

PF58575.ST25.txt
SEQUENCE LISTING

<110> CropDesign N.V.
<120> Plants having enhanced yield-related traits and a method for making the same
<130> PF58575
<150> EP 06124181.6
<151> 2006-11-16
<150> US 60/866,611
<151> 2006-11-21
<150> EP 07116518.7
<151> 2007-09-14
<150> US 60/975,848
<151> 2007-09-28
<160> 60
<170> PatentIn version 3.3
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<211> 934
<212> DNA
<213> Arabidopsis thaliana

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tgaacctaga agagaaacca accatgacgg cttcaagggc ttcccctcaa gccgaacatc 180
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catctccctc acctcccttt gtcgtcaaac ctctgagaa gaagcagagg ctcccatctg 480
catacaaccg cttcatgagg gatgagatcc aacgcatcaa aagtgccaat ccggaataac 540
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tggctgcgtc gtttttctca tcttgtgttg ttcttctgtg taattttctt atgtatgtca 780
tgttgcagaa aatgatgttg ccttagtttt tatgacttta tatttctgtc tgtctttaga 840
tttgaaagta acgtcacttg ctatgtccct ttggacgttt atgtctggtc tttatttgtc 900
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<211> 181
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<213> Arabidopsis thaliana

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Gln Ala Glu His Leu Tyr Tyr Val Arg Cys Ser Ile Cys Asn Thr Ile
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Leu Ala Val Gly Ile Pro Leu Lys Arg Met Leu Asp Thr Val Thr Val
35 40 45

PF58575.ST25.txt

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

<210> 3
<211> 828
<212> DNA
<213> Amborella trichopoda

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ggtgttccat gcagaagggt aatggacaca gtgacagtga agtgtgggca ttgcagccat 180
ctctcattcc tcagcgccag accccttctg caaaatcagt cacttgaact ctttaagcact 240
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aaccgggaaa taccacatag agaagcggtt agcatggctg caaagaattg ggccagggtt 480
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aaccaagaga ttcattgagat ggtgaccgct gggggaaggg tcaaacaaga ggacatgagg 600
caattgcaag ctgctgctag gtcgcaaatt acgtagcctg ctttcgagtt aaataattac 660
gcatttgtaa gtaaggattt attgtgttga tgagtatatg tttttaatga cgagttcttg 720
atgtttttta agtcttttat tgaagagttc ttaaggtaag ggtatcccat cttattttta 780
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<210> 4
<211> 196
<212> PRT
<213> Amborella trichopoda

<400> 4
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20 25 30
Met Asp Thr Val Thr Val Lys Cys Gly His Cys Ser His Leu Ser Phe
35 40 45
Leu Ser Ala Arg Pro Leu Leu Gln Asn Gln Ser Leu Glu Leu Leu Ser
50 55 60
Thr Gln Asn Phe Cys Gly Asp Asn Lys Lys Ser Gln Gln Ser Ser Ser
65 70 75 80
Ser Ser Pro Leu Thr Pro Asn Gln Gln Val Val Pro Lys Val Pro Asn
85 90 95
Val Val Lys Pro Pro Glu Lys Lys His Arg Leu Pro Ser Ala Tyr Asn

PF58575.ST25.txt

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

<210> 5
 <211> 732
 <212> DNA
 <213> Antirrhinum majus

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tgatggacac agtgactgtg aaatgtgggc actgcagcaa tctctcattt ctcagcacia	180
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tgtctccaaa agctccattt gttgtgaaac ctctgagaa gaagcacagg cttccatcag	360
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cagaagaggg atgcatgtca gaagaatgtt actggtctgg tttctaagtg cattaggtta	600
tttagtttta attctcaagc ttgtctcgtg taatgtttgc tgtactaagt ggaatttgta	660
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<210> 6
 <211> 165
 <212> PRT
 <213> Antirrhinum majus

