser Lys Ile Asn Asn Arg Phe Lys Arg Gln Glu Val Thr Ile Asn Gly
180    185    190
Trp Glu Asn Glu Lys Val Glu Lys Ala Thr Ala Trp Leu Lys Lys Val
195    200    205
Glu Arg Lys Leu Glu Glu Gln Arg Ala Arg Ala Met Glu Lys Met Gln
210    215    220
Asn Asp Val Ala Lys Ala His His Lys Ala Ala Glu Lys Arg Ala Ser

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225		230		235		240									
Ala	Glu	Ala	Lys	Arg	Gly	Thr	Lys	Val	Ala	Lys	Val	Leu	Glu	Leu	Ala
		245							250					255	
Asn	Phe	Met	Arg	Ala	Val	Gly	Arg	Ala	Pro	Ser	Lys	Arg	Ser	Phe	Phe
		260						265					270		

<210> 324
 <211> 867
 <212> DNA
 <213> *Medicago truncatula*

<400> 324

atgtcaaata	atcttctttc	atcaaacc	tcagattcat	attcttggtc	atcttcttgt	60
tgtttaacaa	gaacattgaa	aacaaagcgt	ggaaataaaa	ataagaagat	gcatcgttct	120
ctcatcacag	cattgcaaga	atctccttct	tctaattacc	attctcttcc	tgatcctccc	180
tcatgctcag	acaatgcgac	tcacttctcc	actccaagaa	accagagatt	aggcatggcc	240
cacattgaaa	acaattgctt	ctctgatatt	gatgaatggg	tggaacatgc	caataagttt	300
tgcaaatcct	tcttcaatca	tcatcacact	gaggaataatc	ttgaagcaga	aacaaggcaa	360
aatggaaatc	cacaagactt	gatgagaatg	tcagcagtat	gcaacaagga	cctaacagct	420
caagagcatg	aattttacaa	catagtatta	ccctcagtta	gagaagaaag	tccacttcct	480
cgtactatta	cctcctgcat	aaacagacat	ggagggtgca	gcagcaatcc	caaacttgaa	540
gctgatcatg	aagatgtacg	taacaaagcc	aagcatcttc	aacttatgca	caggttgaga	600
aagaaggaag	aagctataaa	tgattgggaa	ttgcaccaa	ccaggaaagc	catggataac	660
atggataaaa	ttcagaataa	gcttgaaagg	aaacaagtaa	tggtcttcagc	aagggtctcaa	720
aagaaaatat	actcagtaag	ggaaaaggca	gagaagcaaa	agctgaactt	aaggcgatca	780
actatgaaaa	agttccaaca	actacaaata	catgagactc	attcctcctc	agatacttca	840
tgggactcac	atttgccttt	atgttaa				867

<210> 325
 <211> 288
 <212> PRT
 <213> *Medicago truncatula*

<400> 325

Met	Ser	Asn	Asn	Phe	Leu	Ser	Ser	Asn	Gln	Ser	Asp	Ser	Tyr	Ser	Cys
1				5					10					15	
Ser	Ser	Ser	Cys	Cys	Leu	Thr	Arg	Thr	Leu	Lys	Thr	Lys	Arg	Gly	Asn
			20					25					30		
Lys	Asn	Lys	Lys	Met	His	Arg	Ser	Leu	Ile	Thr	Ala	Leu	Gln	Glu	Ser
		35				40					45				
Pro	Ser	Ser	Asn	Tyr	His	Ser	Leu	Pro	Asp	Pro	Pro	Ser	Cys	Ser	Asp
	50					55				60					
Asn	Ala	Thr	His	Phe	Ser	Thr	Pro	Arg	Asn	Gln	Arg	Leu	Gly	Met	Ala
65					70					75					80
His	Ile	Glu	Asn	Asn	Cys	Phe	Ser	Asp	Ile	Asp	Glu	Trp	Leu	Glu	His
			85					90					95		
Ala	Asn	Lys	Phe	Cys	Lys	Ser	Phe	Phe	Asn	His	His	His	Thr	Glu	Glu
		100						105					110		
Asn	Leu	Glu	Ala	Glu	Thr	Arg	Gln	Asn	Gly	Asn	Pro	Gln	Asp	Leu	Met
		115				120					125				
Arg	Met	Ser	Ala	Val	Cys	Asn	Lys	Asp	Leu	Thr	Ala	Gln	Glu	His	Glu
	130					135				140					
Phe	Tyr	Asn	Ile	Val	Leu	Pro	Ser	Val	Arg	Glu	Glu	Ser	Pro	Leu	Pro
145					150					155				160	
Arg	Thr	Ile	Thr	Ser	Cys	Ile	Asn	Arg	His	Gly	Gly	Cys	Ser	Ser	Asn
			165					170					175		
Pro	Lys	Leu	Glu	Ala	Asp	His	Glu	Asp	Val	Arg	Asn	Lys	Ala	Lys	His
		180						185				190			
Leu	Gln	Leu	Met	His	Arg	Leu	Arg	Lys	Lys	Glu	Glu	Ala	Ile	Asn	Asp

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      195              200              205
Trp Glu Leu His Gln Thr Arg Lys Ala Met Asp Asn Met Asp Lys Ile
    210              215              220
Gln Asn Lys Leu Glu Arg Lys Gln Val Met Ala Ser Ala Arg Ala Gln
225              230              235
Lys Lys Ile Tyr Ser Val Arg Glu Lys Ala Glu Lys Gln Lys Leu Asn
    245              250              255
Leu Arg Arg Ser Thr Met Lys Lys Phe Gln Gln Leu Gln Ile His Glu
    260              265              270
Thr His Ser Ser Ser Asp Thr Ser Trp Asp Ser His Leu Pro Leu Cys
    275              280              285

```

<210> 326
 <211> 111
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Remorin domain comprised in SEQ ID NO: 2

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<400> 326
Val Lys Arg Glu Glu Val Glu Ala Lys Ile Thr Ala Trp Gln Thr Ala
1      5      10      15
Lys Val Ala Lys Ile Asn Asn Arg Phe Lys Arg Gln Asp Ala Val Ile
    20      25      30
Asn Gly Trp Leu Asn Glu Gln Val His Arg Ala Asn Ser Trp Met Lys
    35      40      45
Lys Ile Glu Arg Lys Leu Glu Asp Arg Arg Ala Lys Ala Met Glu Lys
    50      55      60
Thr Gln Asn Lys Val Ala Lys Ala Gln Arg Lys Ala Glu Glu Arg Arg
65      70      75      80
Ala Thr Ala Glu Gly Lys Arg Gly Thr Glu Val Ala Arg Val Leu Glu
    85      90      95
Val Ala Asn Leu Met Arg Ala Val Gly Arg Pro Pro Ala Lys Arg
    100     105     110

```

<210> 327
 <211> 56
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer: prm09186

<400> 327
 ggggacaagt ttgtacaaaa aagcaggctt aaacaatggt gactttgtac ggtcaa 56

<210> 328
 <211> 51
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer: prm09187

<400> 328
 ggggaccact ttgtacaaga aagctgggta gcttagctag gaaagagaga a 51

<210> 329

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<211> 2194
<212> DNA
<213> Oryza sativa

<400> 329

aatccgaaaa	gtttctgcac	cgttttcacc	ccctaactaa	caatataggg	aacgtgtgct	60
aaatataaaa	tgagacctta	tatatgtagc	gctgataact	agaactatgc	aagaaaaact	120
catccaccta	cttttagtggc	aatcgggcta	aataaaaaag	agtcgctaca	ctagtttcgt	180
tttccttagt	aattaagtgg	gaaaatgaaa	tcattattgc	ttagaatata	cgttcacatc	240
tctgtcatga	agttaaatta	ttcgaggtag	ccataattgt	catcaaactc	ttcttgaata	300
aaaaaatctt	tctagctgaa	ctcaatgggt	aaagagagag	atTTTTTTTt	aaaaaataga	360
atgaagatat	tctgaacgta	ttggcaaaga	tttaaacata	taattatata	atTTTtatagt	420
ttgtgcattc	gtcatatcgc	acatcattaa	ggacatgtct	tactccatcc	caatTTTTat	480
ttagtaatta	aagacaattg	acttattttt	attattttatc	TTTTttcgat	tagatgcaag	540
gtacttacgc	acacactttg	tgctcatgtg	catgtgtgag	tgcacctcct	caatacacgt	600
tcaactagca	acacatctct	aatatcactc	gcctatttta	tacatttagg	tagcaatatc	660
tgaattcaag	cactccacca	tcaccagacc	acttttaata	atatctaaaa	tacaaaaaat	720
aattttacag	aatagcatga	aaagtatgaa	acgaactatt	taggtttttc	acatacaaaa	780
aaaaaaagaa	ttttgctcgt	gcgcgagcgc	caatctccca	tattgggcac	acaggcaaca	840
acagagtggc	tgccacaga	acaaccaca	aaaaacgatg	atctaacgga	ggacagcaag	900
tccgcaacaa	ccttttaaca	gcaggctttg	cggccaggag	agaggaggag	aggcaaagaa	960
aaccaagcat	cctccttctc	ccatctataa	attcctcccc	ccttttcccc	tctctatata	1020
ggaggcatcc	aagccaagaa	gagggagagc	accaaggaca	cgcgactagc	agaagccgag	1080
cgaccgcctt	ctcgatccat	atcttccggt	cgagtctctg	gtcgatctct	tcctcctccc	1140
acctcctcct	cacagggtat	gtgcctccct	tcggttggtc	ttggatttat	tgttctagggt	1200
tgtgtagtac	gggcgttgat	gttaggaaag	gggatctgta	tctgtgatga	ttcctgttct	1260
tggatttggg	atagaggggt	tcttgatgtt	gcatgttatc	ggttcggttt	gatttagtagt	1320
atggttttca	atcgtctgga	gagctctatg	gaaatgaaat	ggtttaggga	tcggaatcct	1380
gcgattttgt	gagtaccttt	tgtttgaggt	aaaatcagag	caccggtgat	tttgcttggt	1440
gtaataaagt	acggttgttt	ggtcctcgat	tctggtagtg	atgcttctcg	atTTtgacgaa	1500
gctatccctt	gtttattccc	tattgaacaa	aaataatcca	actttgaaga	cggTcccgtt	1560
gatgagattg	aatgattgat	tcttaagcct	gtccaaaatt	tcgcagctgg	cttgtttaga	1620
tacagtagtc	cccatcacga	aattcatgga	aacagttata	atcctcagga	acaggggatt	1680
ccctgttctt	ccgatttgct	ttagtcccag	aatttttttt	cccaaataatc	ttaaaaagtc	1740
actttctggt	tcagttcaat	gaattgattg	ctacaaataa	tgctttttata	gcgttatcct	1800
agctgtagtt	cagttaatag	gtaatacccc	tatagttttag	tcaggagaag	aacttatccg	1860
atTTctgatc	tccattttta	attatatgaa	atgaactgta	gcataagcag	tattcatttg	1920
gattattttt	tttattagct	ctcaccctt	cattattctg	agctgaaagt	ctggcatgaa	1980
ctgtcctcaa	ttttgttttc	aaattcacat	cgattatcta	tgcattatcc	tcttgatatc	2040
acctgtagaa	gtttcttttt	ggttattcct	tgactgcttg	attacagaaa	gaaatttatg	2100
aagctgtaat	cgggatagtt	atactgcttg	ttcttatgat	tcatttcctt	tgtgcagttc	2160
ttggtgtagc	ttgccacttt	caccagcaaa	gttc			2194

<210> 330
<211> 1130
<212> DNA
<213> Oryza sativa

<400> 330

catgcggcta	atgtagatgc	tactgcgct	agtagtaagg	tactccagta	cattatggaa	60
tatacaaagc	tgtaatactc	gtatcagcaa	gagagaggca	cacaagttgt	agcagtagca	120
caggattaga	aaaacgggac	gacaaatagt	aatggaaaaa	caaaaaaaa	caaggaaaca	180
catggcaata	taaattggaga	aatcacaaaga	ggaacagaat	ccgggcaata	cgctgcgaaa	240
gtactcgtac	gtaaaaaaa	gaggcgcat	catgtgtgga	cagcgtgcag	cagaagcagg	300
gatttgaaac	cactcaaatc	caccactgca	aaccttcaaa	cgaggccatg	gtttgaagca	360
tagaaagcac	aggtaagaag	cacaacgccc	tcgctctcca	ccctcccacc	caatcgcgac	420
gcacctcgcg	gatcggtgac	gtggcctcgc	ccccaaaaa	tatcccgcg	cgtgaagctg	480
acaccccggg	cccaccacc	tgtcacgttg	gcacatgttg	gttatggttc	ccggccgcac	540
caaaatatca	acgcggcgcg	gccccaaatt	tccaaaatcc	cgcccaagcc	cctggcgcg	600

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gccgctcttc	cacccaggtc	cctctcgtaa	tccataatgg	cgtgtgtacc	ctcggctggt	660
tgtacgtggg	cgggttaccc	tgggggtgtg	ggtggatgac	gggtggggcc	ggaggaggtc	720
cggccccgcg	cgtcatcgcg	gggcgggggtg	tagcgggtgc	gaaaaggagg	cgatcggtag	780
gaaaattcaa	attaggaggt	ggggggcggg	gcccttgag	aataagcgga	atcgagata	840
tggccctgac	ttggcttggc	tcctcttctt	cttatccctt	gtcctcgcaa	ccccgcttcc	900
ttctctcttc	tcctcttctc	ttctcttctc	tggtggtgtg	ggtgtgtccc	tgtctcccct	960
ctccttcttc	ctctcctttc	ccctcctctc	ttccccctc	tcacaagaga	gagagcgcca	1020
gactctcccc	aggtgaggtg	agaccagtct	ttttgctcga	ttcgacgcgc	ctttcacgcc	1080
gcctcgcgcg	gatctgaccg	cttccctcgg	ccttctcgca	ggattcagcc		1130

<210> 331
 <211> 1130
 <212> DNA
 <213> *Oryza sativa*

<400> 331						
catgcggtta	atgtagatgc	tcactgcgct	agtagtaagg	tactccagta	cattatggaa	60
tatacaaaagc	tgtaatactc	gtatcagcaa	gagagaggca	cacaagttgt	agcagtagca	120
caggattaga	aaaacgggac	gacaaatagt	aatggaaaaa	caaaaaaaaaa	caaggaaaca	180
catggcaata	taaatggaga	aatcacaaga	ggaacagaat	ccgggcaata	cgctgcgaaa	240
gtactcgtac	gtaaaaaaaa	gaggcgcat	catgtgtgga	cagcgtgcag	cagaagcagg	300
gatttgaaac	cactcaaadc	caccactgca	aaccttcaaa	cgaggccatg	gtttgaagca	360
tagaaagcac	aggtgaagaag	cacaacgccc	tcgctctcca	ccctcccacc	caatcgcgac	420
gcacctcgcg	gatcggtagc	gtggcctcgc	ccccaaaaa	tatcccgcgc	cgtgaagctg	480
acaccccggg	cccacccacc	tgtcacgttg	gcacatgttg	gttatggttc	ccggccgcac	540
caaaatatca	acgcggcgcg	gccccaaatt	tccaaaatcc	cgcccaagcc	cctggcgcg	600
gccgctcttc	cacccaggtc	cctctcgtaa	tccataatgg	cgtgtgtacc	ctcggctggt	660
tgtacgtggg	cgggttaccc	tgggggtgtg	ggtggatgac	gggtggggcc	ggaggaggtc	720
cggccccgcg	cgtcatcgcg	gggcgggggtg	tagcgggtgc	gaaaaggagg	cgatcggtag	780
gaaaattcaa	attaggaggt	ggggggcggg	gcccttgag	aataagcgga	atcgagata	840
tggccctgac	ttggcttggc	tcctcttctt	cttatccctt	gtcctcgcaa	ccccgcttcc	900
ttctctcttc	tcctcttctc	ttctcttctc	tggtggtgtg	ggtgtgtccc	tgtctcccct	960
ctccttcttc	ctctcctttc	ccctcctctc	ttccccctc	tcacaagaga	gagagcgcca	1020
gactctcccc	aggtgaggtg	agaccagtct	ttttgctcga	ttcgacgcgc	ctttcacgcc	1080
gcctcgcgcg	gatctgaccg	cttccctcgg	ccttctcgca	ggattcagcc		1130

<210> 332
 <211> 1242
 <212> DNA
 <213> *Zea mays*

<400> 332						
ggcacagacg	ctactggcac	gcacgcacgc	accagcacca	caccacacca	catgcatggt	60
ggagcctagc	acgggcagct	agctcccggc	cggcgacgtg	acgaccacca	ccaccacatg	120
ttgcatgagc	agcaggcacc	gccaccggca	gtacgacgcg	caccgccatc	catcaacccc	180
gacgacgacg	gcggccgcga	tgtcgaggtc	accacgttcc	gcgacatcca	ccctctgacg	240
cccgaacgcg	cgccgcccgc	ctccgcgtcc	tgggacacgg	ccagccaccg	ctccttctcg	300
tcgtccgacg	accagcagta	catgacgatg	agccgcgagt	tcacggccat	ggtcgccgcc	360
ggggcgacca	tgcagaccgg	cggctacgac	ggcgccgcgc	accagctcac	cagcatcggc	420
gaggacgagc	tggaggagac	caaccgcgtg	gccatcgctc	ccgacagcca	ccccatcgcc	480
acgccagcca	ggtccagggc	gtccggggtg	gaggtcgtgc	ccgcggggcc	ggcgccggcg	540
ccgcagccgc	ccgcgcacct	ggaggccagc	caggtcaaga	aggaggaggt	ggagaccaag	600
gtcagggcct	ggcagacggc	cgaggctgcc	aagatcaaca	accgcttcaa	gaggaggagat	660
gtggctcatc	acggctggga	gaccgagcag	gtggagaagg	cctccgcgtg	gctcaagaag	720
atcgagagga	agctggacga	gcagcgcgcc	aaggcgctgg	agaagacgca	gaacgacatc	780
gccaaaggcg	ggcgcaaggc	ggaggagaag	cgggcgtcgg	cggaggccaa	gcggggcctc	840
aagctggcca	aggtgctgga	gctcgccaac	ttcatgaagg	ccgtcggcag	ggtgcccacc	900
aagcgctcct	tcttctagcc	agccgactac	ccccgtctct	ccctgcctgc	gtgtgatcga	960
tgtacgctcg	ctgctgcatc	cgagaacctc	actgtaaaga	aaaaaaaaact	gtaagctgta	1020

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tacgtactgc	gcctgctggt	tcccctgtga	tgtctgtcag	tgatcatccat	cacaggggtgc	1080
cagttgttct	cttctctttc	ttttcttttc	tcttctcttg	gcttgtatat	cggatccata	1140
tatgctgggtg	gtgcttgaac	gaactgttgt	tgtttgctta	accgtgcaaa	catatacagt	1200
ggtatataca	ctacattcag	aacccaaaaa	aaaaaaaaaa	aa		1242

<210> 333
 <211> 266
 <212> PRT
 <213> Zea mays

<400> 333

Met	Leu	His	Glu	Gln	Gln	Ala	Pro	Pro	Pro	Ala	Val	Ala	Ala	Pro	Pro
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Pro	Ser	Ile	Asn	Pro	Asp	Asp	Asp	Gly	Gly	Arg	Asp	Val	Glu	Val	Thr
			20					25					30		
Thr	Phe	Arg	Asp	Ile	His	Pro	Leu	Thr	Pro	Asp	Ala	Pro	Pro	Pro	Ala
			35				40					45			
Ser	Ala	Ser	Trp	Asp	Thr	Ala	Ser	His	Arg	Ser	Phe	Ser	Ser	Ser	Asp
	50					55					60				
Asp	Gln	Gln	Tyr	Met	Thr	Met	Ser	Arg	Glu	Phe	Thr	Ala	Met	Val	Ala
65					70					75					80
Ala	Gly	Ala	Thr	Met	Gln	Thr	Gly	Gly	Tyr	Asp	Gly	Ala	Ala	Asp	Gln
				85					90					95	
Leu	Thr	Ser	Ile	Gly	Glu	Asp	Glu	Leu	Glu	Glu	Thr	Asn	Pro	Leu	Ala
			100					105					110		
Ile	Val	Pro	Asp	Ser	His	Pro	Ile	Ala	Thr	Pro	Ala	Arg	Ser	Arg	Ala
	115					120						125			
Ser	Gly	Leu	Glu	Val	Val	Pro	Ala	Gly	Pro	Ala	Pro	Ala	Pro	Gln	Pro
	130					135					140				
Pro	Ala	His	Leu	Glu	Ala	Ser	Gln	Val	Lys	Lys	Glu	Glu	Val	Glu	Thr
145					150					155					160
Lys	Val	Thr	Ala	Trp	Gln	Thr	Ala	Glu	Val	Ala	Lys	Ile	Asn	Asn	Arg
				165					170					175	
Phe	Lys	Arg	Glu	Asp	Val	Val	Ile	Asn	Gly	Trp	Glu	Thr	Glu	Gln	Val
			180					185					190		
Glu	Lys	Ala	Ser	Ala	Trp	Leu	Lys	Lys	Ile	Glu	Arg	Lys	Leu	Asp	Glu
	195					200						205			
Gln	Arg	Ala	Lys	Ala	Leu	Glu	Lys	Thr	Gln	Asn	Asp	Ile	Ala	Lys	Ala
	210				215						220				
Arg	Arg	Lys	Ala	Glu	Glu	Lys	Arg	Ala	Ser	Ala	Glu	Ala	Lys	Arg	Gly
225					230					235					240
Leu	Lys	Leu	Ala	Lys	Val	Leu	Glu	Leu	Ala	Asn	Phe	Met	Lys	Ala	Val
				245					250					255	
Gly	Arg	Val	Pro	Thr	Lys	Arg	Ser	Phe	Phe						
			260					265							

<210> 334
 <211> 111
 <212> PRT
 <213> Artificial sequence

<220>
 <223> C-terminal sequence of SEQ ID NO: 333

<400> 334

Val	Lys	Lys	Glu	Glu	Val	Glu	Thr	Lys	Val	Thr	Ala	Trp	Gln	Thr	Ala
1				5					10					15	
Glu	Val	Ala	Lys	Ile	Asn	Asn	Arg	Phe	Lys	Arg	Glu	Asp	Val	Val	Ile
			20					25					30		

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Asn	Gly	Trp	Glu	Thr	Glu	Gln	Val	Glu	Lys	Ala	Ser	Ala	Trp	Leu	Lys
	35						40					45			
Lys	Ile	Glu	Arg	Lys	Leu	Asp	Glu	Gln	Arg	Ala	Lys	Ala	Leu	Glu	Lys
	50					55					60				
Thr	Gln	Asn	Asp	Ile	Ala	Lys	Ala	Arg	Arg	Lys	Ala	Glu	Glu	Lys	Arg
	65					70				75					80
Ala	Ser	Ala	Glu	Ala	Lys	Arg	Gly	Leu	Lys	Leu	Ala	Lys	Val	Leu	Glu
				85					90					95	
Leu	Ala	Asn	Phe	Met	Lys	Ala	Val	Gly	Arg	Val	Pro	Thr	Lys	Arg	
			100					105					110		

<210> 335
 <211> 920
 <212> DNA
 <213> Oryza sativa

<400> 335
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 cacacacaca aatccgaaga tgtgcgggat caagcaggag atgagcggcg agtcgtcggg 120
 gtcgccgtgc agctcggcgt cggcggagcg gcagaccag acggtgtgga cggcgccgcc 180
 gaagaggccg gcggggcgga ccaagttcag ggagacgagg caccggtgt tccgcggcgt 240
 gcggcggagg ggcaatgccg ggaggtgggt gtgcgaggtg cgggtgcccg ggcggcgagg 300
 ctgcaggctc tggctcggca cgttcgacac cgccgagggc gcggcgcgcg cgcacgacgc 360
 cgccatgctc gccatcaacg ccggcggcgg cggcggcggg ggagcatgct gcctcaactt 420
 cgccgactcc gcgtggctcc tcgccgtgcc gcgctcctac cgcaccctcg ccgacgtccg 480
 ccacgccgct gccgaggccg tcgaggactt cttccggcgc cgcctcgccg acgacgcgct 540
 gtccgccacg tcgtcgtcct cgacgacgcc gtccacccca cgcaccgacg acgacgagga 600
 gtccgccgccc accgacggcg acgagtcctc ctccccggcc agcgacctgg cgttcgaact 660
 ggacgtcctg agtgacatgg gctgggacct gtactacgcg agcttggcgc aggggatgct 720
 catggagcca ccacggcgcg cgctcggcga cgacggtgac gccatcctcg ccgacgtccc 780
 actctggagc tactagagct caatcaactg tacaattttg cctctttttt ctctcttttc 840
 tggcttccga tgccaaaatt ttggtactgt acggacacta ctttcggtaa tgtgatggaa 900
 caagttgcaa aacacagagc 920

<210> 336
 <211> 238
 <212> PRT
 <213> Oryza sativa

<400> 336
 Met Cys Gly Ile Lys Gln Glu Met Ser Gly Glu Ser Ser Gly Ser Pro
 1 5 10 15
 Cys Ser Ser Ala Ser Ala Glu Arg Gln His Gln Thr Val Trp Thr Ala
 20 25 30
 Pro Pro Lys Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr Arg His
 35 40 45
 Pro Val Phe Arg Gly Val Arg Arg Arg Gly Asn Ala Gly Arg Trp Val
 50 55 60
 Cys Glu Val Arg Val Pro Gly Arg Arg Gly Cys Arg Leu Trp Leu Gly
 65 70 75 80
 Thr Phe Asp Thr Ala Glu Gly Ala Ala Arg Ala His Asp Ala Ala Met
 85 90 95
 Leu Ala Ile Asn Ala Gly Gly Gly Gly Gly Gly Ala Cys Cys Leu
 100 105 110
 Asn Phe Ala Asp Ser Ala Trp Leu Leu Ala Val Pro Arg Ser Tyr Arg
 115 120 125
 Thr Leu Ala Asp Val Arg His Ala Val Ala Glu Ala Val Glu Asp Phe
 130 135 140
 Phe Arg Arg Arg Leu Ala Asp Asp Ala Leu Ser Ala Thr Ser Ser Ser

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145          150          155          160
Ser Thr Thr Pro Ser Thr Pro Arg Thr Asp Asp Asp Glu Glu Ser Ala
          165          170          175
Ala Thr Asp Gly Asp Glu Ser Ser Ser Pro Ala Ser Asp Leu Ala Phe
          180          185          190
Glu Leu Asp Val Leu Ser Asp Met Gly Trp Asp Leu Tyr Tyr Ala Ser
          195          200          205
Leu Ala Gln Gly Met Leu Met Glu Pro Pro Ser Ala Ala Leu Gly Asp
          210          215          220
Asp Gly Asp Ala Ile Leu Ala Asp Val Pro Leu Trp Ser Tyr
225          230          235

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<210> 337
 <211> 52
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer 1

<400> 337
 ggggacaagt ttgtacaaaa aagcaggctt aaacaatgtg cgggatcaag ca 52

<210> 338
 <211> 51
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer 2

<400> 338
 ggggaccact ttgtacaaga aagctgggtg gcaaaattgt acagttgatt g 51

<210> 339
 <211> 2194
 <212> DNA
 <213> Oryza sativa

<400> 339
 aatccgaaaa gtttctgcac cgttttcacc ccctaactaa caatataggg aacgtgtgct 60
 aaatataaaa tgagacctta tatatgtagc gctgataact agaactatgc aagaaaaact 120
 catccacctta ctttagtggc aatcgggcta aataaaaaag agtcgctaca ctagtttcgt 180
 tttccttagt aattaagtgg gaaaatgaaa tcattattgc ttagaatata cgttcacatc 240
 tctgtcatga agttaaatga ttcgaggtag ccataattgt catcaaactc ttcttgaata 300
 aaaaaatctt tctagctgaa ctcaatgggt aaagagagag atttttttta aaaaaataga 360
 atgaagatat tctgaacgta ttggcaaaga tttaaacata taattatata attttatagt 420
 ttgtgcattc gtcatatcgc acatcattaa ggacatgtct tactccatcc caatttttat 480
 ttagtaatta aagacaattg acttattttt attattttatc ttttttcgat tagatgcaag 540
 gtacttacgc acacactttg tgctcatgtg catgtgtgag tgcacctcct caatacacgt 600
 tcaactagca acacatctct aatatcactc gcctatttaa tacatttagg tagcaatatc 660
 tgaattcaag cactccacca tcaccagacc acttttaata atatctaaaa tacaacaaat 720
 aattttacag aatagcatga aaagtatgaa acgaactatt taggtttttc acatacaaaa 780
 aaaaaaagaa ttttgctcgt gcgcgagcgc caatctccca tattgggcac acaggcaaca 840
 acagagtggc tgcccacaga acaaccaca aaaaacgatg atctaacgga ggacagcaag 900
 tccgcaacaa ccttttaaca gcaggctttg cggccaggag agaggaggag aggcaaagaa 960
 aaccaagcat cctccttctc ccatctataa attcctcccc ccttttcccc tctctatata 1020
 ggaggcatcc aagccaagaa gagggagagc accaaggaca cgcgactagc agaagccgag 1080
 cgaccgcctt ctcgatccat atcttcgggt cgagttcttg gtcgatctct tccctcctcc 1140

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acctcctcct cacaggggat gtgcctccct tcggttggtc ttggatttat tgttctaggt 1200
tgtgtagtac gggcgttgat gttaggaaag gggatctgta tctgtgatga ttctgtttct 1260
tggttttggg atagaggggt tcttgatggt gcatgttatc gggtcgggtt gatttagtagt 1320
atggttttca atcgtctgga gagctctatg gaaatgaaat ggtttaggga tcggaatctt 1380
gcgattttgt gagtaccttt tgtttgaggt aaaatcagag caccggtgat tttgcttggt 1440
gtaataaagt acggttgttt ggtcctcgat tctggtagtg atgcttctcg atttgacgaa 1500
gctatccttt gtttattccc tattgaacaa aaataatcca actttgaaga cggtcocggt 1560
gatgagattg aatgattgat tcttaagcct gtccaaaatt tcgcagctgg cttgtttaga 1620
tacagtagtc cccatcacga aattcatgga aacagttata atcctcagga acaggggatt 1680
ccctgttctt cggatttgct ttagtcccag aatttttttt cccaaatatt ttaaaaagtc 1740
actttctggt tcagttcaat gaattgattg ctacaaataa tgcttttata gcgttatcct 1800
agctgtagtt cagttaatag gtaatacccc tatagtttag tcaggagaag aacttatccg 1860
atttctgata tccattttta attatatgaa atgaactgta gcataagcag tattcatttg 1920
gattattttt tttattagct ctcacccctt cattattctg agctgaaagt ctggcatgaa 1980
ctgtcctcaa ttttgttttc aaattcacat cgattatcta tgcattatcc tcttgatatc 2040
acctgtagaa gtttcttttt gggtattcct tgactgcttg attacagaaa gaaatttatg 2100
aagctgtaat cggtgatagt atactgcttg ttcttatgat tcatttcctt tgtgcagttc 2160
ttggtgtagc ttgccacttt caccagcaaa gttc 2194

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<210> 340

<211> 74

<212> PRT

<213> Artificial sequence

<220>

<223> consensus sequence of an AP2 domain

<220>

<221> UNSURE

<222> (1)..(1)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> VARIANT

<222> (2)..(2)

<223> /replace = "His" /replace = "Trp" /replace = "Tyr"

<220>

<221> VARIANT

<222> (3)..(3)

<223> /replace = "Lys" /replace = "Arg"

<220>

<221> VARIANT

<222> (6)..(6)

<223> /replace = "Asp" /replace = "Glu" /replace = "His" /replace =
"lys" /replace = "Lys" /replace = "Asn" Gln" /replace = "Arg"
/replace = "Ser" /replace = "Thr"

<220>

<221> UNSURE

<222> (7)..(7)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> VARIANT

<222> (8)..(8)

<223> /replace = "Lys" /replace = "Arg"

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<220>
<221> UNSURE
<222> (9)..(9)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> VARIANT
<222> (10)..(10)
<223> /replace = "Cys" /replace = "Phe" /replace = "Gly" /replace =
      "His" /replace = "Ile" /replace = "Lys" /replace = "Leu" /replace
      = "Met" /replace = "Arg" /replace = "Thr" /replace = "Val"
      /replace = "Trp" /replace = "Tyr"

<220>
<221> UNSURE
<222> (12)..(12)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> VARIANT
<222> (13)..(13)
<223> /replace = "Lys" /replace = "Arg"

<220>
<221> UNSURE
<222> (15)..(15)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> VARIANT
<222> (16)..(16)
<223> /replace = "Gly" /replace = "Ser"

<220>
<221> VARIANT
<222> (17)..(17)
<223> /replace = "Glu" /replace = "His" /replace = "Lys" /replace =
      "Arg"

<220>
<221> VARIANT
<222> (19)..(19)
<223> /replace = "Cys" /replace = "Asp" /replace = "Glu" /replace =
      "His" /replace = "Lys" /replace = "Asn" /replace = "Gln" /replace
      = "Arg" /replace = "Ser" /replace = "Thr"

<220>
<221> VARIANT
<222> (20)..(20)
<223> /replace = "Glu" /replace = "His" /replace = "Lys" /replace =
      "Arg"

<220>
<221> VARIANT
<222> (21)..(21)
<223> /replace = "Cys" /replace = "Asp" /replace = "Gly" /replace =
      "Asn" /replace = "Pro" /replace = "Ser" /replace = "Thr" /replace
      = "Val"

```

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<220>
<221> VARIANT
<222> (21)..(21)
<223> /replace = "Cys" /replace = "Asp" /replace = "Gly" /replace =
      "Asn" /replace = "Pro" /replace = "Ser" /replace = "Thr" /replace
      = "Val"

<220>
<221> UNSURE
<222> (22)..(31)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> VARIANT
<222> (32)..(33)
<223> /replace = "Cys" /replace = "Asp" /replace = "Glu" /replace =
      "His" /replace = "Lys" /replace = "Asn" /replace = "Gln" /replace
      = "Arg" /replace = "Ser" /replace = "Thr"

<220>
<221> VARIANT
<222> (34)..(34)
<223> /replace = "Glu" /replace = "His" /replace = "Lys" /replace =
      "Arg"

<220>
<221> VARIANT
<222> (35)..(35)
<223> /replace = "Leu" /replace = "Val"

<220>
<221> VARIANT
<222> (36)..(36)
<223> /replace = "His" /replace = "Trp" /replace = "Tyr"

<220>
<221> VARIANT
<222> (39)..(39)
<223> /replace = "Thr"

<220>
<221> VARIANT
<222> (42)..(42)
<223> /replace = "Thr"

<220>
<221> VARIANT
<222> (43)..(43)
<223> /replace = "Cys" /replace = "Asp" /replace = "Glu" /replace =
      "His" /replace = "Lys" /replace = "Asn" /replace = "Gln" /replace
      = "Arg" /replace = "Ser" /replace = "Thr"

<220>
<221> VARIANT
<222> (44)..(44)
<223> /replace = "Glu"

<220>
<221> VARIANT

```

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<222> (45)..(45)
<223> /replace = "Cys" /replace = "Asp" /replace = "Glu" /replace =
      "His" /replace = "Lys" /replace = "Asn" /replace = "Gln" /replace
      = "Arg" /replace = "Ser" /replace = "Thr"

<220>
<221> VARIANT
<222> (48)..(48)
<223> /replace = "Cys" /replace = "Phe" /replace = "Gly" /replace =
      "His" /replace = "Ile" /replace = "Lys" /replace = "Leu" /replace
      = "Met" /replace = "Arg" /replace = "Thr" /replace = "Val"
      /replace = "Trp" /replace = "Tyr"

<220>
<221> UNSURE
<222> (52)..(52)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> VARIANT
<222> (55)..(58)
<223> /replace = "Cys" /replace = "Phe" /replace = "Gly" /replace =
      "His" /replace = "Ile" /replace = "Lys" /replace = "Leu" /replace
      = "Met" /replace = "Arg" /replace = "Thr" /replace = "Val"
      /replace = "Trp" /replace = "Tyr"

<220>
<221> UNSURE
<222> (60)..(61)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> VARIANT
<222> (63)..(63)
<223> /replace = "Asp" /replace = "Glu" /replace = "His" /replace =
      "Lys" /replace = "Lys" /replace = "Asn" Gln" /replace = "Arg"
      /replace = "Ser" /replace = "Thr"

<220>
<221> VARIANT
<222> (64)..(65)
<223> /replace = "Cys" /replace = "Phe" /replace = "Gly" /replace =
      "His" /replace = "Ile" /replace = "Lys" /replace = "Leu" /replace
      = "Met" /replace = "Arg" /replace = "Thr" /replace = "Val"
      /replace = "Trp" /replace = "Tyr"

<220>
<221> VARIANT
<222> (68)..(68)
<223> /replace = "Cys" /replace = "Asp" /replace = "Gly" /replace =
      "Asn" /replace = "Pro" /replace = "Ser" /replace = "Thr" /replace
      = "Val"

<220>
<221> UNSURE
<222> (69)..(72)
<223> Xaa can be any naturally occurring amino acid

<220>

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<221> VARIANT
 <222> (73)..(74)
 <223> /replace = "Cys" /replace = "Asp" /replace = "Glu" /replace =
 "His" /replace = "Lys" /replace = "Asn" /replace = "Gln" /replace
 = "Arg" /replace = "Ser" /replace = "Thr"

<400> 340
 Xaa Phe His Gly Val Cys Xaa His Xaa Ala Gly Xaa His Trp Xaa Ala
 1 5 10 15
 Asp Ile Ala Asp Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ala
 20 25 30
 Ala Asp Leu Phe Leu Gly Ser Phe Ala Ser Ala Asp Ala Ala Ala Ala
 35 40 45
 Ala Tyr Asp Xaa Ala Ala Ala Ala Ala Gly Xaa Xaa Cys Ala Ala
 50 55 60
 Ala Asn Phe Ala Xaa Xaa Xaa Xaa Ala Ala
 65 70

<210> 341
 <211> 72
 <212> PRT
 <213> Artificial sequence

<220>
 <223> consensus sequence of AP2 domain of SEQ ID NO: 2

<400> 341
 Val Phe Arg Gly Val Arg Arg Arg Gly Asn Ala Gly Arg Trp Val Cys
 1 5 10 15
 Glu Val Arg Val Pro Gly Arg Arg Gly Cys Arg Leu Trp Leu Gly Thr
 20 25 30
 Phe Asp Thr Ala Glu Gly Ala Ala Arg Ala His Asp Ala Ala Met Leu
 35 40 45
 Ala Ile Asn Ala Gly Gly Gly Gly Gly Gly Gly Ala Cys Cys Leu Asn
 50 55 60
 Phe Ala Asp Ser Ala Trp Leu Leu
 65 70

<210> 342
 <211> 6
 <212> DNA
 <213> Artificial sequence

<220>
 <223> DRE element

<220>
 <221> variation
 <222> (1)..(1)
 <223> /replace = "a"

<220>
 <221> variation
 <222> (2)..(2)
 <223> /replace = "t"

<400> 342
 gccgac

<210> 343
 <211> 29
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif CMIII-1

<400> 343
 Pro Glu Leu Ala Trp Ser Leu Pro Arg Pro Glu Ser Thr Ser Pro Lys
 1 5 10 15
 Asp Ile Gln Ala Ala Ala Ala Glu Ala Ala Ala Met Phe
 20 25

<210> 344
 <211> 32
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif CMIII-2

<400> 344
 Gln Ser Cys Gly Ala Phe Phe Met Asp Glu Glu Ala Met Leu Gly Met
 1 5 10 15
 Pro Asn Leu Leu Ala Asn Met Ala Glu Gly Met Leu Leu Pro Pro Pro
 20 25 30

<210> 345
 <211> 21
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif CMIII-3

<400> 345
 Asp Tyr Asp Pro Thr Leu Ala Glu Ser Cys Pro Lys Lys Pro Ala Gly
 1 5 10 15
 Arg Lys Lys Phe Arg
 20

<210> 346
 <211> 26
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif CMIII-4

<220>
 <221> UNSURE
 <222> (18)..(18)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (21)..(21)
 <223> Xaa can be any naturally occurring amino acid

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<400> 346
Leu Trp Ser Tyr Ser Glu Gln Ile Asp Asn Pro Lys Lys Pro Ala Gly
1          5          10          15
Arg Xaa Lys Phe Xaa Glu Thr Arg His Pro
          20          25
```