<400> 6	
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20 25 30	
Leu Met Asp Thr Val Thr Val Lys Cys Gly His Cys Ser Asn Leu Ser	
35 40 45	
Phe Leu Ser Thr Arg Pro Pro Ile Gln Gly Gln Tyr Tyr Asp His Gln	
50 55 60	
Thr Ser Leu His His Gln Ser Leu Cys Ser Glu Phe Lys Lys Gly Gly	
65 70 75 80	
Ser Ser Ser Phe Ser Ser Ser Thr Ser Ser Glu Pro Leu Ser Pro Lys	
85 90 95	
Ala Pro Phe Val Lys Pro Pro Glu Lys Lys His Arg Leu Pro Ser	
100 105 110	
Ala Tyr Asn Arg Phe Met Lys Glu Glu Ile Gln Arg Ile Lys Ala Ala	
115 120 125	
Asn Pro Glu Ile Pro His Arg Glu Ala Phe Ser Ala Ala Ala Lys Asn	
130 135 140	
Trp Ala Arg Tyr Ile Pro Asn Thr Pro Pro Pro Val Pro Val Thr Thr	

PF58575.ST25.txt

145 150 155 160
 Ser Asn His Asn Ile
 165

<210> 7
 <211> 525
 <212> DNA
 <213> *Aquilegia formosa*

<400> 7
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 cactgtggta atatatcttt ccttagcact aggcctccaa ttcaaggcca gtgtctggat 180
 caccaagtgg atgcttttca gagttttcgc aatgagtatc gaaagggaca atcttcttcg 240
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<210> 8
 <211> 174
 <212> PRT
 <213> *Aquilegia formosa*

<400> 8
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 20 25 30
 Asp Thr Val Thr Val Lys Cys Gly His Cys Gly Asn Ile Ser Phe Leu
 35 40 45
 Ser Thr Arg Pro Pro Ile Gln Gly Gln Cys Leu Asp His Gln Val Asp
 50 55 60
 Ala Phe Gln Ser Phe Arg Asn Glu Tyr Arg Lys Gly Gln Ser Ser Ser
 65 70 75 80
 Ser Ser Ser Ser Thr Ser Cys Gly Gln Pro Thr Ser Pro Asn Glu Pro
 85 90 95
 Asn Tyr Val Val Lys Pro Pro Glu Arg Lys His Arg Leu Pro Ser Ala
 100 105 110
 Tyr Asn Arg Tyr Met Lys Glu Glu Ile Gln Arg Ile Lys Ser Ala Asn
 115 120 125
 Pro Glu Ile Pro His Arg Glu Ala Phe Ser Ser Ala Ala Lys Asn Trp
 130 135 140
 Ala Lys Tyr Val Pro His Ser Gln Ala Gly Thr Val Ser Gly Gly Lys
 145 150 155 160
 Lys Asn Glu Arg Val Pro Ala Lys Glu Ser Leu Asp Gly Ala
 165 170

<210> 9
 <211> 561
 <212> DNA
 <213> *Capparis flexuosa*

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 atgcttgaca ccgtgacagt gaaatgcggc cattgcagca acctctcgtt tctctctgta 180
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PF58575.ST25.txt

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cacaggcttc cgtcggctta caatcggttt atgaaagagg agatacaacg catcaaagct 420
gcaaattccgg agataccaca tcgcgaagca ttcagcgctg ctgctaaaaa ctgggcaagg 480
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gacttcggag aaatgaaatg a 561

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<210> 10
 <211> 186
 <212> PRT
 <213> Capparis flexuosa

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

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<210> 11
 <211> 840
 <212> DNA
 <213> Citrus sinensis

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tctttgaaaa tgaaccttga agacaacatc tctacggacc ttcaagttcc acaatctgag 180
catctctgct atgtccgctg caacttctgc aacactgttc ttgcggttg cattccatgc 240
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gatgatcggt tcagtttggt aatttggtt ttcgcctcat caaaacttta ctgtctttta 780
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PF58575.ST25.txt