```
<210> 347
<211> 16
<212> PRT
<213> Artificial sequence
```

```
<220>
<223> motif CMIII-3 region I
```

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<220>
<221> VARIANT
<222> (3)..(3)
<223> /replace = "Arg"
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```
<220>
<221> UNSURE
<222> (8)..(8)
<223> Xaa can be any naturally occurring amino acid
```

```
<220>
<221> UNSURE
<222> (11)..(11)
<223> Xaa can be any naturally occurring amino acid
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```
<400> 347
Pro Lys Lys Pro Ala Gly Arg Xaa Lys Phe Xaa Glu Thr Arg His Pro
1          5          10          15
```

```
<210> 348
<211> 5
<212> PRT
<213> Artificial sequence
```

```
<220>
<223> motif CMIII-3 region II
```

```
<400> 348
Asp Ser Ala Trp Arg
1          5
```

```
<210> 349
<211> 8
<212> PRT
<213> Artificial sequence
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```
<220>
<223> motif CMIV-1
```

```
<220>
<221> VARIANT
<222> (1)..(1)
<223> /replace = "Arg"
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<220>
 <221> VARIANT
 <222> (7)..(7)
 <223> Xaa can be any naturally occurring amino acid

<400> 349
 Lys Gly Lys Gly Gly Pro Xaa Asn
 1 5

<210> 350
 <211> 41
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif CMIV-2

<400> 350
 Lys Lys Arg Lys Arg Arg Gly Gly Arg Asp Val Ala Glu Ile Leu Lys
 1 5 10 15
 Lys Trp Lys Glu Tyr Asn Glu Gln Val Glu Ala Asp Ser Cys Ile Asp
 20 25 30
 Gly Gly Gly Pro Lys Lys Ile Arg Lys
 35 40

<210> 351
 <211> 756
 <212> DNA
 <213> Oryza sativa

<400> 351
 atgtgtacga gcaaactaga ggagatcacc ggcgagtggc cgccgccggc attgcaggcc 60
 gctccaacga cgtcgtcgtc ggagcgtgc cgccgcctct cgccgccag cagcaagcgc 120
 cccgcggggc gcaccaagtt ccacgagacc cgccaccggc tgttcgcggc cgtgcggcgc 180
 cgcgccgcgc cggggcggtg ggtgtgcgag gtccgcgtgc cgggccgccg cgggtgcagg 240
 ctctggctcg gcacgttcga cgccgccgac gccgccgcgc gcgccacga cgccgccatg 300
 ctgcgcgtcc gcggccgcgc cgccgcgtgc ctcaacttcg ccgactccgc ctggctgctc 360
 gccgtgccgc ccccggccac cctccgctgc gccgccgacg tccagcgcgc cgtggcgcgc 420
 gcgctggagg acttcgagca gcgggagtc tcatcgctcc tgttcccact cgccatcgac 480
 gtcgtcgccg aggacgccat gtccgccacg tccgagccgt ccgccgcgag cgacgacgac 540
 gccgtcacca gcagcagcag caccgaccgac gccgacgagg aggcatacc gttcgagctg 600
 gacgtggtga gcgacatggg ctggagcctg tactacgcga gcttagcgga gggcctctc 660
 atggagccgc cggttccgc cgcatcgctc gacgacgacg acgacgccat cgtcgactca 720
 agcgacatcg ctgacgtgtc tctgtggagc tactag 756

<210> 352
 <211> 251
 <212> PRT
 <213> Oryza sativa

<400> 352
 Met Cys Thr Ser Lys Leu Glu Glu Ile Thr Gly Glu Trp Pro Pro Pro
 1 5 10 15
 Ala Leu Gln Ala Ala Ser Thr Thr Ser Ser Ser Glu Pro Cys Arg Arg
 20 25 30
 Leu Ser Pro Pro Ser Ser Lys Arg Pro Ala Gly Arg Thr Lys Phe His
 35 40 45
 Glu Thr Arg His Pro Val Phe Arg Gly Val Arg Arg Arg Gly Arg Ala
 50 55 60

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

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<210> 353
 <211> 741
 <212> DNA
 <213> Oryza sativa

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<400> 353
atggacatgg cgggccacga ggtgaactcc agctcgctcg cgtcgggggc ggagtcgctcg      60
tcgtcctcgt cggggcggca gcagtacaag aagcggcccg cggggcgcac caagttcagg      120
gagacgcggc acccgggtgta ccgcggcgtg cggcgcccg cgggggcggg gcggtgggtg      180
tgcgaggtgc gcgtcccggg gaagcgcggc gcgcgcctgt ggctcggcac gtacgtcacc      240
gccgaggccg cggcgcgcg cgcacgacgcc gccatgatcg cgctccgcgg cggcgccggc      300
ggaggcggcg cggcggtgcct caacttcag gactccgcgt ggctgctcgc cgtcccggcc      360
gccgcgccgt ccgacctggc cggcgctccgc cgcgcggcca ccgaggccgt cgcgggcttc      420
ctccagcgca acaagaccac gaacggcgcc tccgtcgcgg aggccatgga cgaggccacc      480
tccggcgtgt ccgcgccgcc gccgctggcc aacaatgcc gctcgtcgga gacgcccgga      540
ccttcacga tcgacggaac ggctgacacg gcgcggggg cggcgctgga catgttcgag      600
ctcgacttct tcggcgaaat ggactacgac acgtactacg cgagcctggc cgaggggctt      660
ctcatggagc cgccgcccgc ggcgaccgca ctctgggaca acggcgacga aggcgctgac      720
atcgcgctct ggagctactg a                                     741

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<210> 354
 <211> 246
 <212> PRT
 <213> Oryza sativa

```

<400> 354
Met Asp Met Ala Gly His Glu Val Asn Ser Ser Ser Ser Ser Ser Gly
1          5          10          15
Ala Glu Ser Ser Ser Ser Ser Ser Gly Arg Gln Gln Tyr Lys Lys Arg
      20          25          30
Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr Arg His Pro Val Tyr Arg
      35          40          45
Gly Val Arg Arg Arg Gly Gly Ala Gly Arg Trp Val Cys Glu Val Arg
50          55          60

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

```

<210> 355
 <211> 729
 <212> DNA
 <213> Oryza sativa

```

<400> 355
atggacgtcg cgcgcgacat ggagaagaac accaccgccca tggggcaatt gatgagctcc      60
tccgcgacga cggcggcgac ggcgacgggg ccggcgctcg cgaagcggcc ggcggggcgg      120
accaagttcc aggagacgag gcacccggtg ttccgcgggg tgcggcggcg cgggcgcgcg      180
gggcggtggg tgtgcgaggt gcgcgtcccg ggcagccgcg gcgaccgcct gtgggtcggc      240
acgttcgaca ccgccgagga ggccgcgcgc gcgcacgacg ccgccatgct cgccctgtgc      300
ggggcctccg ccagcctcaa cttcgccgac tccgcctggc tgctccacgt ccccgcgcc      360
cccgctcgct cgggccatga ccagctgccc gacgtgcagc gcgcgcgccag cgaggccgctc      420
gccgagttcc agcgccgggg aagtactgcc gccactgcca ccgccacctc cggcgacgcc      480
gcatccaccg ctctctccgtc gtcgtcgccc gttctgtcac ccaacgacga caatgcctcg      540
tcggcgctca ctctgcggt ggccggcgcg ttggaccacg gcgacatgtt cggtggcgatg      600
cgcaccgatc tgtacttcgc gagcttggcg cagggtctgc tcatcgagcc gccgccgccg      660
ccgaccaccg ctgagggttt ctgcgacgac gaaggatgcg gcggcgctga aatggagctg      720
tggagctag                                     729

```

<210> 356
 <211> 182
 <212> PRT
 <213> Oryza sativa

```

<400> 356
Met Asp Val Ala Arg Asp Met Lys Asn Thr Thr Ala Met Gly Met Ser
1          5          10          15
Ser Ser Ala Thr Thr Ala Ala Thr Ala Thr Gly Ala Ser Lys Arg Ala
      20          25          30
Gly Arg Thr Lys Thr Arg His Val Arg Gly Val Arg Arg Arg Gly Arg
      35          40          45
Ala Gly Arg Trp Val Cys Val Arg Val Gly Ser Arg Gly Asp Arg Trp
50          55          60

```

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Val Gly Thr Asp Thr Ala Ala Arg Ala His Asp Ala Ala Met Ala
65 70 75 80
Cys Gly Ala Ser Ala Ser Asn Ala Asp Ser Ala Trp His Val Arg Ala
85 90 95
Val Ala Ser Gly His Asp Asp Val Arg Ala Ala Ser Ala Val Ala Arg
100 105 110
Arg Gly Ser Thr Ala Ala Thr Ala Thr Ala Thr Ser Gly Asp Ala Ala
115 120 125
Ser Thr Ala Ser Ser Ser Val Ser Asn Asp Asp Asn Ala Ser Ser Ala
130 135 140
Ser Thr Ala Val Ala Ala Ala Asp His Gly Asp Met Gly Gly Met Arg
145 150 155 160
Thr Asp Tyr Ala Ser Ala Gly Thr Thr Ala Gly Cys Asp Asp Gly Cys
165 170 175
Gly Gly Ala Met Trp Ser
180

<210> 357
<211> 904
<212> DNA
<213> Oryza sativa

<400> 357
actgcttgag acgtcgaca cgatcatggag aagaacaccg ccgccagcgg gcaattgatg 60
acctcctcgc cggaggcgac gccgtcgctc ccgaagcggc cggcggggcg aaccaagttc 120
caggagacga ggcacctagt gttccgtggg gtgcgatggc gtgggtgcgc ggggcggtgg 180
gtgtgcaagg tgcgtgtccc gggcagccgc ggtgaccgtt tctggatagg cacgtctgac 240
accgccgagg agaccgcgcg caccgacgac gccgccatgc tcgccttggt cggggcctcc 300
gccagcctca acttcgccga ctctgcctgg ctgctccacg tcccgcgcgc ccccgctcgc 360
tccggactcc ggccaccagc tgcccgatgt gcaacgcgct gcctgcaagg ccacgcgcga 420
gttcagcgc cgggcgggg gagcaccgcc actgccactg ccacctcgg cgatgctgca 480
tcgaccgctc ctccgtcggc acccgttctg tcagccaaac aatgcgaatt catctttctt 540
tcttactag attgttggtt gttaatgtca aagcttatca gcagtagcag agcaaaagga 600
tcgttggtgc tgcgaaaaaa tcccatttca ttttgcatgg ttacaaattc ttacactgct 660
cttttgctcg aatacattat attgcagatg aattcaatga tcgttttaac ccacgaatta 720
tcaaaatatc aagtctttct gctactaacc atgataacac accacctttt tcaatggagg 780
aggtaggcgc ggacgccctc gccatcatcg tcgatgtcgc cactgatgac gaggtccgcg 840
ccgctcacca gctcgcacgc ctgcgtcgctg tccatgctcg ccacctcgg ccagcagctg 900
aacc 904

<210> 358
<211> 253
<212> PRT
<213> Oryza sativa

<400> 358
Met Glu Lys Asn Thr Ala Ala Ser Gly Gln Leu Met Thr Ser Ser Ala
1 5 10 15
Glu Ala Thr Pro Ser Ser Pro Lys Arg Pro Ala Gly Arg Thr Lys Phe
20 25 30
Gln Glu Thr Arg His Leu Val Phe Arg Gly Val Arg Trp Arg Gly Cys
35 40 45
Ala Gly Arg Trp Val Cys Lys Val Arg Val Pro Gly Ser Arg Gly Asp
50 55 60
Arg Phe Trp Ile Gly Thr Ser Asp Thr Ala Glu Glu Thr Ala Arg Thr
65 70 75 80
His Asp Ala Ala Met Leu Ala Leu Cys Gly Ala Ser Ala Ser Leu Asn
85 90 95
Phe Ala Asp Ser Ala Trp Leu Leu His Val Pro Arg Ala Pro Val Val

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100	105	110
Ser Gly Leu Arg Pro Pro Ala Ala Arg Cys Ala Thr Arg Cys Leu Gln		
115	120	125
Gly His Arg Arg Val Pro Ala Pro Gly Arg Gly Ser Thr Ala Thr Ala		
130	135	140
Thr Ala Thr Ser Gly Asp Ala Ala Ser Thr Ala Pro Pro Ser Ala Pro		
145	150	155
Val Leu Ser Ala Lys Gln Cys Glu Phe Ile Phe Leu Ser Ser Leu Asp		
165	170	175
Cys Trp Met Leu Met Ser Lys Leu Ile Ser Ser Ser Arg Ala Lys Gly		
180	185	190
Ser Leu Cys Leu Arg Lys Asn Pro Ile Ser Phe Cys Met Val Thr Asn		
195	200	205
Ser Tyr Thr Ala Leu Leu Leu Glu Tyr Ile Ile Leu Gln Met Asn Ser		
210	215	220
Met Ile Val Leu Ile His Glu Leu Ser Lys Tyr Gln Val Phe Leu Leu		
225	230	235
Leu Thr Met Ile Thr His His Leu Phe Gln Trp Arg Arg		
245	250	

<210> 359
 <211> 897
 <212> DNA
 <213> Oryza sativa

<400> 359

cagagagagt	catccatgga	ggtggaggag	gcggcgtaga	ggacggtgtg	gtcggagccg	60
ccgaagaggc	cggcgggaag	gaccaagtgc	agggagacga	ggcaccgggt	gtaccgcggc	120
gtgcggcggc	gcggggggcg	gccggggcg	gcggggagg	gggtgtgcga	ggtgcgggtg	180
cccgggggcg	gcggctccag	gctgtggctc	ggcacgttcg	ccaccgccga	ggcggcggcg	240
cgcgcgcacg	acgcgcgcgc	gctggcgctc	cgcggcagg	ccgcctgcct	caacttcgcc	300
gactccgcgt	ggcggatgcc	gcccgtcccc	gcgtccgcgc	cgctcgccgc	cgcgaggggg	360
gtcagggagc	ccgtcgccgt	ggcgtcgag	gcgtccagc	gccagtcggc	cgcgccgtcg	420
tctccggcgg	agaccttcgc	caacgatggc	gacgaagaag	aagacaacaa	ggacgtgttg	480
ccggtggcgg	cggcggaggt	gttcgacgcg	ggggcgctcg	agctcgacga	cggttcagg	540
ttcggcgga	tggacgccgc	gtcgtactac	gcgagcttgc	cgcgaggggt	gtcgtcgag	600
ccgcccggcg	ccggagcgtg	gtgggaggac	ggcgagctcg	ccggctccga	catgccgctc	660
tggagctact	aatcaaaatc	tcgcactgaa	aagtgtggac	aaattttgat	tctccagaaa	720
ttgggggaaa	aaagagaaca	gagtatttgt	gaatttagaa	cagagtaggc	aatgagactg	780
aggatgaatg	gcaatttttg	taatttttga	atgtgccaga	tttctccctc	cttttgtgat	840
tccatctgat	tttgaatgtg	cagtcaatga	attcctgtaa	atttacttct	cctctcc	897

<210> 360
 <211> 218
 <212> PRT
 <213> Oryza sativa

<400> 360

Met Glu Val Glu Glu Ala Ala Tyr Arg Thr Val Trp Ser Glu Pro Pro	
1	15
Lys Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr Arg His Pro Val	
20	30
Tyr Arg Gly Val Arg Arg Arg Gly Gly Arg Pro Gly Ala Ala Gly Arg	
35	45
Trp Val Cys Glu Val Arg Val Pro Gly Ala Arg Gly Ser Arg Leu Trp	
50	60
Leu Gly Thr Phe Ala Thr Ala Glu Ala Ala Arg Ala His Asp Ala	
65	80
Ala Ala Leu Ala Leu Arg Gly Arg Ala Ala Cys Leu Asn Phe Ala Asp	

								85				90				95				
Ser	Ala	Trp	Arg	Met	Pro	Pro	Val	Pro	Ala	Ser	Ala	Ala	Leu	Ala	Gly					
				100					105				110							
Ala	Arg	Gly	Val	Arg	Asp	Ala	Val	Ala	Val	Ala	Val	Glu	Ala	Phe	Gln					
				115					120				125							
Arg	Gln	Ser	Ala	Ala	Pro	Ser	Ser	Pro	Ala	Glu	Thr	Phe	Ala	Asn	Asp					
				130					135				140							
Gly	Asp	Glu	Glu	Glu	Asp	Asn	Lys	Asp	Val	Leu	Pro	Val	Ala	Ala	Ala					
145				150				155				160								
Glu	Val	Phe	Asp	Ala	Gly	Ala	Phe	Glu	Leu	Asp	Asp	Gly	Phe	Arg	Phe					
				165					170				175							
Gly	Gly	Met	Asp	Ala	Gly	Ser	Tyr	Tyr	Ala	Ser	Leu	Ala	Gln	Gly	Leu					
				180					185				190							
Leu	Val	Glu	Pro	Pro	Ala	Ala	Gly	Ala	Trp	Trp	Glu	Asp	Gly	Glu	Leu					
				195					200				205							
Ala	Gly	Ser	Asp	Met	Pro	Leu	Trp	Ser	Tyr											
				210					215											

```
<210> 361
<211> 1272
<212> DNA
<213> Oryza sativa
```

<400>	361						
agaattcaaa	cgggatcaac	ctcgctcgct	tactcgtggt	taggcatgga	cgtttctgct		60
gcgctcagca	gcgactactc	gtcggggacg	ccgtcgccgg	tggcggccga	cgccgacgac		120
ggctcctccg	cctacatgac	ggtgtcgtcg	gcgcgcgcca	agcggcgagc	ggggcggacc		180
aagtccaagg	agacgcggca	ccccgtgttc	aagggcgtgc	gccggaggaa	ccccgggagg		240
tgggtgtgcg	aggtgcgcga	gccgcacgcg	aagcagcgga	tatggctcgg	gacgttcgag		300
acagcagaga	tggcggcgcg	cgcgcacgac	gtcgccgcgc	tcgcgctccg	cggccgcgcc		360
gcctgcctca	acttcgccga	ctcgccgagg	cgccctccgcg	tcccgcccat	cggcgcaagc		420
cacgacgaca	tacggaggcg	ggcggctgag	gcggccgagg	cattccgggc	gccaccagat		480
gagagcaatg	cggccaccga	ggtggcagcc	gccgatcagg	gcgccactaa	ttcgaaagcc		540
gaacagttcg	cctcccaccc	gtactacgag	gtcatggacg	atggctgga	cttggggtatg		600
cagggctatc	tcgacatggc	gcaagggatg	ctcattgacc	cgcctccaat	ggccgggtgat		660
cctgccgtag	gtagcggcga	agacgacaac	gatggcgagg	tccagctatg	gagctactga		720
tcctgcgcgt	ttgaactcaa	cttggtttgg	cgcgaaagaga	tcgcatgtac	agcttaaggg		780
agtcgagtac	aagtacctca	ggtgtactcc	actcgttgcc	cctttccctt	ccctttcgtt		840
tttcttgagc	ttatctgcag	ggtaatgtta	tgtattgctg	ctcttctgat	gaaatgtgat		900
cggaagaagc	ggaaggccag	atcgagctta	tgggttctga	agacggtgaa	ggcttgtcga		960
gtgttgtgag	catatattca	gaaagtcagg	cactgtgaaa	gtatgaatca	gatcagcctt		1020
gttacgaatg	agagtgatcg	accttgttca	gtgtttataa	ttgaaccact	tgtgtgtaat		1080
aagcagcaaa	gccatgttgc	ttgcttgatc	tgactccttg	gaatgggtata	tttctcaaag		1140
aatcgaggat	tgactactca	gaatttgaca	ttttgcagtg	aaatgatagg	attgttaaat		1200
taacattgga	ggagaggcat	gtgtatatat	gttaagaaac	attagtaatg	atgagcctat		1260
gatacttcga	tc						1272

```
<210> 362
<211> 224
<212> PRT
<213> Oryza sativa
```

<400> 362															
Met	Asp	Val	Ser	Ala	Ala	Leu	Ser	Ser	Asp	Tyr	Ser	Ser	Gly	Thr	Pro
1				5					10					15	
Ser	Pro	Val	Ala	Ala	Asp	Ala	Asp	Asp	Gly	Ser	Ser	Ala	Tyr	Met	Thr
			20					25					30		
Val	Ser	Ser	Ala	Pro	Pro	Lys	Arg	Arg	Ala	Gly	Arg	Thr	Lys	Phe	Lys
		35					40					45			

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```

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