<210> 12
 <211> 171
 <212> PRT
 <213> Citrus sinensis

<400> 12
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 20 25 30
 Val Gly Ile Pro Cys Lys Arg Leu Leu Asp Thr Val Thr Val Lys Cys
 35 40 45
 Gly His Cys Ser Asn Leu Ser Phe Leu Ser Thr Arg Pro Pro Gln Gln
 50 55 60
 Gly Pro Ser Gln Met Ser Leu Arg Phe Gln Glu Lys Gln Ser Phe Cys
 65 70 75 80
 Asn Asp Phe Lys Leu Gly Asn Ala Ser Ser Ser Ser Ser Thr Ser
 85 90 95
 Ser Glu Pro Leu Ser Pro Lys Ala Pro Phe Val Val Lys Pro Pro Glu
 100 105 110
 Lys Lys His Arg Leu Pro Ser Ala Tyr Asn Arg Phe Met Lys Glu Glu
 115 120 125
 Ile Gln Arg Ile Lys Ala Ala Asn Pro Glu Ile Pro His Arg Glu Ala
 130 135 140
 Phe Ser Thr Ala Ala Lys Asn Trp Ala Arg Tyr Ile Pro Asn Ser Leu
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 Ala Gly Ser Thr Ser Gly Ser Ser Ser His Glu
 165 170

<210> 13
 <211> 558
 <212> DNA
 <213> Cleome sparsifolia

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 ctgcgacctg tgacagtga atgcggccat tgtggcaacc ttctgtttct cacaacaaca 180
 aagccacttc aaggccaatg tctcgatcgc catgtcagcc tcaactcttca gatgcagagc 240
 tttggtggga gtaatgagct gaagaaggga ggttcttcat cgtcatcgtc ctcatctact 300
 tcgagcgacc agccaccatt tcccacagca gctttcgtgg ttaaaccacc cgagaagaag 360
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 gcgaaccgg agatccaca tcgcgaagct ttcagcgccg ctgccaaaaa ctgggctaag 480
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 ttgggagcaa tgaagtga 558

<210> 14
 <211> 185
 <212> PRT
 <213> Cleome sparsifolia

<400> 14
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 20 25 30
 Val Gly Ile Pro Leu Thr Arg Met Leu Asp Thr Val Thr Val Lys Cys
 35 40 45
 Gly His Cys Gly Asn Leu Ser Phe Leu Thr Thr Thr Lys Pro Leu Gln

PF58575.ST25.txt

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

<210> 15
 <211> 502
 <212> DNA
 <213> Gossypium hirsutum

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cgagaagaaa	cacaggcttc
cattaaagca	gcaaattcctg
ttgggctcgg	tacatcccaa
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	180
	240
	300
	360
	420
	480
	502

<210> 16
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 <212> PRT
 <213> Gossypium hirsutum

<400> 16															
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		20						25				30			
Thr	Val	Lys	Cys	Gly	His	Cys	Ser	Asn	Leu	Ser	Phe	Leu	Ser	Thr	Arg
		35					40				45				
Pro	Pro	Leu	Gln	Gly	Gln	Cys	Leu	Asp	Pro	Gln	Thr	Ser	Leu	Thr	Leu
		50				55					60				
Gln	Ser	Phe	Cys	Gly	Asp	Phe	Arg	Lys	Gly	Thr	Gln	Phe	Pro	Ser	Pro
65					70				75						80
Ser	Ser	Ser	Thr	Ser	Ser	Glu	Pro	Ser	Ser	Pro	Lys	Ala	Pro	Phe	Val
			85						90					95	
Val	Lys	Pro	Pro	Glu	Lys	Lys	His	Arg	Leu	Pro	Ser	Ala	Tyr	Asn	Arg
		100						105					110		
Phe	Met	Lys	Glu	Glu	Ile	Gln	Arg	Ile	Lys	Ala	Ala	Asn	Pro	Glu	Ile
		115					120					125			
Pro	His	Arg	Glu	Ala	Phe	Ser	Ala	Ala	Ala	Lys	Asn	Trp	Ala	Arg	Tyr
		130					135				140				
Ile	Pro	Asn	Ser	Pro	Ala	Ala	Ser	Ser	Val	Cys	Gly	Ser	Ser	Ser	Asn