```

<210> 363
 <211> 764
 <212> DNA
 <213> Oryza sativa

```

<400> 363
ccagcagcag caacacacac tactgacatg gagtactacg agcaggagga gtacgcgacg      60
gtgacgtcgg cgccgccgaa gcggccggcg gggaggacca agttcaggga gacgaggcac      120
ccggtgtacc gcggcgtgcg gcgccggggg cccgcggggc ggtgggtgtg cgaggtcagg      180
gagcccaaca agaagtcccg catctggctc ggcaccttcg ccaccgccga ggccgcgcgcg      240
cgcgccccac acgtcgccgc gctcgccctc cgcgcccgcg gcgctgcct caacttcgcc      300
gactcggccc gcctcctccg cgtcgacccg gccaccctcg ccacccccga cgacatccgc      360
cgcgccgcca tcgagctcgc cgagtcatgc ccgcacgacg ccgccgccgc cgccgcctcc      420
agctccgcgc cgcgcgtcga ggcctccgcc gccgcgcgcg ccgccatgat gatgcagtac      480
caggacgaca tggcggcgcg gccgtccagc tacgactacg cgtactacg caacatggac      540
ttcgaccagc cgtcctacta ctacgacggg atgggcggcg gcggcgagta ccagagctgg      600
cagatggacg gcgacgacga tgggtggcgcc gccggtacg gcggcggcga cgtcacactc      660
tgagctact gatgatcgcg agttggagct agcagttttg agctcaacca gctttgctcc      720
tcctatacag ctaaatactg taggagaaat taatggagat tttt      764

```

<210> 364
 <211> 214
 <212> PRT
 <213> Oryza sativa

```

<400> 364
Met Glu Tyr Tyr Glu Gln Glu Glu Tyr Ala Thr Val Thr Ser Ala Pro
1      5      10      15
Pro Lys Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr Arg His Pro
20     25     30
Val Tyr Arg Gly Val Arg Arg Arg Gly Pro Ala Gly Arg Trp Val Cys
35     40     45
Glu Val Arg Glu Pro Asn Lys Lys Ser Arg Ile Trp Leu Gly Thr Phe
50     55     60
Ala Thr Ala Glu Ala Ala Ala Arg Ala His Asp Val Ala Ala Leu Ala
65     70     75     80

```

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```

Leu Arg Gly Arg Gly Ala Cys Leu Asn Phe Ala Asp Ser Ala Arg Leu
      85                      90                      95
Leu Arg Val Asp Pro Ala Thr Leu Ala Thr Pro Asp Asp Ile Arg Arg
      100                    105                    110
Ala Ala Ile Glu Leu Ala Glu Ser Cys Pro His Asp Ala Ala Ala Ala
      115                    120                    125
Ala Ala Ser Ser Ser Ala Ala Ala Val Glu Ala Ser Ala Ala Ala Ala
      130                    135                    140
Pro Ala Met Met Met Gln Tyr Gln Asp Asp Met Ala Ala Thr Pro Ser
      145                    150                    155                    160
Ser Tyr Asp Tyr Ala Tyr Tyr Gly Asn Met Asp Phe Asp Gln Pro Ser
      165                    170                    175
Tyr Tyr Tyr Asp Gly Met Gly Gly Gly Gly Glu Tyr Gln Ser Trp Gln
      180                    185                    190
Met Asp Gly Asp Asp Asp Gly Gly Ala Gly Gly Tyr Gly Gly Gly Asp
      195                    200                    205
Val Thr Leu Trp Ser Tyr
      210

```

<210> 365
 <211> 862
 <212> DNA
 <213> Oryza sativa

```

<400> 365
catccatgga ggtggaggag gcggcgtaga ggacggtgtg gtcggagccg ccgaagaggc      60
cggcgggaag gaccaagttc agggagacga ggcacccggt gtaccgcggc gtgcggcggc      120
gcggggggcg gccgggcgcg gcggggaggt ggtgtgtcga ggtgcgggtg cccggggcgc      180
gcggtccag gctgtggctc ggcacgttcg ccaccgccga ggcggcggcg cgcgcgcacg      240
acgcgcgcg gctggcgctc cgcggcaggg ccgcctgcct caacttcgcc gactccgcgt      300
ggcgggatgcc gcccggtcccc gcgtccgccc cgctcgccgg cgcgaggggg gtcagggacg      360
ccgtcgccgt ggccgtcgag gcgttccagc gccagtcggc cgcgcgcgtc tctccggcgg      420
agaccttcgc cgacgatggc gacgaagaag aagacaacaa ggacgtgttg ccggtggcgg      480
cggcggaggt gttcgacgcg ggggcgttcg agctcgacga cgggttcagg ttcggcggga      540
tggaagccgg gtcgtactac gcgagcttgg cgcaggggct gctcgtcgag ccgcccggcc      600
ccggagcgtg gtgggaggac ggcgagctcg ccggtccga tatgccgctc tggagctact      660
aatcaaaatc tcgcactgaa aagtgtggac aaattttgat tctccagaaa ttgggggaaa      720
aaagagaaca gagtatttgt gaatttagaa cagagtaggc aatgagactg aggatgaatg      780
gcatttttgt aattttggaa tgtgccagat ttctccctcc ttttgtgatt ccatctgatt      840
ttgaatgtgc agtcatgaat tc                                     862

```

<210> 366
 <211> 218
 <212> PRT
 <213> Oryza sativa

```

<400> 366
Met Glu Val Glu Glu Ala Ala Tyr Arg Thr Val Trp Ser Glu Pro Pro
1      5      10      15
Lys Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr Arg His Pro Val
      20      25      30
Tyr Arg Gly Val Arg Arg Arg Gly Gly Arg Pro Gly Ala Ala Gly Arg
      35      40      45
Trp Val Cys Glu Val Arg Val Pro Gly Ala Arg Gly Ser Arg Leu Trp
      50      55      60
Leu Gly Thr Phe Ala Thr Ala Glu Ala Ala Ala Arg Ala His Asp Ala
      65      70      75      80
Ala Ala Leu Ala Leu Arg Gly Arg Ala Ala Cys Leu Asn Phe Ala Asp
      85      90      95

```


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```

Ser Ala Trp Arg Met Pro Pro Val Pro Ala Ser Ala Ala Leu Ala Gly
      100                      105                      110
Ala Arg Gly Val Arg Asp Ala Val Ala Val Ala Val Glu Ala Phe Gln
      115                      120                      125
Arg Gln Ser Ala Ala Pro Ser Ser Pro Ala Glu Thr Phe Ala Asp Asp
      130                      135                      140
Gly Asp Glu Glu Glu Asp Asn Lys Asp Val Leu Pro Val Ala Ala Ala
      145                      150                      155                      160
Glu Val Phe Asp Ala Gly Ala Phe Glu Leu Asp Asp Gly Phe Arg Phe
      165                      170                      175
Gly Gly Met Asp Ala Gly Ser Tyr Tyr Ala Ser Leu Ala Gln Gly Leu
      180                      185                      190
Leu Val Glu Pro Pro Ala Ala Gly Ala Trp Trp Glu Asp Gly Glu Leu
      195                      200                      205
Ala Gly Ser Asp Met Pro Leu Trp Ser Tyr
      210                      215

```

<210> 367
 <211> 699
 <212> DNA
 <213> Zea mays

```

<400> 367
atggagtacg cgcgcgtcgg ctacggctac gggtagcgggt acgacgagcg ccaggagccg      60
gcggagtcgg cggacggcgg cggcggcggc gacgacgagt acgacgacgt gctgtcggcg      120
ccaccaagc ggccggcggg gcggaaccaag ttccgggaga cgcgcgaccc cgtgtaccgc      180
ggcgtgcggc ggccggggcc cgcggggcgc tgggtgtgcg aggtccgcga gcccaacaag      240
aagtcgcgca tctggctcgg caccttcgcc acccccgagg ccgcgcgcgc cgcgcacgac      300
gtggccgcgc tggcctcggc gggccgcgcc gcgtgcctca acttcgccga ctgggcgcgc      360
ctgctccagg tcgacccgcg cagctcgccg acccccgacg acatccgcgc cgcgcgccatc      420
cagctcgccg acgcgcctc gcagcaggat gagactgccg ccggttgccg tgacgtggtc      480
gcgccctcgc aggcggacga cgtcgccgcc gccgcgccg ccgcggcggc gatgtacggc      540
ggcggcatgg agttcgacca ctctatttgc tacgacgacg ggatgggtgag cgggagcagc      600
gactgctggc aaagcggcgc cggcgccggg ggatggcata gcatcgtgga cggcgactac      660
gacgacggcg ccagcgacat gacgctctgg agctactga      699

```

<210> 368
 <211> 232
 <212> PRT
 <213> Zea mays

```

<400> 368
Met Glu Tyr Ala Ala Val Gly Tyr Gly Tyr Gly Tyr Gly Tyr Asp Glu
1      5      10      15
Arg Gln Glu Pro Ala Glu Ser Ala Asp Gly Gly Gly Gly Gly Asp Asp
      20      25      30
Glu Tyr Ala Thr Val Leu Ser Ala Pro Pro Lys Arg Pro Ala Gly Arg
      35      40      45
Thr Lys Phe Arg Glu Thr Arg His Pro Val Tyr Arg Gly Val Arg Arg
      50      55      60
Arg Gly Pro Ala Gly Arg Trp Val Cys Glu Val Arg Glu Pro Asn Lys
      65      70      75      80
Lys Ser Arg Ile Trp Leu Gly Thr Phe Ala Thr Pro Glu Ala Ala Ala
      85      90      95
Arg Ala His Asp Val Ala Ala Leu Ala Leu Arg Gly Arg Ala Ala Cys
      100      105      110
Leu Asn Phe Ala Asp Ser Ala Arg Leu Leu Gln Val Asp Pro Ala Thr
      115      120      125
Leu Ala Thr Pro Asp Asp Ile Arg Arg Ala Ala Ile Gln Leu Ala Asp

```

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```

130          135          140
Ala Ala Ser Gln Gln Asp Glu Thr Ala Ala Val Ala Ala Asp Val Val
145          150          155          160
Ala Pro Ser Gln Ala Asp Asp Val Ala Ala Ala Ala Ala Ala Ala
165          170          175
Ala Met Tyr Gly Gly Gly Met Glu Phe Asp His Ser Tyr Cys Tyr Asp
180          185          190
Asp Gly Met Val Ser Gly Ser Ser Asp Cys Trp Gln Ser Gly Ala Gly
195          200          205
Ala Gly Gly Trp His Ser Ile Val Asp Gly Asp Tyr Asp Asp Gly Ala
210          215          220
Ser Asp Met Thr Leu Trp Ser Tyr
225          230

```

<210> 369
 <211> 696
 <212> DNA
 <213> Zea mays

```

<400> 369
atgtgcccaa ccaagaaggg gatgaccgga gagccgagct cgccatgcag ctcggcacatca 60
gcctcgacct taccggagca ccaccagacg gtgtggacgt cgccgccgaa gcggccagcg 120
ggcgcgacca agttccggga gacgcggcac ccggtgttcc gcggcggtccg gcggccggggc 180
agcgccggggc ggtgggtgtg cgaggtgctg gtgccgggga ggcgcggctg caggctctgg 240
ctcggcacct tcgacacggc cgagggcgcg gccgcgcgc acgacgccgc catgctcgcc 300
ctcgccggcg cgggcgccctg ctgcctcaac ttccgcgact cggcctggct cctcgcggtc 360
ccggcctcgt gcgccagcct cgccgaggtc cgccacgcgg tcgcggacgc cgtggaggac 420
ttcctccgcc atcaggtggt cccggaggac gacgccctcg cggccacgcc gtcgtcgct 480
tccagcgaag acggcagcac ctctgatggc ggggagtcct cctctgattc ctctccgccc 540
accggggcct cgccgttcga attggatgtg ttcaacgaca tgagctggga cctgcactac 600
gcgagcttgg cgcagggatt gctcgtggag ccaccgtccg cggtcacggc gctcatggac 660
gaaggcttgc ccgatgtgcc gctctggagc tactag 696

```

<210> 370
 <211> 231
 <212> PRT
 <213> Zea mays

```

<400> 370
Met Cys Pro Thr Lys Lys Gly Met Thr Gly Glu Pro Ser Ser Pro Cys
1          5          10          15
Ser Ser Ala Ser Ala Ser Thr Leu Pro Glu His His Gln Thr Val Trp
20          25          30
Thr Ser Pro Pro Lys Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr
35          40          45
Arg His Pro Val Phe Arg Gly Val Arg Arg Arg Gly Ser Ala Gly Arg
50          55          60
Trp Val Cys Glu Val Arg Val Pro Gly Arg Arg Gly Cys Arg Leu Trp
65          70          75          80
Leu Gly Thr Phe Asp Thr Ala Glu Ala Ala Arg Ala His Asp Ala
85          90          95
Ala Met Leu Ala Leu Ala Gly Ala Gly Ala Cys Cys Leu Asn Phe Ala
100          105          110
Asp Ser Ala Trp Leu Leu Ala Val Pro Ala Ser Cys Ala Ser Leu Ala
115          120          125
Glu Val Arg His Ala Val Ala Asp Ala Val Glu Asp Phe Leu Arg His
130          135          140
Gln Val Val Pro Glu Asp Asp Ala Leu Ala Ala Thr Pro Ser Ser Pro
145          150          155          160

```

PF58787.ST25.txt

```

Ser Ser Glu Asp Gly Ser Thr Ser Asp Gly Gly Glu Ser Ser Ser Asp
      165                      170                      175
Ser Ser Pro Pro Thr Gly Ala Ser Pro Phe Glu Leu Asp Val Phe Asn
      180                      185                      190
Asp Met Ser Trp Asp Leu His Tyr Ala Ser Leu Ala Gln Gly Leu Leu
      195                      200                      205
Val Glu Pro Pro Ser Ala Val Thr Ala Leu Met Asp Glu Gly Phe Ala
      210                      215                      220
Asp Val Pro Leu Trp Ser Tyr
225                      230

```

<210> 371
 <211> 1085
 <212> DNA
 <213> Zea mays

```

<400> 371
gctcaagctc gagacaagaa accagaacca gctcactcct cactccactt ccactcccaa      60
cagcaagctc aagcagtcag tcaccggcag gggtcagggt cacagtcaca gcagcagcca      120
tggaacacggc cggcctcgtc cagcacgcga cctcctcgtc ttccacctcc acctcggcgt      180
cgtcgtcctc gtccgagcag cagagccgca aggcggcgtg gccgcccgtc accgcttctc      240
caccacagca gccgccaag aagcgccccg cggggcgcac aaagtcccg gagacgcggc      300
acccggtgtt ccgcggcgtg cggcgggcggg gcgccgcggg ccggtgggtg tgcgaggtgc      360
gcgtcccggg gaggcgcggc gcgcggctgt ggctcggcac ctacctcgcc gccgaggcgg      420
cggcgcgcgc gcacgacgcc gcgatactcg ccctgcaggg ccgcggcgcg gggcgccctca      480
acttcccgga ctccgcgcgg ctgctcgccg tgccgcccc gtccgcgctc ccggggcctg      540
acgacgcccg ccgcgcggcg ctcgaggccg tcgcggagtt ccagcgccgc tctgggtccg      600
ggtccggggc cgccgacgaa gcgacctcg gcgcgtctcc tccctcctcg tcgccgtcgc      660
tgccggacgt ttctgcggct ggctcgccgg cggcggcgct tgagcacgtg cctgtgaagg      720
ccgacgaagc agtggcggtg gacttggacg gcgacgtgtt cgggcccgcac tggttcgggg      780
acatgggcct ggagttggat gcgtactacg ccagcctcgc ggaagggttg ctcgtgagc      840
cgccgcgcgc ccgcgcggcc tgggatcatg gagactgctg tgactccgga gctgcggacg      900
tcgcgctctg gagctactac tagcaaagtt aacaataata agcttgacag ccaaccccaa      960
aagcccccca actgattgta ttcacctctg taacaaaatt caaattgatt tcccagcaaa     1020
tgaacttcaa aagaagtctt tggttccgat ttaaaaaaaaa aaaaaaaaaa aaaaaaaaaa     1080
aaaaa                                             1085

```

<210> 372
 <211> 267
 <212> PRT
 <213> Zea mays

```

<400> 372
Met Asp Thr Ala Gly Leu Val Gln His Ala Thr Ser Ser Ser Ser Thr
1      5      10      15
Ser Thr Ser Ala Ser Ser Ser Ser Ser Glu Gln Gln Ser Arg Lys Ala
      20      25      30
Ala Trp Pro Pro Ser Thr Ala Ser Ser Pro Gln Gln Pro Pro Lys Lys
      35      40      45
Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr Arg His Pro Val Phe
      50      55      60
Arg Gly Val Arg Arg Arg Gly Ala Ala Gly Arg Trp Val Cys Glu Val
      65      70      75      80
Arg Val Pro Gly Arg Arg Gly Ala Arg Leu Trp Leu Gly Thr Tyr Leu
      85      90      95
Ala Ala Glu Ala Ala Ala Arg Ala His Asp Ala Ala Ile Leu Ala Leu
      100      105      110
Gln Gly Arg Gly Ala Gly Arg Leu Asn Phe Pro Asp Ser Ala Arg Leu
      115      120      125

```

PF58787.ST25.txt

```

Leu Ala Val Pro Pro Pro Ser Ala Leu Pro Gly Leu Asp Asp Ala Arg
 130                      135                      140
Arg Ala Ala Leu Glu Ala Val Ala Glu Phe Gln Arg Arg Ser Gly Ser
145                      150                      155                      160
Gly Ser Gly Ala Ala Asp Glu Ala Thr Ser Gly Ala Ser Pro Pro Ser
                      165                      170                      175
Ser Ser Pro Ser Leu Pro Asp Val Ser Ala Ala Gly Ser Pro Ala Ala
                      180                      185                      190
Ala Leu Glu His Val Pro Val Lys Ala Asp Glu Ala Val Ala Leu Asp
                      195                      200                      205
Leu Asp Gly Asp Val Phe Gly Pro Asp Trp Phe Gly Asp Met Gly Leu
                      210                      215                      220
Glu Leu Asp Ala Tyr Tyr Ala Ser Leu Ala Glu Gly Leu Leu Val Glu
225                      230                      235                      240
Pro Pro Pro Pro Pro Ala Ala Trp Asp His Gly Asp Cys Cys Asp Ser
                      245                      250                      255
Gly Ala Ala Asp Val Ala Leu Trp Ser Tyr Tyr
                      260                      265

```

<210> 373
 <211> 846
 <212> DNA
 <213> Zea mays

```

<400> 373
atggctcaag agctccacga aacgtcctct tgctctgccca ccaccacctc gtcgtgcacc 60
acatcctgct gctcgtccac tgtcacagac tcgtcctctt cgcccccgtc accggcgggcg 120
gccaatgccg cgcccgcgac acggaagcgg caggcgttgg aggccgaggc cgaggccgag 180
gcgggcgggtg aggaggagga ggaggaggag ggaagctgtg ctggtaataa agcggcgccg 240
gccaagaagc gaccgcgggg cagcgagggg aaacaccgca cgttcgcgcg cgtgcggatg 300
cgggcgtggg gcaagtgggt gtcggagatc cgcgagccgc gcaagaagtc gcgcatatgg 360
ctcggcacgt tccccaccgc cgagatggcc gcgcgcgccc acgacgtcgc ggcgctcgcc 420
atcaaaggcc gcgcgcgcga cctcaacttc ccggacttcg ccggcgcgct cccgcgcgcc 480
gcgtccgcgg cgcccaagga cgtccaggca gccgccgat tggccgctgc gttcacgtcg 540
ccgtcatcgg agcccggcgc cggcgcgcac gaggagcccg ctgccaagga cggcgccgcg 600
cccgaggagg cagccgccga cgcacaggca ccagtaccag tagcactacc accgccggcg 660
gcctctcggc cagggacgcc gtcgagcggc gtggaggacg agcggcagct gttcgacctg 720
ccggacctgc tcctcgacat ccgggacggg ttccggcgct tcccgccgat gtgggccccg 780
ctcactgacg tggaggaggt ggtcaatgcg gagctgcgcc tcgaggagcc gctgctttgg 840
gagtag 846

```

<210> 374
 <211> 281
 <212> PRT
 <213> Zea mays