PF58575.ST25.txt

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 Glu Gln Asn Asp Asn Val
 165

<210> 17
 <211> 514
 <212> DNA
 <213> *Gossypium hirsutum*

<400> 17
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 cgagaagaaa cacaggcttc catctgctta caatcggttt atgaaggagg aaatacagcg 360
 cattaaagca gcaaatacctg agatacccca tcgagaagct ttcagcgag ctgctaaaaa 420
 ttgggctcgg tacatcccaa attctccagc agcatcatcc gtttgtggaa gtagcagcaa 480
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<210> 18
 <211> 170
 <212> PRT
 <213> *Gossypium hirsutum*

<400> 18
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 20 25 30
 Thr Val Lys Cys Gly His Cys Ser Asn Leu Ser Phe Leu Ser Thr Arg
 35 40 45
 Pro Pro Leu Gln Gly Gln Cys Leu Asp Pro Gln Thr Ser Leu Thr Leu
 50 55 60
 Gln Ser Phe Cys Gly Asp Phe Arg Lys Gly Thr Gln Phe Pro Ser Pro
 65 70 75 80
 Ser Ser Ser Thr Ser Ser Glu Pro Ser Ser Pro Lys Ala Pro Phe Val
 85 90 95
 Val Lys Pro Pro Glu Lys Lys His Arg Leu Pro Ser Ala Tyr Asn Arg
 100 105 110
 Phe Met Lys Glu Glu Ile Gln Arg Ile Lys Ala Ala Asn Pro Glu Ile
 115 120 125
 Pro His Arg Glu Ala Phe Ser Ala Ala Ala Lys Asn Trp Ala Arg Tyr
 130 135 140
 Ile Pro Asn Ser Pro Ala Ala Ser Ser Val Cys Gly Ser Ser Ser Asn
 145 150 155 160
 Gly Phe Tyr Glu Asn Phe Ala Gly Thr Lys
 165 170

<210> 19
 <211> 746
 <212> DNA
 <213> *Hedyotis centranthoides*

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 catcatcatc atcatctaac ttgaagctct ctctagctag ctcatctaca taaacatgtc 120
 ttctcattct tcctcttcat cttctttcaa cttttagtac aaagccaaca ccatggattt 180
 ggtccaacaa tctgagcacc tttgctatgt ccgctgcaac ttttgcaaca ctgttctcgc 240

PF58575.ST25.txt

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agtcggaata ccgtgcaaga ggctgttaga tactgtgacg gtgaaatgcg ggcattgcag 300
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tcagtctttt gatcatccac caagcattca gagcttcttc agtaaattca agaaggggtca 420
aacttcatca tcggcctcat catcaacatc ctctgaacca ctgtctccaa aagcaccctt 480
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ggaggaaatc caacgcatca aagctgcgaa tccagaaatt ccacaccgag aggcattcag 600
cgcggcagcc aaaaactggg ctaggtatat tcctcacaac ggaccagcag gatccattac 660
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<210> 20
 <211> 190
 <212> PRT
 <213> Hedyotis centranthoides

<400> 20

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

<210> 21
 <211> 1102
 <212> DNA
 <213> Arabidopsis thaliana

<400> 21

atcattcatc	gtacacacac	actctctatg	acaaagctcc	ccaacatgac	gacaacactc	60
aaccatctat	ttgatctgcc	ggggcagatt	tgccatgtcc	agtgtggttt	ttgcaccact	120
atthttgctgg	tgagtgtacc	gtttacaagc	ttgtcaatgg	tggtgactgt	gagatgtggg	180
cattgcacaa	gccttctctc	tgtaaatgtg	atgaaggctt	ccttcattcc	tctccatctc	240
cttgcttctc	tctcccatct	tgatgagacc	gggaaagagg	aggttgcagc	tacagatggt	300
gtggaagaag	aagcatggaa	ggtgaatcag	gagaaggaga	acagtccaac	gactttgggt	360
tcatcttcag	acaatgaaga	tgaagatgtg	tctcgtgttt	accaagttgt	caataaacca	420
cctgagaagc	gacaaagagc	tccttcagct	tacaattgct	tcatcaagga	agagatcagg	480
aggttaaagg	ctcagaatcc	aagcatggct	cacaaggaag	ctttcagctt	agctgccaaa	540
aattggggccc	atthttctcc	agctcacaac	aagagagctg	cttcagatca	atgtttttgt	600
gaggaagata	acaatgcgat	actaccatgc	aatgtttttg	aggaccatga	agaaagcaat	660
aatgggttcc	gagagagaaa	ggctcagagg	cattccattt	ggggaaaatc	tccatttgag	720