```

<400> 374
Met Ala Gln Glu Leu His Glu Thr Ser Ser Cys Ser Ala Thr Thr Thr
1                      5                      10                      15
Ser Ser Cys Thr Thr Ser Cys Cys Ser Ser Thr Val Thr Asp Ser Ser
20                      25                      30
Ser Ser Pro Pro Ser Pro Ala Ala Asn Ala Ala Pro Ala Thr Arg
35                      40                      45
Lys Arg Gln Ala Leu Glu Ala Glu Ala Glu Ala Gly Gly Glu
50                      55                      60
Glu Glu Glu Glu Glu Glu Gly Ser Cys Ala Gly Asn Lys Ala Ala Pro
65                      70                      75                      80
Ala Lys Lys Arg Pro Arg Gly Ser Glu Gly Lys His Pro Thr Phe Arg
85                      90                      95

```

PF58787.ST25.txt

Gly Val Arg Met Arg Ala Trp Gly Lys Trp Val Ser Glu Ile Arg Glu
100 105 110
Pro Arg Lys Lys Ser Arg Ile Trp Leu Gly Thr Phe Pro Thr Ala Glu
115 120 125
Met Ala Ala Arg Ala His Asp Val Ala Ala Leu Ala Ile Lys Gly Arg
130 135 140
Ala Ala His Leu Asn Phe Pro Asp Phe Ala Gly Ala Leu Pro Arg Ala
145 150 155 160
Ala Ser Ala Ala Pro Lys Asp Val Gln Ala Ala Ala Ala Leu Ala Ala
165 170 175
Ala Phe Thr Ser Pro Ser Ser Glu Pro Gly Ala Gly Ala His Glu Glu
180 185 190
Pro Ala Ala Lys Asp Gly Ala Ala Pro Glu Glu Ala Ala Ala Asp Ala
195 200 205
Gln Ala Pro Val Pro Val Ala Leu Pro Pro Pro Ala Ala Ser Arg Pro
210 215 220
Gly Thr Pro Ser Ser Gly Val Glu Asp Glu Arg Gln Leu Phe Asp Leu
225 230 235 240
Pro Asp Leu Leu Leu Asp Ile Arg Asp Gly Phe Gly Arg Phe Pro Pro
245 250 255
Met Trp Ala Pro Leu Thr Asp Val Glu Glu Val Val Asn Ala Glu Leu
260 265 270
Arg Leu Glu Glu Pro Leu Leu Trp Glu
275 280

<210> 375
<211> 1455
<212> DNA
<213> Zea mays

<400> 375
cactcagact cagctcaatc ccgagacaaa ggaacccacc tccactccca ccagcaagct 60
caagcaagca gccaccacca gcagcgatca gcggcagcca tggacatggg ccggcaccag 120
ctccagctcc agcacgcggc ctctctgtcc tccacctcgg cgtcgtctcc gtccgagcag 180
gacaagccgc tctgtgtctc tgggtcccaag aagcgccccg cggggcgcac caagttccgg 240
gagacgcggc acccggtgtt ccgcggcggtg cggcgcgggg gcgccgcggg gcggtgggtg 300
tgcgaggtgc gcgtccccgg gcggcgcggc gcgcggtgt ggctcggcac ctacctcggc 360
gccgagggcg cggcgcgcgc gcacgacgcc gcgatgctcg ccctggggcg cggcgcggcc 420
tgccctcaact tccccgactc cgcgtggctg ctgcgcgtgc cgcgcccgcc cgcgtctctg 480
ggcggccttg acggcgcccc ccgggcccgc ctcgaggccg tcgcggagtt ccagagacgc 540
cgcttcgggg cggcagccgc cgacgaagcg acctcgggca cgtctcctcc ctctcctcc 600
tctcggcgca cgaagccggc gccggcgatt gagcgcgtgc ctgtggaggc cagtgaagac 660
gtggcggttg acggcgccgt gtccgagccc gactggttcg gggacatgga cttggacttg 720
tactatgcca gcctcgcgga agggctgctc gtggagccgc cgcccccgcc cccgcccgcc 780
gcctgggata atggtgactg ctgcgactcc ggagctgacg tcgcgctctg gagctactag 840
caagctatag cagcaataag ctccaccaac tcatctgtac tgtagtgtac ttgtaccttg 900
taccttgtac caaaatccaa attgatttgt agcgaattaa cttaccaatc ccccttggca 960
aaaaaaaaacc gaggtcgatg atgaggatgg cggtagtgac gaggataacg acgacgacga 1020
gtaaatagta tttccgctgt tgtgaggtag caaatcgatt gttaggtccc caattagctc 1080
actggtttgc tatctttaat gttaagttgt ttggaacagg tgtttatgaa ggggatctat 1140
tagtttcgtg aggttggttag tttagtgcac tagcaaagaa aaagccgaat gctgctagct 1200
attatgttgc ttttcttttg ctaatcactt gtgtcacaaac tttctgtacc tgtttcattg 1260
actaatctag tgactagtca gttatgggtt taatgttttg ttttggtttt atatatctct 1320
ttgttgcatt ctgtgcggtc tacggaagtc atctgtgctg tatgaatgat gaatatctgc 1380
ttgtggctcg tttcagttta gtgagttttt gttttgtgac tcaggttaat ttacatgagt 1440
ttgtttgtga ctgtt 1455

<210> 376
<211> 246

PF58787.ST25.txt

<212> PRT

<213> Zea mays

<400> 376

```

Met Asp Met Gly Arg His Gln Leu Gln Leu Gln His Ala Ala Ser Ser
1      5      10      15
Ser Ser Thr Ser Ala Ser Ser Ser Ser Glu Gln Asp Lys Pro Leu Cys
20      25      30
Cys Ser Gly Pro Lys Lys Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu
35      40      45
Thr Arg His Pro Val Phe Arg Gly Val Arg Arg Arg Gly Ala Ala Gly
50      55      60
Arg Trp Val Cys Glu Val Arg Val Pro Gly Arg Arg Gly Ala Arg Leu
65      70      75      80
Trp Leu Gly Thr Tyr Leu Gly Ala Glu Ala Ala Arg Ala His Asp
85      90      95
Ala Ala Met Leu Ala Leu Gly Arg Gly Ala Ala Cys Leu Asn Phe Pro
100     105     110
Asp Ser Ala Trp Leu Leu Ala Val Pro Pro Pro Ala Leu Ser Gly
115     120     125
Gly Leu Asp Gly Ala Arg Arg Ala Ala Leu Glu Ala Val Ala Glu Phe
130     135     140
Gln Arg Arg Arg Phe Gly Ala Ala Ala Ala Asp Glu Ala Thr Ser Gly
145     150     155     160
Thr Ser Pro Pro Ser Ser Ser Ser Ser Ala Thr Lys Pro Ala Pro Ala
165     170     175
Ile Glu Arg Val Pro Val Glu Ala Ser Glu Thr Val Ala Leu Asp Gly
180     185     190
Ala Val Phe Glu Pro Asp Trp Phe Gly Asp Met Asp Leu Asp Leu Tyr
195     200     205
Tyr Ala Ser Leu Ala Glu Gly Leu Leu Val Glu Pro Pro Pro Pro
210     215     220
Pro Pro Ala Ala Trp Asp His Gly Asp Cys Cys Asp Ser Gly Ala Asp
225     230     235     240
Val Ala Leu Trp Ser Tyr
245

```

<210> 377

<211> 800

<212> DNA

<213> Triticum aestivum

<400> 377

```

tttttgacgc tgcaactgat ggacaccgcc gctgccggct ccccgcgtag ggggcacagg      60
acggtgtgct cggagccgcc caagaggccg gcagggcgga ccaagttcag ggagacgcgc      120
caccgcgtgt accgcggcgt gcggcgccgg ggccggctcg ggcagtgggt gtgcgaggtt      180
cgcggtgcgcg gcgcgcaagg gtacaggctc tggctcgga ccttcaccac tgccgagatg      240
gcggcgcgcg cgacagactc cgccgtgctc gcgctcctcg accgcgccgc ctgcctcaac      300
ttcgccgact ccgcctggcg gatgctgccc gtcctcgcg ctggctcgtc ccgcttcagc      360
agcgcgcggg agatcaagga cgccgtcgcc atcgccgtcc tggagtcca gcggcagcgc      420
cccgtcgtgt caacgtcgga gatgcacgac ggcgaaaagg acgccaagg ctcgccgacg      480
ccgagcgagc tgtccacgtc cagcgacttg ttggacgagc actggttttg cggcatggac      540
gccggctcgt actacgcgag cttggcgagc gggtgctca tggagccgcc gtccgccaga      600
acgtggagcg aggatggcgg cgaatacagc gccgtctaca cgccgctttg gaactaatta      660
tccgactaat taagccatgt acagtttttg aaactactcc ctcggtaaac taatataaga      720
gcattttaat cattaaaata gtgatctaaa cactcttata ttaagtttac ggagggagta      780
ggctactagt ggttgtgttg
800

```

<210> 378

PF58787.ST25.txt

<211> 212
<212> PRT
<213> Triticum aestivum

<400> 378

```
Met Asp Thr Ala Ala Ala Gly Ser Pro Arg Glu Gly His Arg Thr Val
1          5          10          15
Cys Ser Glu Pro Pro Lys Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu
20          25          30
Thr Arg His Pro Leu Tyr Arg Gly Val Arg Arg Arg Gly Arg Leu Gly
35          40          45
Gln Trp Val Cys Glu Val Arg Val Arg Gly Ala Gln Gly Tyr Arg Leu
50          55          60
Trp Leu Gly Thr Phe Thr Thr Ala Glu Met Ala Ala Arg Ala His Asp
65          70          75          80
Ser Ala Val Leu Ala Leu Leu Asp Arg Ala Ala Cys Leu Asn Phe Ala
85          90          95
Asp Ser Ala Trp Arg Met Leu Pro Val Leu Ala Ala Gly Ser Ser Arg
100         105         110
Phe Ser Ser Ala Arg Glu Ile Lys Asp Ala Val Ala Ile Ala Val Leu
115         120         125
Glu Phe Gln Arg Gln Arg Pro Val Val Ser Thr Ser Glu Met His Asp
130         135         140
Gly Glu Lys Asp Ala Gln Gly Ser Pro Thr Pro Ser Glu Leu Ser Thr
145         150         155         160
Ser Ser Asp Leu Leu Asp Glu His Trp Phe Gly Gly Met Asp Ala Gly
165         170         175
Ser Tyr Tyr Ala Ser Leu Ala Gln Gly Met Leu Met Glu Pro Pro Ser
180         185         190
Ala Arg Thr Trp Ser Glu Asp Gly Glu Tyr Ser Ala Val Tyr Thr
195         200         205
Pro Leu Trp Asn
210
```

<210> 379
<211> 945
<212> DNA
<213> Triticum aestivum

<400> 379

```
ccacctcggtt acaccacaaa ccactctcaa cgccagctgc gaccgatgga caccaacgcc      60
gcctggccgc agtttgacgg gcaagagtag aggacggtgt ggccggagga gcaggagtag      120
cgacaggtgt ggtcggagcc gccgaagcgg cggcgggggc ggaacaagtt gcaggagaca      180
cgccacccag tgtaccgcgg cgtgcgcggc cgtggccggg aagggcagtg ggtgtgagag      240
ctgcgcgtgc cggccggaag ccggagttac tccaggatct ggcttggcac cttcgccagt      300
gccagatgg cggcgcgcg gcacgactcg gccgcgctcg cgctctccgg ccgcgacgcg      360
tgctcaact tcgccgactc gcctggcg atgatgccg tccacgcagc cgggtcgttc      420
aagttggccg ccgcgcagga gatcaaggac gccgtgcgag tggccctcaa ggagttccag      480
gagcagcagc gccctgccga cgagtcaacg gcgccgtcgt ccacggccga ggagagcgcg      540
ctctccatca tccccagcga cctgtcgggg ctcgacaatg agcactggat cggcggcgat      600
gaggccgggt cgtactacgc gagcttggcg caggggatgc tcatggagcc gccggccgac      660
ggagcttggc aggaggaccg cgaacacgac gacggattcg acacgtcgct gtggagctac      720
tagtgtgata aactgattaa gcaatgtaaa gatctagaga gtactgctag tgctagattg      780
tgtttcacca aatatgggaa gaagagagag taagcatcgg gggaaaagggt tcccccaat      840
gtgaaagcgc tcggtttcta ctccgggaag ggcacaaatg agcttctttc tttatttaat      900
aaataaatag agaaatgagc agcaaaaaaa aaaaaaaaaa aaaaa      945
```

<210> 380
<211> 225

PF58787.ST25.txt

<212> PRT

<213> Triticum aestivum

<400> 380

```

Met Asp Thr Asn Ala Ala Trp Pro Gln Phe Asp Gly Gln Glu Tyr Arg
1          5          10          15
Thr Val Trp Pro Glu Glu Gln Glu Tyr Arg Thr Val Trp Ser Glu Pro
          20          25          30
Pro Lys Arg Arg Ala Gly Arg Asn Lys Leu Gln Glu Thr Arg His Pro
          35          40          45
Val Tyr Arg Gly Val Arg Arg Arg Gly Arg Glu Gly Gln Trp Val Cys
          50          55          60
Glu Leu Arg Val Pro Ala Gly Ser Arg Ser Tyr Ser Arg Ile Trp Leu
65          70          75          80
Gly Thr Phe Ala Ser Ala Gln Met Ala Ala Arg Ala His Asp Ser Ala
          85          90          95
Ala Leu Ala Leu Ser Gly Arg Asp Ala Cys Leu Asn Phe Ala Asp Ser
          100          105          110
Ala Trp Arg Met Met Pro Val His Ala Ala Gly Ser Phe Lys Leu Ala
          115          120          125
Ala Ala Gln Glu Ile Lys Asp Ala Val Ala Val Ala Leu Lys Glu Phe
          130          135          140
Gln Glu Gln Gln Arg Pro Ala Asp Glu Ser Thr Ala Pro Ser Ser Thr
145          150          155          160
Ala Glu Glu Ser Ala Leu Ser Ile Ile Pro Ser Asp Leu Ser Gly Leu
          165          170          175
Asp Asn Glu His Trp Ile Gly Gly Met Glu Ala Gly Ser Tyr Tyr Ala
          180          185          190
Ser Leu Ala Gln Gly Met Leu Met Glu Pro Pro Ala Asp Gly Ala Trp
          195          200          205
Gln Glu Asp Arg Glu His Asp Asp Gly Phe Asp Thr Ser Leu Trp Ser
210          215          220
Tyr
225

```

<210> 381

<211> 1971

<212> DNA

<213> Triticum monococcum

<400> 381

```

aagcttcaag aattagttat ttttacatat agaccgtgta ttgaagatgt tctaagtggg      60
gctcctttgt gccttcgctc cccctagtagt tcggggaacc agacgacccc atgcagcagt    120
gactgctgcc ttctctttgc agccgaacag ccggcggacc aatcagtcaa ggcaatcacc    180
gctgcattaa gccagcacga agctgccttt ttttgcttaa cactgcgaag ccaaaagccc    240
ccacacgccc accaggagag aagtcacacg acgctatcac cccacagtcc ctttgtcacc    300
agctgtccgg acaccgcatc cctcccgcgg tcccaagcgc gttcatacac ttgaacctcc    360
agcatcacgc atacctatat ataaggaagt atccacact ctgctcaag ctcaacaagc    420
tagctcacac tcctcagtcc tccgtaagct caagcagcaa gctcgactgc tcaagcagga    480
atccaccagc caatcaccca gcactcagcc ggcagccatg gacatgggcc ttgaggtctc    540
gagctcctcc cgtcctcctt cgtcggcgtc gtctcgccc gagcacgcgg cggggcgggc    600
gtcgtcggcc aagcgccccg cggggcgcac caagttccgg gagacgcggc acccggtgta    660
ccgcggcgtg cggcgccggg gcaacgccga gcggtgggtc tgcgaggtgc gcgtccccgg    720
caagcgcggc gcgaggtctt ggctcgggac gtacgccacg gccgagatcg cggcgcgcgc    780
caacgacgcc gccatgctcg cccctgggcgg ccgctccgcc gcgtgcctca acttcgcgga    840
ctccgcgtgg ctgctcgccg tgcgcgccgc actgcgccac ctcggcgacg tccggcgcgc    900
ggcggtcgag gccgtcgtg atttcagag acgagaggct gccaacggct cccctcacagt    960
caccgccacc gtcaccgaag aggcctcctg tggcgctcct gaagaatcgt cgtctgagtc   1020
tgacagtgtc ggttcgtcgg agacgtcgga accttctgcc gatggagagt tcgaggtgcc   1080

```


PF58787.ST25.txt

```

ggtcgcggtg gacaccgata tgttcaggct tgacttggtc ccggaactgg atctgtgctc 1140
gtactacgcg agcctcgcgg aggcgctgct cgtggaccgg ccggcaccgg tgaccaccac 1200
ctacgcgtac tgggacaacg gcgacggcgg agctgatgtc gcgctctgga gctactagct 1260
agtacagtgc ataattcccc tcgcaaaaaa aaagtagtgc cgataattcc cagctctgta 1320
gctatttttc ccctgttaca aagttttccc cttgtgggaa aagactatgt acgtagtact 1380
cctaactaat aaggtgaagc tgctcctaata tcaatactcc ctctatccga aaatacttgt 1440
catcaaaata aataaataaa aatgtatcta aatgtatttt agttttaaat atattttttt 1500
tgttcatttt aatgacaagt attttcggac ggagagagta cttaactgtg aaacggggtt 1560
actcgataaa aatcttttgc cactgatagg tcactattcc cagccgggcc cttgactccc 1620
tgaaatgtac atacatgtag tttcaaacaa taaaaaggag cacaaaaacg gcaactcaca 1680
gcagatactt tgtttttttg acagaaaagt ttattttatt aatcaaagga tagcaacatc 1740
gtttgccaac aggtttacaa tgaaattgcg ggcatcaaac ccagcgagat ggattattag 1800
catgacccca acatgctaac tcatgagcta cattatttaa ctctctaata caatgctcaa 1860
tagttttttt aaaaaaggag gatgatcccc ggctctgca tctgtgagat gcatacgacc 1920
actttattga ttattttcaa ggaccttata aagcgttaca acaataagct t 1971

```

<210> 382

<211> 246

<212> PRT

<213> Triticum monococcum

<400> 382