PF58575.ST25.txt

```

taataacaat ttgggatatg aaaattttaac aaaaaaataa ataatggcgt atgacatgtg 780
atgggtgactc ttttcttcta gggtttgatt atgttggttt agggtttctg ttgttgagaga 840
gagatagaga gaagaagaat ctgaaacgga agtaggattt gtgtgtgttc gagaagagtc 900
cttggggaatg agcgagtttg ttcagtaatt tcgtagtact tgtcaacttt gaacttaatt 960
tgaagagaca tgcattgact ctataaaaaa aattctactt ttgcattcat gactactctt 1020
attccatgaa tgttttaaca ttccatgaaa cagtacttta gtaagaatct ttgttaacct 1080
atcataataa agatccttct tg 1102

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<210> 22
 <211> 231
 <212> PRT
 <213> Arabidopsis thaliana

<400> 22

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

<210> 23
 <211> 567
 <212> DNA
 <213> Lepidium africanum

<400> 23

atgaaccttg	atcaagaaaa	accaacaatg	acttcaaggg	cttcacctca	agctgagcat	60
ctctattacg	tccggtgtag	catctgcaac	acaatcctcg	cggttgggat	accaatgaag	120
agaatgcttg	acacagtaac	ggtgaaatgt	ggccattgtg	gtaatctttc	attcctcacc	180
acaagccttc	cccttcacg	ccatgttagc	ctcacccttc	agatgcagag	ctttggtggg	240
agtgagtata	agaaaggaag	ctcttcttct	tcctcttctc	ctacctccag	cgaccagcca	300
ccatctccca	caccaccttt	tgtcgttaaa	cctcctgaga	agaagcagag	acttccatcg	360
gcttacaatc	gctttatgag	ggatgagata	cagcgcatca	aaactgcaaa	tccggaaatt	420
ccacatcgtg	aagctttcag	tgctgctgcc	aaaaattggg	ctaagtacat	acccaattcc	480

PF58575.ST25.txt

cctacttccc ttacttccgg aggcaaccac atgatgaatg taagctatac aaataacccc 540
tcagagaagg ctagattata tttctag 567

<210> 24
<211> 188
<212> PRT
<213> *Lepidium africanum*

<400> 24
Met Asn Leu Asp Gln Glu Lys Pro Thr Met Thr Ser Arg Ala Ser Pro
1 5 10 15
Gln Ala Glu His Leu Tyr Tyr Val Arg Cys Ser Ile Cys Asn Thr Ile
20 25 30
Leu Ala Val Gly Ile Pro Met Lys Arg Met Leu Asp Thr Val Thr Val
35 40 45
Lys Cys Gly His Cys Gly Asn Leu Ser Phe Leu Thr Ser Leu Pro
50 55 60
Leu His Gly His Val Ser Leu Thr Leu Gln Met Gln Ser Phe Gly Gly
65 70 75 80
Ser Glu Tyr Lys Lys Gly Ser Ser Ser Ser Ser Ser Thr Ser
85 90 95
Ser Asp Gln Pro Pro Ser Pro Thr Pro Pro Phe Val Val Lys Pro Pro
100 105 110
Glu Lys Lys Gln Arg Leu Pro Ser Ala Tyr Asn Arg Phe Met Arg Asp
115 120 125
Glu Ile Gln Arg Ile Lys Thr Ala Asn Pro Glu Ile Pro His Arg Glu
130 135 140
Ala Phe Ser Ala Ala Ala Lys Asn Trp Ala Lys Tyr Ile Pro Asn Ser
145 150 155 160
Pro Thr Ser Leu Thr Ser Gly Gly Asn His Met Met Asn Val Ser Tyr
165 170 175
Thr Asn Asn Pro Ser Glu Lys Ala Arg Leu Tyr Phe
180 185

<210> 25
<211> 540
<212> DNA
<213> *Solanum lycopersicum*

<400> 25
cccctaccca ataaatatat tttgttcttt aaaaccccca aaaaaacatt ttttttcttt 60
tctccatctg aaaaaaaaaa aactccatgg attatgttca atcttctgag catctttgct 120
acgtccgttg caatttttgt aacactgttt tagcggttgg aattccatac aagaggctaa 180
tggatactgt gacagtgaag tgtggccatt gtagcaatct ttcattttta actactagac 240
ctccaattca aggtcaatgc tttgatcatc aaccaatat tcagggctat tgtagtgaat 300
taaaaaataa ggggcaagct tcatcatcta cctcatcaac ttctagtga cctttatctc 360
caaaggcacc ttttgttgta aaacctctg agaagaaaca caggcttcca tctgcctaca 420
atcgattcat gaaggaagag atacaacgta tcaaactctga aaatccagag ataccacata 480
gagaagcttt cagtgcagct gctaaaaatt gggctaggta ccttccta cccacaaatt 540

<210> 26
<211> 151
<212> PRT
<213> *Solanum lycopersicum*

<400> 26
Met Asp Tyr Val Gln Ser Ser Glu His Leu Cys Tyr Val Arg Cys Asn
1 5 10 15
Phe Cys Asn Thr Val Leu Ala Val Gly Ile Pro Tyr Lys Arg Leu Met

PF58575.ST25.txt

```

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

```

<210> 27
 <211> 562
 <212> DNA
 <213> Solanum lycopersicum

```

<400> 27
gcacgagaat atattttgtt ctttaaaacc cccaaaaaaa catttttttt cttttctcca      60
tctgaaaaaa aaaaaactcc atggattatg ttcaatcttc tgagcatctt tgctacgtcc      120
gttgcaattt ttgtaacact gtttttagcg ttggaattcc atacaagagg ctaatggata      180
ctgtgacagt gaaatgtggc cattgtagca atctttcatt tttaactact agacctccaa      240
ttcaagggtca atgctttgat catcaaccca atattcaggg ctattgtagt gaattaaaaa      300
ataaggggca agcttcatca tctacctcat caacttctag tgaaccttta tctccaaagg      360
caccttttgt tgtaaaacct cctgagaaga aacacaggct tccatctgcc tacaatcgat      420
tcatgaagga agagatacaa cgtatcaa atctgaaaatcc agagatacca catagagaag      480
ctttcagtg agctgctaaa aattgggcta ggtaccttcc taatccacca aattctggaa      540
ataccaacaa tgttttagatg tt                                         562

```

<210> 28
 <211> 158
 <212> PRT
 <213> Solanum lycopersicum

```

<400> 28
Met Asp Tyr Val Gln Ser Ser Glu His Leu Cys Tyr Val Arg Cys Asn
1                5                10                15
Phe Cys Asn Thr Val Leu Ala Val Gly Ile Pro Tyr Lys Arg Leu Met
      20                25                30
Asp Thr Val Thr Val Lys Cys Gly His Cys Ser Asn Leu Ser Phe Leu
      35                40                45
Thr Thr Arg Pro Pro Ile Gln Gly Gln Cys Phe Asp His Gln Pro Asn
      50                55                60
Ile Gln Gly Tyr Cys Ser Glu Leu Lys Asn Lys Gly Gln Ala Ser Ser
65                70                75                80
Ser Thr Ser Ser Thr Ser Ser Glu Pro Leu Ser Pro Lys Ala Pro Phe
      85                90                95
Val Val Lys Pro Pro Glu Lys Lys His Arg Leu Pro Ser Ala Tyr Asn
      100                105                110
Arg Phe Met Lys Glu Glu Ile Gln Arg Ile Lys Ser Glu Asn Pro Glu
      115                120                125
Ile Pro His Arg Glu Ala Phe Ser Ala Ala Ala Lys Asn Trp Ala Arg
      130                135                140

```

PF58575.ST25.txt

Tyr Leu Pro Asn Pro Pro Asn Ser Gly Asn Thr Asn Asn Val
145 150 155

<210> 29
<211> 546
<212> DNA
<213> Nicotiana tabacum

<400> 29
atgtcttctt cttctcctag ttctgctagc tcttgtgtca acttggaagc tgctgataaa 60
aactccatgg atttggttca atcttctgaa catctttgtt atgtccgttg cagtttttgc 120
aacactgttc ttgcggttg aattccatac aagaggctgt tggatacagt gacagtgaaa 180