```

Met Asp Met Gly Leu Glu Val Ser Ser Ser Ser Pro Ser Ser Ser Ser
1      5      10      15
Ala Ser Ser Ser Pro Glu His Ala Ala Gly Arg Ala Ser Leu Ala Lys
20      25      30
Arg Pro Ala Gly Arg Thr Lys Phe Arg Glu Thr Arg His Pro Val Tyr
35      40      45
Arg Gly Val Arg Arg Arg Gly Asn Ala Glu Arg Trp Val Cys Glu Val
50      55      60
Arg Val Pro Gly Lys Arg Gly Ala Arg Leu Trp Leu Gly Thr Tyr Ala
65      70      75      80
Thr Ala Glu Ile Ala Ala Arg Ala Asn Asp Ala Ala Met Leu Ala Leu
85      90      95
Gly Gly Arg Ser Ala Ala Cys Leu Asn Phe Ala Asp Ser Ala Trp Leu
100     105     110
Leu Ala Val Pro Pro Ala Leu Ala Asp Leu Gly Asp Val Arg Arg Ala
115     120     125
Ala Val Glu Ala Val Ala Asp Phe Gln Arg Arg Glu Ala Ala Asn Gly
130     135     140
Ser Leu Thr Val Thr Ala Thr Val Thr Glu Glu Ala Ser Cys Gly Ala
145     150     155     160
Pro Glu Glu Ser Ser Ser Glu Ser Asp Ser Val Gly Ser Ser Glu Thr
165     170     175
Ser Glu Pro Ser Ala Asp Gly Glu Phe Glu Val Pro Val Ala Val Asp
180     185     190
Thr Asp Met Phe Arg Leu Asp Leu Phe Pro Glu Leu Asp Leu Cys Ser
195     200     205
Tyr Tyr Ala Ser Leu Ala Glu Ala Leu Leu Val Asp Pro Pro Ala Pro
210     215     220
Val Thr Thr Thr Tyr Ala Tyr Trp Asp Asn Gly Asp Gly Gly Ala Asp
225     230     235     240
Val Ala Leu Trp Ser Tyr
245

```

<210> 383

<211> 639

<212> DNA

<213> Triticum monococcum

PF58787.ST25.txt

<400> 383

ttagctccac	aacggcgtct	gcgtctccgc	cacgccgtg	tgctcgtgt	cctctcgcca	60
ggctccggcg	tccggcggct	ccacgagcat	cccctgcgcc	aagctctcgt	agtacgaccc	120
ggcaaccatg	ccgccaacc	actgctcgtc	gtcgagctcc	agcaagtcgc	ctgacgacat	180
ggagaacagc	gcgccgctcg	gggcgacggc	cggctccgct	gccgggcacg	cgactggaag	240
aacgatctgc	tgccgctgga	acgcgaggac	ggcgacggcg	acggcggtct	tgatctcccg	300
cgcgctgccg	aagccgaagg	agccggccgc	gagcacgggc	agcatccgcc	aggcgagtc	360
ggcgaagttg	aggcaggctt	tgccggccgga	gagcgcgagc	acggcggcgt	cgtgggcgcg	420
cgccgccatc	tcggcggtga	cgaaggtgcc	gagccagagc	ctggatcccc	tcatcccag	480
cacgcgcacc	tcgcagaccc	accgcccggc	gggccccgc	tggcgcacgc	cgcggtacag	540
cgggtggcgc	gtctcctgga	acttggtccg	ccccgcgggc	cgcttcggcg	gctccgacct	600
caccgtcctg	tgccgctgct	cctcctgacc	agacggcat			639

<210> 384

<211> 212

<212> PRT

<213> Triticum monococcum

<400> 384

Met	Pro	Ser	Gly	Gln	Glu	Glu	Gln	Arg	His	Arg	Thr	Val	Arg	Ser	Glu
1				5					10					15	
Pro	Pro	Lys	Arg	Pro	Ala	Gly	Arg	Thr	Lys	Phe	Gln	Glu	Thr	Arg	His
			20					25					30		
Pro	Leu	Tyr	Arg	Gly	Val	Arg	Gln	Arg	Gly	Pro	Ala	Gly	Arg	Trp	Val
		35					40					45			
Cys	Glu	Val	Arg	Val	Leu	Gly	Met	Arg	Gly	Ser	Arg	Leu	Trp	Leu	Gly
	50					55					60				
Thr	Phe	Val	Thr	Ala	Glu	Met	Ala	Ala	Arg	Ala	His	Asp	Ala	Ala	Val
65					70					75					80
Leu	Ala	Leu	Ser	Gly	Arg	Lys	Ala	Cys	Leu	Asn	Phe	Ala	Asp	Ser	Ala
				85					90					95	
Trp	Arg	Met	Leu	Pro	Val	Leu	Ala	Ala	Gly	Ser	Phe	Gly	Phe	Gly	Ser
			100					105					110		
Ala	Arg	Glu	Ile	Lys	Thr	Ala	Val	Ala	Val	Ala	Val	Leu	Ala	Phe	Gln
		115					120					125			
Arg	Gln	Gln	Ile	Val	Leu	Pro	Val	Ala	Cys	Pro	Ala	Ala	Glu	Pro	Ala
		130				135					140				
Val	Ala	Pro	Ser	Gly	Ala	Leu	Phe	Ser	Met	Ser	Ser	Gly	Asp	Leu	Leu
145					150					155					160
Glu	Leu	Asp	Asp	Glu	Gln	Trp	Phe	Gly	Gly	Met	Val	Ala	Gly	Ser	Tyr
			165					170						175	
Tyr	Glu	Ser	Leu	Ala	Gln	Gly	Met	Leu	Val	Glu	Pro	Pro	Asp	Ala	Gly
			180				185						190		
Ala	Trp	Arg	Glu	Asp	Ser	Glu	His	Ser	Gly	Val	Ala	Glu	Thr	Gln	Thr
		195					200					205			
Pro	Leu	Trp	Ser												
			210												

<210> 385

<211> 2148

<212> DNA

<213> Triticum monococcum

<400> 385

aagcttcagc	atgaatggcg	aaaatgcacg	tgaagaagct	ccgatcggtg	ggacgtaaca	60
gacgggcaca	aatggacaaa	gagtgctcga	ccaacctata	aacaaacaat	aggcgaaaaa	120
accacgtatc	tgtttgtgtc	ggcgcgctcg	agtgtcttaa	cctctatgca	acaaagagtc	180
gccgcgttaa	ggcgggcggg	cgggcggcag	gcacatggcg	tccgcctcgc	gcacctcgtg	240

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tcagcccggc agccccgcca cgtaccaaag agcacgcaaa agggcaaggt taacctgacg 300
tgccgcccgc cagcccgggg atcgtcgtta tcgcccgcgc gcgtggggcg gcagacgcgc 360
agtcagttga caggccgaag caccgtccgt cccacgcagg cagcagctg ctctgcggga 420
cagagtacca gtactaggat aataacggcg ggccgtggac gcgttcgggc gggcggcgcc 480
agggcacgag ccgcccacca tccgtccctg ccgcacgtgc tttcctcgag atccggagct 540
ctaccagtac accatagtct gaccactga cacagtacga tgccggccgg ccaagaccag 600
cagaaaatcc cgtctctgtc gccgtctcca cgtggcctct ccccttccg gtcgccttgc 660
ttccgatgca aagtgtgcaa ttccgaactc ttctagtgtg agccttgtat actccgcgcg 720
aagctagccc gccacgcca cgcagccggc ctccctccgc caccgtgtcc cgcgacgcgc 780
cgcccattcg gaccgcccac gcgccccggc cgaatcctat atacacacgt cgctctctc 840
gctccctccc tccgatcat acaaacctcg atcacaagcc aacaccattg attcgctagc 900
tacagtgtct gcagataagc aaacgatcga tccgtgcaag atggacaact ccggcgtggg 960
cttctatggc ggcgcatacg cgacggtgat gtcgcccgcg ccgaagcggc cggcggggcg 1020
gaccaagttc cgggagacgc gccaccgggt gtaccgcggc gtgcccggc gcggcgccgc 1080
ggggcgctgg gtgtgcgagg tgcgccagcc caacaacaag tccgcctct ggctcggcac 1140
cttcgccagc cccgaggccg ccgcgcgcgc ccacgacgtc gccgcgctcg cgctccgggg 1200
ccgcgcgcgc tgctcaact tcgccgactc ggccgcgctg ctgcgcgctg acccgccac 1260
gctccgcacg cccagagaca tcagagccgc cgcaatcacg ctgcccaga cggcctgccc 1320
gcacgacgcg ccgaggtcct ctgtgtccgc ggcgtctgcg ccggcgcccg cgatggtgat 1380
cacgcaggag gccgcggctg cgccgtacga cagctacgcc atgtacggcg gcttggcgga 1440
cctggaacag cattccact gctactacga cgggatgagc ggcagcggcg actggcagag 1500
catctcacac atgaacgtcg ccgacgaaga cggtggttac ggcgcaggag acgtcgcgct 1560
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ctgagtcctc cgaaatccac gatcgatagg ggagtggcgt atggacgcac accatattcg 1680
catgagctag tttcaagcac gcgtactctg ctttcccatg ttcttgaaaa ttggcgctaa 1740
aactacacac gtgagctagt tttggtaggg gtatagtgtc aggaaatata tgcagccagt 1800
ttgctgagcg gttacagaca atttatacct cactcgagat ttttttttcc cttccatgta 1860
aatagctctg tcaaaagtaa tatactctac cttgtaaata ctgcagatcc ttaatttgat 1920
cttttttctc tttaaaatga tgagagcaat tataaagatt caccaaagca aagcacctca 1980
aacataataa aagatacatc gagatccatg aacaatcaaa ccaccgccgc cgccgtcaaa 2040
acaagccatt gaatccttta tttgatctga ggaatctgac acgaaatctc gtcgttgccg 2100
gtgccctgac ctgcccgccc aagaagctgg cagaatatgc ccaagctt 2148

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<210> 386
 <211> 210
 <212> PRT
 <213> *Triticum monococcum*

<400> 386

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

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Met Tyr Gly Gly Leu Ala Asp Leu Glu Gln His Ser His Cys Tyr Tyr
 165 170 175
 Asp Gly Met Ser Gly Ser Gly Asp Trp Gln Ser Ile Ser His Met Asn
 180 185 190
 Val Ala Asp Glu Asp Gly Gly Tyr Gly Ala Gly Asp Val Ala Leu Trp
 195 200 205
 Ser Tyr
 210

<210> 387
 <211> 912
 <212> DNA
 <213> Gossypium hirsutum

<400> 387
 tctacctact acgcatacat acatgcacgc aaatgtagaa tcacagatat ggccaatttg 60
 tccccgaag tgaaccacc aacccctcaa atccccgact ctacgctcga tcttggtgcag 120
 ttgccaaatc acagcaacct accttccatc ccgacgcaa accctgttca ataatagctgg 180
 cctgggttccg gaaggcattc tagttatcgg ggaatacgaa gcaggagcgg caaatgggta 240
 tctgaaatac gcgagccgcg taaaaccacg cgtatatggc tcggaacgta cccactcct 300
 gaaatggcag ccaccgcgta tgatgtggct gctattgtc taaaaggtcc cgacacggat 360
 ttgaactttc cggatatgat tctttcgtat ccaaaagtgg cttctacatc cgcagccgat 420
 attcgagcgg ctgctgctag tgctgccgct tccaggctac ccatgccaga tacgggggtca 480
 tcaaacacag atcaaggcaa ccttcaaaat gagggtagcg cgtcgacgtt tagcacttgc 540
 atggagtcct gttcagggtca ggaatatatt gacgaggaag agctttttaa ctttcccaat 600
 ttgatgggtg acatggcagg aggaatgctc gtaaccctc ccaggatcaa ctcactcgct 660
 tcagatgatt caccagagat ttcagatata gaaagcctat ggacttatcc ttaaaggggc 720
 tctaaattta ctgagatagc agaaagtaca aaataagaaa tgtgattgaa aaagtagatg 780
 agatgatcac aaatgtgaag gtatttgtcc tttttgatct cttttgggct gtttctgtca 840
 tgccctgtat ctgtatgcat tcctgagtat tgctagttaa agtttgcttg aggtaaacta 900
 aaaaaaaaaa aa 912

<210> 388
 <211> 221
 <212> PRT
 <213> Gossypium hirsutum

<400> 388
 Met Ala Asn Leu Ser Pro Glu Val Asn Pro Pro Thr Pro Gln Ile Pro
 1 5 10 15
 Asp Ser Thr Leu Asp Leu Val Gln Leu Pro Asn His Ser Asn Leu Pro
 20 25 30
 Ser Ile Pro Thr Pro Asn Pro Val Gln Tyr Ser Trp Pro Gly Ser Gly
 35 40 45
 Arg His Ser Ser Tyr Arg Gly Ile Arg Ser Arg Ser Gly Lys Trp Val
 50 55 60
 Ser Glu Ile Arg Glu Pro Arg Lys Thr Thr Arg Ile Trp Leu Gly Thr
 65 70 75 80
 Tyr Pro Thr Pro Glu Met Ala Ala Thr Ala Tyr Asp Val Ala Ala Ile
 85 90 95
 Ala Leu Lys Gly Pro Asp Thr Asp Leu Asn Phe Pro Asp Met Ile Leu
 100 105 110
 Ser Tyr Pro Lys Val Ala Ser Thr Ser Ala Ala Asp Ile Arg Ala Ala
 115 120 125
 Ala Ala Ser Ala Ala Ala Ser Arg Leu Pro Met Pro Asp Thr Gly Ser
 130 135 140
 Ser Lys Gln Asp Gln Gly Asn Leu Gln Asn Glu Gly Thr Ala Ser Thr
 145 150 155 160
 Phe Ser Thr Cys Met Glu Ser Gly Ser Gly Gln Glu Tyr Ile Asp Glu

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				165					170					175					
Glu	Glu	Leu	Leu	Asn	Phe	Pro	Asn	Leu	Met	Val	Asp	Met	Ala	Gly	Gly				
			180					185					190						
Met	Leu	Val	Thr	Pro	Pro	Arg	Ile	Asn	Ser	Leu	Ala	Ser	Asp	Asp	Ser				
		195					200					205							
Pro	Glu	Ile	Ser	Asp	Ile	Glu	Ser	Leu	Trp	Thr	Tyr	Pro							
	210					215					220								

<210> 389
 <211> 1064
 <212> DNA
 <213> Gossypium hirsutum

<400> 389
 cattactcat gattcaaatt tctgccatat tacacacaaa caatggctga atctgatoct 60
 tcttcaacca atgtgcccc gaaagaccag ccaccaccac caactgttcc aatccctgac 120
 gtcctccgc aagagcagtc gccgaaacca tcatccactc cattgggtctc atcgaaagaa 180
 ggcgtaagtg ggaatccac atcgagaaag ttgtcggcgg tttatcgggg agtaagaagc 240
 aggagtggga aatgggtgtc ggaaatacgt gagccgcgta aaacgacgcg tatatggcta 300
 gggacatacc ctacacctga aatggcagcc accgcgtatg acgtggctgc tcttgcccta 360
 aaaggtcccg acgcggaact gaactttccg gatatggttc attcgtatcc gaaagtgggt 420
 tctacatcgg caactgatat tcgtgccgcc gctgctagt cgcgcgttc tagactacta 480
 cccaagtctg ttaccaatac tgggtcctta tcaaaaaacg aggacaccac atcgactact 540
 gctatggaga ttacctgttc aggtcaagaa tttatcgacg aggaagagct tttaaacttt 600
 cccaatttgg tgggtggatat ggcaggggga atgctagtta gccctccaaa ctggataaac 660
 tcaccacctt ctgatgattc accagataat tcagatgtag atacactatg gacttacact 720
 taaaatagaa aaattcactg taaaagtgat gaatgagaga gagtataaag tccaatgaaa 780
 tgtagaagaa gaagcatggt ttgaaaacta gggcttagat gctactgatg attcagtaat 840
 atgaaatgca gaaggtactg tcatttgtcc ttttttttcc ctctgtccct tctggttttt 900
 atctctttta ggggttggtc cattgctgga aaaacatatg aacaaatcag aagccaatat 960
 aagaagaatc tgagtggttt tacatatctg ttgcaatatt gatgctatta taaagcttgg 1020
 gttttctttt gtttttttaa aaaaaaaaaa aaaaaaaaaa aaaa 1064

<210> 390
 <211> 226
 <212> PRT
 <213> Gossypium hirsutum

<400> 390
 Met Ala Glu Ser Asp Pro Ser Ser Thr Asn Val Pro Pro Lys Asp Gln
 1 5 10 15
 Pro Pro Pro Pro Thr Val Pro Ile Pro Asp Ala Pro Pro Gln Glu Gln
 20 25 30
 Ser Pro Lys Pro Ser Ser Thr Pro Leu Val Ser Ser Lys Glu Gly Val
 35 40 45
 Ser Gly Asn Pro Thr Ser Arg Lys Leu Ser Ala Val Tyr Arg Gly Val
 50 55 60
 Arg Ser Arg Ser Gly Lys Trp Val Ser Glu Ile Arg Glu Pro Arg Lys
 65 70 75 80
 Thr Thr Arg Ile Trp Leu Gly Thr Tyr Pro Thr Pro Glu Met Ala Ala
 85 90 95
 Thr Ala Tyr Asp Val Ala Ala Leu Ala Leu Lys Gly Pro Asp Ala Glu
 100 105 110
 Leu Asn Phe Pro Asp Met Val His Ser Tyr Pro Lys Val Gly Ser Thr
 115 120 125
 Ser Ala Thr Asp Ile Arg Ala Ala Ala Ser Ala Ala Ala Ser Arg
 130 135 140
 Leu Leu Pro Lys Ser Val Thr Asn Thr Gly Ser Leu Ser Lys Asn Glu
 145 150 155 160

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Asp Thr Thr Ser Thr Thr Ala Met Glu Ile Thr Cys Ser Gly Gln Glu
165 170 175
Phe Ile Asp Glu Glu Glu Leu Leu Asn Phe Pro Asn Leu Val Val Asp
180 185 190
Met Ala Gly Gly Met Leu Val Ser Pro Pro Asn Trp Ile Asn Ser Pro
195 200 205
Pro Ser Asp Asp Ser Pro Asp Asn Ser Asp Val Asp Thr Leu Trp Thr
210 215 220
Tyr Thr
225

<210> 391
<211> 1102
<212> DNA
<213> Gossypium hirsutum

<400> 391
ggccattacg gccggggaga aaaagaaagc tcatttagtt aatattttcc cttgcatttc 60
caaattcgga agttcataca gcaagtgatt tcctaaaata cttggatcct aagtacgaat 120
atccttttct tgaaatatac tctttttaag tcaaaagctt tgtttaactg aaacttaaac 180
tgattactgt ttgggttttt tttttaaatg gattttgtag ttcaagatta tgatatgggt 240
gattctgggt cggtttctga aagtggaact gatcgtccgg tgaatttttc cgatgaatat 300
gtgatgttag cttcgagtta tccaaagagg cccgcgggaa ggaagaagtt ccgggagact 360
cgacaccogg tgtaccgtgg agttcgccgg aggaatcccg ggaagtgggt ttctgaagtg 420
agggagccta ataagaagtc gaggatttgg cttggaactt tcccgaaggc ggatatggcg 480
gcgcgtgctc acgacgtggc agctatagca ctgagaggga agtcagcttg tttgaacttc 540
gctgactcag cttggaagct tccgggtccc gcttcttccg acccaaagga tatccaaaag 600
acgggtggcg aggtggcgga gactttcaga acggctgagc attcgagcgg gaattctaga 660
aacgatgcaa agagaagtga aaacacggag atggagaaag ggttttactt ggacgaagaa 720
gcgttggttg ggacacaaag attttgggca aatatggctg ccggtatgat gatgtcacct 780
cctcgttccg gtcacgacgg aggatgggag gaacatgaag tcgatgatta tgtaccctta 840
tgagagttatt ctatttaaaa gtaaaatttt tcagacattt tcaagcattc attggaattt 900
ttagttcaca gaaatcgcca ccggcaattg ccttttatgt tttgtacgta caacgatttt 960
tttggtattg acgggtagtg ctgtaagtaa aaagattaat gtgtatatat acgatgtata 1020
tatacttcat agcttctcca aacaataaat ttatagcttc atatctattt taccatcaaa 1080
aaaaaaaaa aaaaaaaaaa aa 1102

<210> 392
<211> 216
<212> PRT
<213> Gossypium hirsutum

<400> 392
Met Asp Phe Val Val Gln Asp Tyr Asp Met Val Asp Ser Gly Ser Val
1 5 10 15
Ser Glu Ser Gly Thr Asp Arg Pro Val Asn Phe Ser Asp Glu Tyr Val
20 25 30
Met Leu Ala Ser Ser Tyr Pro Lys Arg Pro Ala Gly Arg Lys Lys Phe
35 40 45
Arg Glu Thr Arg His Pro Val Tyr Arg Gly Val Arg Arg Arg Asn Pro
50 55 60
Gly Lys Trp Val Ser Glu Val Arg Glu Pro Asn Lys Lys Ser Arg Ile
65 70 75 80
Trp Leu Gly Thr Phe Pro Lys Ala Asp Met Ala Ala Arg Ala His Asp
85 90 95
Val Ala Ala Ile Ala Leu Arg Gly Lys Ser Ala Cys Leu Asn Phe Ala
100 105 110
Asp Ser Ala Trp Lys Leu Pro Val Pro Ala Ser Ser Asp Pro Lys Asp
115 120 125

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```

Ile Gln Lys Thr Val Ala Glu Val Ala Glu Thr Phe Arg Thr Ala Glu
  130                      135                      140
His Ser Ser Gly Asn Ser Arg Asn Asp Ala Lys Arg Ser Glu Asn Thr
 145                      150                      155                      160
Glu Met Glu Lys Gly Phe Tyr Leu Asp Glu Glu Ala Leu Phe Gly Thr
                      165                      170                      175
Gln Arg Phe Trp Ala Asn Met Ala Ala Gly Met Met Met Ser Pro Pro
                      180                      185                      190
Arg Ser Gly His Asp Gly Gly Trp Glu Glu His Glu Val Asp Asp Tyr
                      195                      200                      205
Val Pro Leu Trp Ser Tyr Ser Ile
  210                      215

```

<210> 393
 <211> 888
 <212> DNA
 <213> Gossypium hirsutum

```

<400> 393
atggattttg tagttcaaga ttatgacatg gttgatttcg ggtcggtttc tgaaagtgga      60
actgatcgtc cgggtgaattt ttccgatgac tatatgatgt tagcttcgag ttatccaaag      120
aggcgagctg ggaggaagaa gttccgggag actcgacacc cgggtgtaccg tggagttcgc      180
cggaggaatc ccgggaagtg ggtttctgaa gtgagggagc ctaataagaa gtcgaggatt      240
tggcttgga ctttcccgaa ggcggatatg gcggcgctg ctcacgacgt ggcagctata      300
gcactgagag ggaagtcagc ttgtttgaac ttcgctgact cagcttgga gcttcgggtc      360
ccggcttctt ccgacccaaa ggatatccaa aagacgggtg cggaggtggc ggagactttc      420
agaacggctg agcattcgag cggaattct agaaacgatg caaagagaag tgaaaacacg      480
gagatgcaga aagggtttta cttggacgaa gaagcgttgt ttgggacaca aagattttgg      540
gcaaatatgg ctgccggtat gatgatgtca cctcctcgtt ccggtcatga cggaggatgg      600
gaagaacatg aagtcgatga ttatgtacct ttatggagtt attctattta aaagtaattt      660
tttcagacat tttcaagcat tcattggaat ttttagttcg tagaaatcgc caccggcaat      720
tgccctttat gttttgtacg tacaacggtt tttttggatt gtacgggtag tgttgtaagt      780
aaaaagatta atgtgtatat atacgatgta tatatacgtc ataacttctc caaacaataa      840
atttatagct tcatatccaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa      888