tgtggtcatt gcagtaacct ttctttttta agcactagac ctccactcca aggccaatgt 240
tttgatcacc aaagcgctct tcagcatcaa actttcttca gcgatttcaa gaagggccag 300
tcttcttctt catcttcaag tgaaccctcg tcaccaaagg caccttttgt tgtaaaacct 360
cctgagaaga agcacaggct cccatctgcc tacaatcggg tcatgaagga tgagatacaa 420
cgcataaagg cagcaaatcc agagattcca caccgagagg ctttcagtgc agcagctaaa 480
aattgggcta ggtacattcc taatactcca aatgggacct tggctgagag cagcaacaat 540
gcctag 546

<210> 30
<211> 181
<212> PRT
<213> Nicotiana tabacum

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

<210> 31
<211> 546
<212> DNA
<213> Nicotiana tabacum

<400> 31
atgtcttctt cttctcctag ttctgctagc tcttgtgtca acttggaagc tgctgataga 60
aactccatgg atttggttca atcttctgaa catctttgtt atgtccgttg cagcttctgc 120

PF58575.ST25.txt

```

aacactgttc ttgcggttgg aattccatac aagaggctgt tggatacagt gacagtgaaa 180
tgtgggcatt gcagtaacct ttcccttttta agcacaagac ctccacttca aggccaatgt 240
tttgatcacc aaaccgctct tcagcatcaa gctttcttca gcgatttcaa gaagggccag 300
tcttcatctt catcttcaag tgaaccctcg tctccaaagg caccttttgt tgtaaaacct 360
cctgagaaga agcacaggct cccatctgcc tacaatcggg tcatgaagga tgagatacaa 420
cgcatcaaag cagcaaatcc agagattcct caccgagaag ctttcagtgc agcagctaaa 480
aattgggcta ggtacattcc taatactcca aatgggacct tggctgagag cagcaacaat 540
gcctag 546

```

```

<210> 32
<211> 181
<212> PRT
<213> Nicotiana tabacum

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<400> 32
Met Ser Ser Ser Ser Pro Ser Ser Ala Ser Ser Cys Val Asn Leu Glu
1      5      10      15
Ala Ala Asp Arg Asn Ser Met Asp Leu Val Gln Ser Ser Glu His Leu
20     25     30
Cys Tyr Val Arg Cys Ser Phe Cys Asn Thr Val Leu Ala Val Gly Ile
35     40     45
Pro Tyr Lys Arg Leu Leu Asp Thr Val Thr Val Lys Cys Gly His Cys
50     55     60
Ser Asn Leu Ser Phe Leu Ser Thr Arg Pro Pro Leu Gln Gly Gln Cys
65     70     75     80
Phe Asp His Gln Thr Ala Leu Gln His Gln Ala Phe Phe Ser Asp Phe
85     90     95
Lys Lys Gly Gln Ser Ser Ser Ser Ser Ser Glu Pro Ser Ser Pro
100    105    110
Lys Ala Pro Phe Val Val Lys Pro Pro Glu Lys Lys His Arg Leu Pro
115    120    125
Ser Ala Tyr Asn Arg Phe Met Lys Asp Glu Ile Gln Arg Ile Lys Ala
130    135    140
Ala Asn Pro Glu Ile Pro His Arg Glu Ala Phe Ser Ala Ala Ala Lys
145    150    155    160
Asn Trp Ala Arg Tyr Ile Pro Asn Thr Pro Asn Gly Thr Leu Ala Glu
165    170    175
Ser Ser Asn Asn Ala
180

```