```

<210> 394
 <211> 216
 <212> PRT
 <213> Gossypium hirsutum

```

<400> 394
Met Asp Phe Val Val Gln Asp Tyr Asp Met Val Asp Phe Gly Ser Val
 1                      5                      10                      15
Ser Glu Ser Gly Thr Asp Arg Pro Val Asn Phe Ser Asp Asp Tyr Met
 20                      25                      30
Met Leu Ala Ser Ser Tyr Pro Lys Arg Arg Ala Gly Arg Lys Lys Phe
 35                      40                      45
Arg Glu Thr Arg His Pro Val Tyr Arg Gly Val Arg Arg Arg Asn Pro
 50                      55                      60
Gly Lys Trp Val Ser Glu Val Arg Glu Pro Asn Lys Lys Ser Arg Ile
 65                      70                      75                      80
Trp Leu Gly Thr Phe Pro Lys Ala Asp Met Ala Ala Arg Ala His Asp
 85                      90                      95
Val Ala Ala Ile Ala Leu Arg Gly Lys Ser Ala Cys Leu Asn Phe Ala
 100                      105                      110
Asp Ser Ala Trp Lys Leu Pro Val Pro Ala Ser Ser Asp Pro Lys Asp
 115                      120                      125
Ile Gln Lys Thr Val Ala Glu Val Ala Glu Thr Phe Arg Thr Ala Glu
 130                      135                      140

```

PF58787.ST25.txt

```

His Ser Ser Gly Asn Ser Arg Asn Asp Ala Lys Arg Ser Glu Asn Thr
145                               150                               155                               160
Glu Met Gln Lys Gly Phe Tyr Leu Asp Glu Glu Ala Leu Phe Gly Thr
                               165                               170                               175
Gln Arg Phe Trp Ala Asn Met Ala Ala Gly Met Met Met Ser Pro Pro
                               180                               185                               190
Arg Ser Gly His Asp Gly Gly Trp Glu Glu His Glu Val Asp Asp Tyr
                               195                               200                               205
Val Pro Leu Trp Ser Tyr Ser Ile
                               210                               215

```

<210> 395
 <211> 1049
 <212> DNA
 <213> Gossypium hirsutum

```

<400> 395
attttccctt gcatttccaa attcgggaagt tcatacagca agcgatttcc taaaatactt      60
ggatactaag agcgaatatc cttttcttga aatatactct tttcaagtca aaagctttgt      120
ttaactggaa cttaaaactga tttactgttt ggggtttttt aaaatggatt ttttagttca      180
agattatgat atggttgatt ctgggtcggt ttctgaaagt ggaactgata gtccggtgaa      240
tttttccgat ggctatgtga tgttagcttc gagttatcca aagaggcgag ctgggaggaa      300
gaagttccgg gagactcgac acccgggtgta ccgtggagtt cgccggagga atcccgggaa      360
gtgggtttct gaagtgaggg agcctaataa gaagtcgagg atttggcttg gaactttccc      420
gaaggcggat atggcggcgc gtgctcacga cgtggcagct atagcactga gagggaagtc      480
agcttggttg aacttcgctg actcagcttg gaagcttccg gtcccggctt cttccgaccc      540
aaaggatata caaaagacgg tggcggaggt ggccgagact ttcagaacgg ctgagcattc      600
gagcgggaat tctagaaacg atgcaaagag aagtgaaaac acggagatgg agaaagggtt      660
ttacttggac gaagaagcgt tgtttgggac acaaagattt tgggcaaata tggctgccgg      720
tatgatgatg tcacctcctc gttccggtca tgacggagga tgggaagaac atgaagtcga      780
tgattatgta cttttatgga gttattctat ttaaaagtaa aatttttcag acattttcaa      840
gcattcattg gaatttttag ttcacagaaa tcgccaccgg caattgccct ttatgttttg      900
tacgtacaac gatttttttg gattgtacgg gtagtgctgt aagtaaaaag attaatgtgt      960
atatatacga tgtatatata cttcatagct tctccaaaca ataaatttat agcttcatat     1020
ctattttacc atcaaaaaaa aaaaaaaaaa                                1049

```

<210> 396
 <211> 216
 <212> PRT
 <213> Gossypium hirsutum

```

<400> 396
Met Asp Phe Leu Val Gln Asp Tyr Asp Met Val Asp Ser Gly Ser Val
1                               5                               10                               15
Ser Glu Ser Gly Thr Asp Arg Pro Val Asn Phe Ser Asp Gly Tyr Val
                               20                               25                               30
Met Leu Ala Ser Ser Tyr Pro Lys Arg Arg Ala Gly Arg Lys Lys Phe
                               35                               40                               45
Arg Glu Thr Arg His Pro Val Tyr Arg Gly Val Arg Arg Arg Asn Pro
                               50                               55                               60
Gly Lys Trp Val Ser Glu Val Arg Glu Pro Asn Lys Lys Ser Arg Ile
65                               70                               75                               80
Trp Leu Gly Thr Phe Pro Lys Ala Asp Met Ala Ala Arg Ala His Asp
                               85                               90                               95
Val Ala Ala Ile Ala Leu Arg Gly Lys Ser Ala Cys Leu Asn Phe Ala
                               100                              105                              110
Asp Ser Ala Trp Lys Leu Pro Val Pro Ala Ser Ser Asp Pro Lys Asp
                               115                              120                              125
Ile Gln Lys Thr Val Ala Glu Val Ala Glu Thr Phe Arg Thr Ala Glu

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PF58787.ST25.txt

130		135		140
His Ser Ser Gly Asn Ser Arg Asn Asp Ala Lys Arg Ser Glu Asn Thr				
145		150		155
Glu Met Glu Lys Gly Phe Tyr Leu Asp Glu Glu Ala Leu Phe Gly Thr				
	165		170	175
Gln Arg Phe Trp Ala Asn Met Ala Ala Gly Met Met Met Ser Pro Pro				
	180		185	190
Arg Ser Gly His Asp Gly Gly Trp Glu Glu His Glu Val Asp Asp Tyr				
	195		200	205
Val Pro Leu Trp Ser Tyr Ser Ile				
210		215		

<210> 397
 <211> 480
 <212> DNA
 <213> Glycine max

<400> 397
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 gagaagcgaa agcagcagca ccaacaacaa gagaagccat acagaggaat aaggatgagg 120
 aagtggggca agtgggtggc ggagattaga gaacccaaca agaggtcgag gatctggttg 180
 ggttcttaacg ccacccccgt cgccgccgca cgcgctacg acaccgccgt cttccacctc 240
 cgaggccctt ccgctcgcct taacttcccc gaattgctgt cccaggacga cgacgtttcg 300
 acccaacaac agggcaagat gtccgccgat tcaattcgcc aaaaagcgac ccaagtcggc 360
 gccagagtcg acgcgctcca aaccgcgctt cagcaatcct cgtcgacaca ctccattagt 420
 tccagccacg tcagctatga gaaaccagac ttgaacgagt atcccaaacc tgaagattag 480

<210> 398
 <211> 159
 <212> PRT
 <213> Glycine max

<400> 398
 Met Glu Glu Ala Gly Leu Gly Asp Cys Cys Ser Ser Asn Thr Thr Ile
 1 5 10 15
 Thr Arg Lys Ser Glu Lys Arg Lys Gln Gln His Gln Gln Gln Glu Lys
 20 25 30
 Pro Tyr Arg Gly Ile Arg Met Arg Lys Trp Gly Lys Trp Val Ala Glu
 35 40 45
 Ile Arg Glu Pro Asn Lys Arg Ser Arg Ile Trp Leu Gly Ser Tyr Ala
 50 55 60
 Thr Pro Val Ala Ala Ala Arg Ala Tyr Asp Thr Ala Val Phe His Leu
 65 70 75 80
 Arg Gly Pro Ser Ala Arg Leu Asn Phe Pro Glu Leu Leu Ser Gln Asp
 85 90 95
 Asp Asp Val Ser Thr Gln Gln Gln Gly Lys Met Ser Ala Asp Ser Ile
 100 105 110
 Arg Gln Lys Ala Thr Gln Val Gly Ala Arg Val Asp Ala Leu Gln Thr
 115 120 125
 Ala Leu Gln Gln Ser Ser Ser Thr His Ser Ile Ser Ser Ser His Val
 130 135 140
 Ser Tyr Glu Lys Pro Asp Leu Asn Glu Tyr Pro Lys Pro Glu Asp
 145 150 155

<210> 399
 <211> 1026
 <212> DNA
 <213> Glycine max

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<400> 399

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tagcattttt tttttacctg gacggtaagg gtcaacttgc atgcacatgt tagtgaaaaa      180
ccacaataag ggggatggat ctaagtcctt ggccgataca ctggcgaaat ggaaagaata      240
taatgcctgg ctggagtcta acaatgaagc tgagaagccg gttaggaagg tccctgccaa      300
gggatcaaag aagggatgta tgaaaggcaa aggaggacct gagaacttgc gctgtaatta      360
cagaggagtt aggcaaagga catggggaaa atgggttgct gaaatccgag agccaaacag      420
aggaagtagg ctctggttgg gtacttttcc tactgccatt agcgctgctc ttgcttatga      480
tgaagcagcg atggcaatgt atggtttctg tgcacgcctc aactttccca atgttcaagt      540
ttcaactttt tccgaggaac cgtctagaaa ttctccagct gctgcttacc agtcaagaaa      600
ttctccatct gctaaagaat ccggttctgc gttggtgata ttagagaggt ctgagtgcac      660
gatgttggtg aacaattctg gtggagatgc agcagaggat gatggcatgg aagacctttc      720
cttatcctta agtgtgaaac atgaggaagg ggaggatgaa tcagggacca gttcttccta      780
tctttcattg tcttgatgta tggtttgcac actctgattt ggccgtggct ggaaatcata      840
gccttcatag aggtgatga ttagcttagg atgaacgaat cttgatatta gtacctggag      900
attagctggt gtaaaattga cttggttgag aagtgttcca ttcttcagga attgacctaa      960
tgcaatctgg atatccagtc aagttgtaag atgtgaaatg tattttgcct tgcacgatag     1020
atgact

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<210> 400

<211> 211

<212> PRT

<213> Glycine max

<400> 400

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Met His Met Leu Val Lys Asn His Asn Lys Gly Asp Gly Ser Lys Ser
1      5      10      15
Leu Ala Asp Thr Leu Ala Lys Trp Lys Glu Tyr Asn Ala Trp Leu Glu
20     25     30
Ser Asn Asn Glu Ala Glu Lys Pro Val Arg Lys Val Pro Ala Lys Gly
35     40     45
Ser Lys Lys Gly Cys Met Lys Gly Lys Gly Gly Pro Glu Asn Leu Arg
50     55     60
Cys Asn Tyr Arg Gly Val Arg Gln Arg Thr Trp Gly Lys Trp Val Ala
65     70     75     80
Glu Ile Arg Glu Pro Asn Arg Gly Ser Arg Leu Trp Leu Gly Thr Phe
85     90     95
Pro Thr Ala Ile Ser Ala Ala Leu Ala Tyr Asp Glu Ala Ala Met Ala
100    105    110
Met Tyr Gly Phe Cys Ala Arg Leu Asn Phe Pro Asn Val Gln Val Ser
115    120    125
Thr Phe Ser Glu Glu Pro Ser Arg Asn Ser Pro Ala Ala Ala Tyr Gln
130    135    140
Ser Arg Asn Ser Pro Ser Ala Lys Glu Ser Gly Ser Ala Leu Val Ile
145    150    155    160
Leu Glu Arg Ser Glu Cys Met Met Leu Trp Asn Asn Ser Gly Gly Asp
165    170    175
Ala Ala Glu Asp Asp Gly Met Glu Asp Leu Ser Leu Ser Leu Ser Val
180    185    190
Lys His Glu Glu Gly Glu Asp Glu Ser Gly Thr Ser Ser Ser Tyr Leu
195    200    205
Ser Leu Ser
210

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<210> 401

<211> 1077

<212> DNA

<213> Glycine max

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<400> 401

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atgtacaaca  gcagcaacat  cgtagcggat  ttcctagatc  cgtatagtga  agagctgatg  180
aaagcactta  agccttttat  gaaaagtgat  tatttctctg  cctcttcttc  ttcttcactc  240
gaatcacagc  cttgttcttt  ttcattcta  tctctcccca  cttcgtatcc  ctcttccaac  300
caaatacaagc  tcaaccaact  caccacagac  caaattgttc  agattcaggc  ccaaataccac  360
attcagcagc  agcagcagca  cgtggcccaa  acccaaacc  acctgggccc  aaaacgcgtc  420
cccatgaagc  acgctggcac  ggccgcgaaa  cccacgaagc  tctaccgcgg  ggtgcggcaa  480
cggcattggg  gcaagtgggt  cgctgaaatc  agactcccaa  agaaccgcac  gcgcctctgg  540
ctaggaacat  tcgacaccgc  agaggaagca  gcattagcgt  acgacaacgc  agcgtttaag  600
ctcagaggcg  agttcgcgcg  tctcaatttt  cctcatctaa  gacaccacgg  agccttcggt  660
ttcggcgagt  tcggagatta  caagcctcta  cttcttccg  tggattccaa  actgcaagct  720
atttgcgaaa  gcttagcgaa  acaagaggaa  aagccgtgtt  gctccgtcga  agacgtgaag  780
cccgatgatac  acgctgctga  gctggcagag  gtcgagtctg  acgtggcaaa  atcgaacgct  840
gaatatgttt  atcccagatt  cgaggatttt  aaggtcgagc  acgagaacc  aatgttttct  900
ggtgaatctt  cttcgctga  atccagtgtt  actttcttgg  atttctcgga  cttctcggat  960
tctaataatc  agtgggatga  aatggagaat  tttgggttgg  agaagttccc  ttctgtggag  1020
attgattggg  aagctatatg  atgactcgg  gaattttcgt  tatgtcaaat  ggttggt  1077

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<210> 402

<211> 312

<212> PRT

<213> Glycine max

<400> 402

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Met Gly Thr Ala Ile Asp Met Tyr Asn Ser Ser Asn Ile Val Ala Asp
1      5      10      15
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20     25     30
Met Lys Ser Asp Tyr Phe Ser Ala Ser Ser Ser Ser Ser Leu Glu Ser
35     40     45
Gln Pro Cys Ser Phe Ser Ser Asn Ser Leu Pro Thr Ser Tyr Pro Ser
50     55     60
Ser Asn Gln Ile Lys Leu Asn Gln Leu Thr Pro Asp Gln Ile Val Gln
65     70     75     80
Ile Gln Ala Gln Ile His Ile Gln Gln Gln Gln Gln His Val Ala Gln
85     90     95
Thr Gln Thr His Leu Gly Pro Lys Arg Val Pro Met Lys His Ala Gly
100    105    110
Thr Ala Ala Lys Pro Thr Lys Leu Tyr Arg Gly Val Arg Gln Arg His
115    120    125
Trp Gly Lys Trp Val Ala Glu Ile Arg Leu Pro Lys Asn Arg Thr Arg
130    135    140
Leu Trp Leu Gly Thr Phe Asp Thr Ala Glu Glu Ala Ala Leu Ala Tyr
145    150    155    160
Asp Asn Ala Ala Phe Lys Leu Arg Gly Glu Phe Ala Arg Leu Asn Phe
165    170    175
Pro His Leu Arg His His Gly Ala Phe Val Phe Gly Glu Phe Gly Asp
180    185    190
Tyr Lys Pro Leu Pro Ser Ser Val Asp Ser Lys Leu Gln Ala Ile Cys
195    200    205
Glu Ser Leu Ala Lys Gln Glu Lys Pro Cys Cys Ser Val Glu Asp
210    215    220
Val Lys Pro Val Ile His Ala Ala Glu Leu Ala Glu Val Glu Ser Asp
225    230    235    240
Val Ala Lys Ser Asn Ala Glu Tyr Val Tyr Pro Glu Phe Glu Asp Phe
245    250    255

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Lys Val Glu His Glu Asn Pro Met Phe Ser Gly Glu Ser Ser Ser Pro
 260 265 270
 Glu Ser Ser Val Thr Phe Leu Asp Phe Ser Asp Phe Ser Asp Ser Asn
 275 280 285
 Asn Gln Trp Asp Glu Met Glu Asn Phe Gly Leu Glu Lys Phe Pro Ser
 290 295 300
 Val Glu Ile Asp Trp Glu Ala Ile
 305 310

<210> 403
 <211> 597
 <212> DNA
 <213> Glycine max

<400> 403
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 gtccgaaaga gaaaatgggg caaatgggta tccgaaataa gactacccaa cagccgtcag 120
 aggatttggt tgggatccta cgacaccccc gagaaggccg cgcgtgcctt cgacgcggca 180
 atgttctgct tacgtggccg caacgccaaag tttaacttcc ccgacaaccc acccgacatc 240
 gccggcgga cgtccatgac gccgtcgcag attcagatcg ccgccgcaca attcgccaac 300
 gcggggcccc acgaggggaca ttccgggccga ccgaacatc ctcccatgga atctccatcg 360
 ccttctgttt cggaaggac catccaaacg gacagtgcg tccccactct taacggttca 420
 gtaacggatt tggtcacgcc cggtgggtcg agtggttac catccgatta cgggattttc 480
 ccgggctttg atgatttcag tggcgatttt tatgtgccg aaatgccgaa cgtaattat 540
 ggagaagaaa acggggaagg gttcatagtt gatgaatctt tcttgtggaa tttttga 597

<210> 404
 <211> 198
 <212> PRT
 <213> Glycine max

<400> 404
 Met Ala Lys Pro Ser Ser Glu Lys Pro Glu Glu His Ser Asp Ser Lys
 1 5 10 15
 Tyr Tyr Lys Gly Val Arg Lys Arg Lys Trp Gly Lys Trp Val Ser Glu
 20 25 30
 Ile Arg Leu Pro Asn Ser Arg Gln Arg Ile Trp Leu Gly Ser Tyr Asp
 35 40 45
 Thr Pro Glu Lys Ala Ala Arg Ala Phe Asp Ala Ala Met Phe Cys Leu
 50 55 60
 Arg Gly Arg Asn Ala Lys Phe Asn Phe Pro Asp Asn Pro Pro Asp Ile
 65 70 75 80
 Ala Gly Gly Thr Ser Met Thr Pro Ser Gln Ile Gln Ile Ala Ala Ala
 85 90 95
 Gln Phe Ala Asn Ala Gly Pro His Glu Gly His Ser Gly Arg Pro Glu
 100 105 110
 His Pro Pro Met Glu Ser Pro Ser Pro Ser Val Ser Glu Gly Thr Ile
 115 120 125
 Gln Thr Asp Ser Asp Val Pro Thr Leu Asn Gly Ser Val Thr Asp Leu
 130 135 140
 Phe Thr Pro Val Gly Ser Ser Gly Tyr Ala Ser Asp Tyr Gly Ile Phe
 145 150 155 160
 Pro Gly Phe Asp Asp Phe Ser Gly Asp Phe Tyr Val Pro Glu Met Pro
 165 170 175
 Asn Val Asn Tyr Gly Glu Glu Asn Gly Glu Gly Phe Ile Val Asp Glu
 180 185 190
 Ser Phe Leu Trp Asn Phe
 195

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<210> 405
<211> 923
<212> DNA
<213> Glycine soja

<400> 405
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tccaagaaac cctttttcaa tttggtttca acagcacaca cacacacaca catatatata 120
tatatatagc atgtttacct tgaatcattc ttctgatttg taccatgttt cccctgagct 180
ctcatcttcc ttggacacat cctcgccggc ttcgaggggc tctcgtggcg tggcattttc 240
cgacgaggag gtgcggctgg cggtgaggca cccgaagaag cgggcaggtc ggaagaagtt 300
ccgggagacg cgccaccggt tgtaccgggg ggtgaggagg aggaactcgg ataagtgggt 360
gtgtgagggtg agggagccca acaagaagac caggatttgg ctggggactt tccccacgcc 420
ggagatggcg gctcggggcg acgacgtggc ggcaatggcc ctgagggggc ggtatgcctg 480
tctaaacttt gctgactcgg cctggcggtt acctgttccc gccacggccg aggcaaagga 540
tatacagaag gcagcagcag aagctgcccc ggctttcaga ccagatcaaa ccttaaaaaa 600
tgctaataca aggcaggagt gtgtggaggc ggtggcggtg gcggtggcgg acacaacaac 660
ggccacggca caaggggtgt tttatatgga ggaagaagag caggtgttgg atatgcctga 720
gttgcttagg aatatgggtc tcatgtcccc aacacattgc ttagggtagt agtatgaaga 780
tgctgacttg gatgccccaa atgctgaggt gtcactatgg aatttctcaa tttataaatg 840
tgttttgggt tggtttttga tgttactttt ttggagtga cagtgtctgt actggttttt 900
tattactagt acggatacta gtt 923

<210> 406
<211> 234
<212> PRT
<213> Glycine soja

<400> 406
Met Phe Thr Leu Asn His Ser Ser Asp Leu Tyr His Val Ser Pro Glu
1 5 10 15
Leu Ser Ser Ser Leu Asp Thr Ser Ser Pro Ala Ser Glu Gly Ser Arg
20 25 30
Gly Val Ala Phe Ser Asp Glu Glu Val Arg Leu Ala Val Arg His Pro
35 40 45
Lys Lys Arg Ala Gly Arg Lys Lys Phe Arg Glu Thr Arg His Pro Val
50 55 60
Tyr Arg Gly Val Arg Arg Arg Asn Ser Asp Lys Trp Val Cys Glu Val
65 70 75 80
Arg Glu Pro Asn Lys Lys Thr Arg Ile Trp Leu Gly Thr Phe Pro Thr
85 90 95
Pro Glu Met Ala Ala Arg Ala His Asp Val Ala Ala Met Ala Leu Arg
100 105 110
Gly Arg Tyr Ala Cys Leu Asn Phe Ala Asp Ser Ala Trp Arg Leu Pro
115 120 125
Val Pro Ala Thr Ala Glu Ala Lys Asp Ile Gln Lys Ala Ala Ala Glu
130 135 140
Ala Ala Gln Ala Phe Arg Pro Asp Gln Thr Leu Lys Asn Ala Asn Thr
145 150 155 160
Arg Gln Glu Cys Val Glu Ala Val Ala Val Ala Val Ala Asp Thr Thr
165 170 175
Thr Ala Thr Ala Gln Gly Val Phe Tyr Met Glu Glu Glu Glu Gln Val
180 185 190
Leu Asp Met Pro Glu Leu Leu Arg Asn Met Val Leu Met Ser Pro Thr
195 200 205
His Cys Leu Gly Tyr Glu Tyr Glu Asp Ala Asp Leu Asp Ala Gln Asp
210 215 220
Ala Glu Val Ser Leu Trp Asn Phe Ser Ile
225 230

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<210> 407
 <211> 1185
 <212> DNA
 <213> Brassica napus

<400> 407
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 cgatgaactc agtctctact ttttctgaac ttcttggtc cgagaacgag tctccggtag 180
 gtagtgatta ctgtcccatg ttggcggcga gctgtccgaa gaagccggcg ggtaggaaga 240
 agtttcggga gacacgccac cccatttaca gaggagtctg tcttagaaag tcaggtaagt 300
 ggggtgtgtga agtgagggaa ccaaacaaga aatctagaat ttggctcgga actttcaaaa 360
 cagctgagat cgcagctcgt gctcacgacg tcgccgcctt agctctccgt ggaagaggcg 420
 cctgcctcaa cttcgccgac tcggcttggc ggctccgtat cccggagaca acctgcgcca 480
 aggatatcca gaaggctgct gctgaagccg cattggcttt tgaggccgag aagagtgata 540
 ccacgacgaa tgatcatggc atgaacatgg ctctcagggt tgagggttaat gacacgacgg 600
 atcatgacct ggacatggag gagacgatag tggaggctgt ttttagggag gaacagagag 660
 aaggggtttta catggcggag gagacgacgg ttgtgggtgt tgttccggag gaacagatga 720
 gcaaaagggtt ttacatggac gaggagtga tggtcgggat gccgacctg ttggctgata 780
 tggcggcagg gatgctctta ccgctgccgt ccgtacaatg gggacataat gatgacttcg 840
 aaggagtgtc tgacataaac ctctggagtt attagtactc gtatttttct taaaattatt 900
 tttggaatga taatatttta ttgaattcgg attctaccta ttttttttaa tggatatcct 960
 ttttttctgg tagtgtgaga aacgattgtg aatgtttcca caaaagtgtt ggcaatgttg 1020
 tcaaatgctg ggtattttgt gcagcatagt catcttggtt tccttatatg cagcaactaa 1080
 atttttagttt ttaagtaaaa acagaagagg aaagagaatg aatgttatta aataaagaaa 1140
 gaaaaatcta aaggtgggtt tagtatgaaa aaaaaaaaaa aaaaa 1185

<210> 408
 <211> 250
 <212> PRT
 <213> Brassica napus

<400> 408
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 20 25 30
 Lys Lys Pro Ala Gly Arg Lys Lys Phe Arg Glu Thr Arg His Pro Ile
 35 40 45
 Tyr Arg Gly Val Arg Leu Arg Lys Ser Gly Lys Trp Val Cys Glu Val
 50 55 60
 Arg Glu Pro Asn Lys Lys Ser Arg Ile Trp Leu Gly Thr Phe Lys Thr
 65 70 75 80
 Ala Glu Ile Ala Ala Arg Ala His Asp Val Ala Ala Leu Ala Leu Arg
 85 90 95
 Gly Arg Gly Ala Cys Leu Asn Phe Ala Asp Ser Ala Trp Arg Leu Arg
 100 105 110
 Ile Pro Glu Thr Thr Cys Ala Lys Asp Ile Gln Lys Ala Ala Ala Glu
 115 120 125
 Ala Ala Leu Ala Phe Glu Ala Glu Lys Ser Asp Thr Thr Thr Asn Asp
 130 135 140
 His Gly Met Asn Met Ala Ser Gln Val Glu Val Asn Asp Thr Thr Asp
 145 150 155 160
 His Asp Leu Asp Met Glu Glu Thr Ile Val Glu Ala Val Phe Arg Glu
 165 170 175
 Glu Gln Arg Glu Gly Phe Tyr Met Ala Glu Glu Thr Thr Val Val Gly
 180 185 190
 Val Val Pro Glu Glu Gln Met Ser Lys Gly Phe Tyr Met Asp Glu Glu

	195					200					205					
Trp	Met	Phe	Gly	Met	Pro	Thr	Leu	Leu	Ala	Asp	Met	Ala	Ala	Gly	Met	
	210					215					220					
Leu	Leu	Pro	Leu	Pro	Ser	Val	Gln	Trp	Gly	His	Asn	Asp	Asp	Phe	Glu	
225					230					235					240	
Gly	Val	Ala	Asp	Ile	Asn	Leu	Trp	Ser	Tyr							
				245					250							

<210>	409
<211>	945
<212>	DNA
<213>	Brassica napus

<400>	409					
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aatgacctca	ttttctacct	tttctgaact	gttgggctcc	gagcatgagt	ctccggttac	180
attaggcgaa	gagtattgtc	cgaagctggc	cgcaagctgt	ccgaagaaac	cagccggccg	240
gaagaagttt	cgagagacgc	gtcaccagtc	ttacagagga	gttcgtctga	gaaactcagg	300
taagtgggtg	tgtgaagtga	gggagccaaa	caagaaatct	aggatttggc	tcggtacttt	360
cctaacagcc	gagatcgcag	cccgctgctc	cgacgtcgcc	gccatagccc	tccgcgccaa	420
atcagcttgt	ctcaattttg	ccgactccgc	ttggcggctc	cgatatcccg	agacaacatg	480
ccccaaggag	attcagaagg	cggctgctga	agccgcggtg	gcttttaagg	ctgagataaa	540
taatacgacg	gcggatcatg	gcattgacgt	ggaggagacg	atcgttgagg	ctattttcac	600
ggaggaaaac	aacgatggtt	tttatatgga	cgaggaggag	tccatgttcg	ggatgccggc	660
cttgttggct	agtatkgctg	aaggaatgct	tttgccgcct	ccgtccgtac	aattcggaca	720
tacctatgac	tttgacggag	atgctgacgt	gtcccttttg	agttatttagt	acaaagattt	780
tttattttca	tttttggtat	aatacttctt	tttgattttt	ggattctacc	tttttatggg	840
tatcattttt	tttttaggta	acgtggaagc	tgagtgtaaa	tgtttgaaca	attgtgttat	900
aaaatgctag	tattttttgtg	tgcaaaaaaa	aaaaaaaaaa	aaaaa		945

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<210> 410
<211> 215
<212> PRT
<213> Brassica napus
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<220>
<221>  UNSURE
<222>  (185)..(185)
<223>  Xaa can be any naturally occurring amino acid
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<400>	410														
Met	Thr	Ser	Phe	Ser	Thr	Phe	Ser	Glu	Leu	Leu	Gly	Ser	Glu	His	Glu
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Ser	Pro	Val	Thr	Leu	Gly	Glu	Glu	Tyr	Cys	Pro	Lys	Leu	Ala	Ala	Ser
			20					25					30		
Cys	Pro	Lys	Lys	Pro	Ala	Gly	Arg	Lys	Lys	Phe	Arg	Glu	Thr	Arg	His
		35					40					45			
Pro	Val	Tyr	Arg	Gly	Val	Arg	Leu	Arg	Asn	Ser	Gly	Lys	Trp	Val	Cys
	50					55					60				
Glu	Val	Arg	Glu	Pro	Asn	Lys	Lys	Ser	Arg	Ile	Trp	Leu	Gly	Thr	Phe
65					70					75				80	
Leu	Thr	Ala	Glu	Ile	Ala	Ala	Arg	Ala	His	Asp	Val	Ala	Ala	Ile	Ala
				85					90					95	
Leu	Arg	Gly	Lys	Ser	Ala	Cys	Leu	Asn	Phe	Ala	Asp	Ser	Ala	Trp	Arg
			100					105					110		
Leu	Arg	Ile	Pro	Glu	Thr	Thr	Cys	Pro	Lys	Glu	Ile	Gln	Lys	Ala	Ala
	115						120					125			
Ala	Glu	Ala	Ala	Val	Ala	Phe	Lys	Ala	Glu	Ile	Asn	Asn	Thr	Thr	Ala

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130	135	140
Asp His Gly Ile Asp Val Glu Glu Thr Ile Val Glu Ala Ile Phe Thr		
145	150	155
Glu Glu Asn Asn Asp Gly Phe Tyr Met Asp Glu Glu Glu Ser Met Phe		
	165	170
Gly Met Pro Ala Leu Leu Ala Ser Xaa Ala Glu Gly Met Leu Leu Pro		
	180	185
Pro Pro Ser Val Gln Phe Gly His Thr Tyr Asp Phe Asp Gly Asp Ala		
	195	200
Asp Val Ser Leu Trp Ser Tyr		205
210	215	

<210> 411
 <211> 1061
 <212> DNA
 <213> Brassica napus

<400> 411

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ccgattttga	tttttaatcc	acctgagaga	taaattaaac	atttatcaaa	ccaacgaaac	180
atagatcttt	gtagttactt	atccagttta	ttttttaaaa	aattataaag	agatttcaac	240
aatgacctca	ttttctacct	tttctgaaat	gttgggctcc	gagtatgagt	ctccgggttac	300
gttaggcgga	gagtattgtc	cgaagctggc	cgcgagctgt	ccgaagaaac	cagccgggtcg	360
taagaagttt	cgggagacgc	gtcaccagc	ttatagagga	kttcgtctga	gaaactcagg	420
taaatgggtg	tgtgaagtga	gggagccaaa	caagaaatcc	aggatttggc	tcgggtacttt	480
cttaaccgcc	gagatcgcag	ctcgtgctca	cgacgtcgcc	gccatagccc	tccgcgggcaa	540
atcagcttgt	ctcaattttg	ctgactcggc	ttggcggtc	cgtatcccgg	agacaacatg	600
ccccaaggag	attcagaagg	cggctgctga	agccgccttg	gcttttcagg	ctgagataaa	660
taatacgacg	acgatcatg	gcctggacat	ggaggagacg	atcgtggagg	ctattttcac	720
ggaggaaaac	aacgatgtgt	tttatatgga	cgaggagtcc	atgtagaga	tgccggcctt	780
gttggctagt	atggcggaag	gaatgctttt	gccgcgcgcg	tccgtacatt	tcggacataa	840
ctatgacttt	gacggagatg	ctgacgtgtc	cctttggagt	tattagtgc	aatTTTTTTT	900
tcaatttttt	cgtataatat	tcttttggat	tttcggattc	tgccttttta	tgggaatctt	960
tttttttttg	gtaatgtgga	agctgagtgt	gaatgtttta	acaattgtgt	tatcaaattgc	1020
tagtattttt	ttgtgcagcc	tcgtgccgaa	tcctgcagcc	c		1061

<210> 412
 <211> 214
 <212> PRT
 <213> Brassica napus

<220>
 <221> UNSURE
 <222> (54)..(54)
 <223> Xaa can be any naturally occurring amino acid

<400> 412

Met Thr Ser Phe Ser Thr Phe Ser Glu Met Leu Gly Ser Glu Tyr Glu	
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	20
Cys Pro Lys Lys Pro Ala Gly Arg Lys Lys Phe Arg Glu Thr Arg His	25
	30
Pro Val Tyr Arg Gly Xaa Arg Leu Arg Asn Ser Gly Lys Trp Val Cys	35
	40
Glu Val Arg Glu Pro Asn Lys Lys Ser Arg Ile Trp Leu Gly Thr Phe	45
	50
65	55
Leu Thr Ala Glu Ile Ala Ala Arg Ala His Asp Val Ala Ala Ile Ala	60
	70
	75
	80

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      85              90              95
Leu Arg Gly Lys Ser Ala Cys Leu Asn Phe Ala Asp Ser Ala Trp Arg
      100              105              110
Leu Arg Ile Pro Glu Thr Thr Cys Pro Lys Glu Ile Gln Lys Ala Ala
      115              120              125
Ala Glu Ala Ala Leu Ala Phe Gln Ala Glu Ile Asn Asn Thr Thr Thr
      130              135              140
Asp His Gly Leu Asp Met Glu Glu Thr Ile Val Glu Ala Ile Phe Thr
      145              150              155              160
Glu Glu Asn Asn Asp Val Phe Tyr Met Asp Glu Glu Ser Met Leu Glu
      165              170              175
Met Pro Ala Leu Leu Ala Ser Met Ala Glu Gly Met Leu Leu Pro Pro
      180              185              190
Pro Ser Val His Phe Gly His Asn Tyr Asp Phe Asp Gly Asp Ala Asp
      195              200              205
Val Ser Leu Trp Ser Tyr
      210

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<210> 413
 <211> 879
 <212> DNA
 <213> Brassica napus

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<400> 413
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tcccaacttt tttatcgaac tacaaacttt agaatccacc tgaaagataa aataaacatt      120
tatcaaacca tcagaactga gatctttcta gtctcttact atacttaacc ttatccagtt      180
aacaatgacc tcattttctg ccttctctga aatgatgggc tccgagaacg agtctcctgc      240
attaagcggg gagtattgtc cgacgctggc cgcgagctgt ccgaagaaac ctgcgggctc      300
gaagaagttt cgggagacgc gtcacccaat ttacagagga gttcgtcaga gacactcagg      360
taagtgggtg tgcgaggtga gagagccaaa caagaaatcc aggatttggc tcgpkacttt      420
cctaaccgcc gagatcgagc ctctgtgctc cgacgtcgcc gccatagccc tccgtggcaa      480
atccgcctgc ctcaatttcg ccgaactcggc ttggcggctc cgtatcccgg agacaacatg      540
ccccaaggat atccagaagg cggtctgctga agccgcggtg gcttttcagg ctgagataaa      600
tgatacgacg acgcatcatg gcctggacgt ggaggagacg atcgtggagg ctatttttac      660
ggaggaaaac aacgatgggt tttatatgga cgaggaggag tccatgttcg ggatgccgtc      720
cttggttggt agcatggcgg aagggatgct tttgccgcca ccgtcggtag gattcgaaca      780
taamtatgac tttgacggag atgccgamgt gtccctttgg agttattaat acagagattt      840
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<210> 414
 <211> 214
 <212> PRT
 <213> Brassica napus

<220>
 <221> UNSURE
 <222> (200)..(200)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (208)..(208)
 <223> Xaa can be any naturally occurring amino acid

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<400> 414
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Ser Pro Ala Leu Ser Gly Glu Tyr Cys Pro Thr Leu Ala Ala Ser Cys

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                20                25                30
Pro  Lys  Lys  Pro  Ala  Gly  Arg  Lys  Lys  Phe  Arg  Glu  Thr  Arg  His  Pro
   35                40                45
Ile  Tyr  Arg  Gly  Val  Arg  Gln  Arg  His  Ser  Gly  Lys  Trp  Val  Cys  Glu
   50                55                60
Val  Arg  Glu  Pro  Asn  Lys  Lys  Ser  Arg  Ile  Trp  Leu  Gly  Thr  Phe  Leu
   65                70                75                80
Thr  Ala  Glu  Ile  Ala  Ala  Arg  Ala  His  Asp  Val  Ala  Ala  Ile  Ala  Leu
   85                90                95
Arg  Gly  Lys  Ser  Ala  Cys  Leu  Asn  Phe  Ala  Asp  Ser  Ala  Trp  Arg  Leu
   100                105                110
Arg  Ile  Pro  Glu  Thr  Thr  Cys  Pro  Lys  Asp  Ile  Gln  Lys  Ala  Ala  Ala
   115                120                125
Glu  Ala  Ala  Val  Ala  Phe  Gln  Ala  Glu  Ile  Asn  Asp  Thr  Thr  Thr  Asp
   130                135                140
His  Gly  Leu  Asp  Val  Glu  Glu  Thr  Ile  Val  Glu  Ala  Ile  Phe  Thr  Glu
   145                150                155                160
Glu  Asn  Asn  Asp  Gly  Phe  Tyr  Met  Asp  Glu  Glu  Glu  Ser  Met  Phe  Gly
   165                170                175
Met  Pro  Ser  Leu  Leu  Ala  Ser  Met  Ala  Glu  Gly  Met  Leu  Leu  Pro  Pro
   180                185                190
Pro  Ser  Val  Arg  Phe  Glu  His  Xaa  Tyr  Asp  Phe  Asp  Gly  Asp  Ala  Xaa
   195                200                205
Val  Ser  Leu  Trp  Ser  Tyr
   210

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<210> 415
 <211> 753
 <212> DNA
 <213> Brassica oleracea

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<400> 415
atgaactcag tctctacttt ttctgaactt cttggctctg agaacgagtc tccggtaggt      60
ggtgattact gtcccatggt ggcggcgagc tgtccgaaga agccggcggg taggaagaag      120
tttcgggaga cacgtcaccc catttaccga ggagttcgcc ttagaaaatc aggtaagtgg      180
gtgtgtgaag tgagggaacc aaacaaaaaa tctaggattt ggctcggaac tttcaaaaca      240
gctgagatcg cagctcgtgc tcacgacgtc gccgccttag ctctccgtgg aagaggcgcc      300
tgccctcaact tcgccgactc ggcttggcgg ctccgtatcc cggagacaac ctgcgcceaag      360
gatatccaga aggctgctgc tgaagccgca ttggcttttg aggccgagaa gagtgatacc      420
acgacgaatg atcatggcat gaacatggct tctcaggctg aggttaatga caccgacgat      480
catggccttg acatggagga gacgatgggt gaggtggtt ttactgagga gcagagagac      540
gggtttttaca tggcggagga gacgacgggt gaggtggtt ttccggagga acagatgagc      600
aaaggggtttt acatggacga ggagtggatg ttcgggatgc cgaccttggt ggctgatatg      660
gcggcagggg tgctcttacc gccgccgtcc gtacaatggg gacataatga tgacttcgaa      720
ggagatgctg acatgaacct ctggaattat tag                                753

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<210> 416
 <211> 250
 <212> PRT
 <213> Brassica oleracea

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<400> 416
Met Asn Ser Val Ser Thr Phe Ser Glu Leu Leu Gly Ser Glu Asn Glu
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Ser Pro Val Gly Gly Asp Tyr Cys Pro Met Leu Ala Ala Ser Cys Pro
   20                25                30
Lys Lys Pro Ala Gly Arg Lys Lys Phe Arg Glu Thr Arg His Pro Ile
   35                40                45
Tyr Arg Gly Val Arg Leu Arg Lys Ser Gly Lys Trp Val Cys Glu Val

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