```

<210> 33
<211> 765
<212> DNA
<213> Antirrhinum majus

```

```

<220>
<221> misc_feature
<222> (6)..(6)
<223> n is a, c, g, or t

```

```

<220>
<221> misc_feature
<222> (609)..(609)
<223> n is a, c, g, or t

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<400> 33
ccacnnttat ggccggggcag ggaaaaagag agaaaaatgt tgactttaga tagtttgttt 60
gacttccaag aacaaatttg ctatgtgcaa tgtggatttt gcacaacctt tttactagtt 120
agtgttccaa aaaactgctt atcgatggca gtgacagtga gatgtggcca ctgcagtacc 180

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PF58575.ST25.txt

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atactctccg tcaacatacc agacgcctat tttgttccat tgcatttctt ttcttcaatc 240
aaccagcaag aacaaatgtc cattcaaccg aaacaagaag cctgctctgt agaaatggct 300
ggtgatcaca agaaggcagg aatgacacta tgcttctcat cagatgaaga agaatatgaa 360
gattctcttc atctcaatca acttgtccac aaacccccag agaagaaaca acgtgctcca 420
tctgcctaca atcacttcat caagaaagaa atcaagaggc tgaagattga gtatccaaac 480
atgactcaca agcaagcttt cagtgtctgt gctaaaaatt gggcccacaa cccccaagt 540
caatacaaac gaggagaagt tcaaggccgt ggagaagtag gcagaacgat gcatgatgtt 600
gatgaagang tgccttggtc tgacagcagt ttcccgaac aaaggcattc aatcaaccta 660
tttgcctcag taaaacttta tgctgaatcg ggctattttt ctttctatgg tttgctcaag 720
ctgctatatg gcttaaacac ttaaattttc aatcatTTTT ctttt 765

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<210> 34
 <211> 235
 <212> PRT
 <213> Antirrhinum majus

<220>
 <221> UNSURE
 <222> (191)..(191)
 <223> Xaa can be any naturally occurring amino acid

<400> 34

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

<210> 35
 <211> 1019
 <212> DNA
 <213> Nymphaea alba

<400> 35

PF58575.ST25.txt

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aatctgctca ctaaaaaaga aacagaactt ctcaaaaatt ctgtagcttg tgtgccattc      60
ttctagcaag ctatgtctca acttcttgat cttacagagc aactctgcta tgtgcagtg      120
agtttctgtg ataccatctt gctggtaagt gtcccttgca gtagcttgct gaaagtgggtg      180
cctgtcagat gtggccattg tagcaacctt ttttcggtaa acatgctgaa ggcttctttt      240
cttcctcttc agcttcttgc ttcaatcaac aatgaggcaa agcaggacag tttcgaaaat      300
gcacctgtca agattggaga tactaccttc atggaatcac tctatgagga agaaagaaga      360
cctgcattta ctgtcaataa gcctccagag aagagacaca gagctccttc tgcttacaac      420
cgtttcataa aggaagagat ccagaggctt aagaccagtg agccaaacat cagccacagg      480
gaggcattca gcaactgctgc taaaaattgg gcacacatgc ctagaattca gcataaacca      540
gatgcggaaa gtggcagcca gagacagagc aacaaaggca aagacaagca tgttgaccgc      600
gaggataaag aaggaaatca aattttccag cagagaaagg tgtcaaggca atgcttcttg      660
acgaaagtac cccagcaatg aagcttaaat tacaaaagca atccactgag ttttgggtcta      720
atgatcagag aagatggtaa aagcttcggg aatatgaggg atctgagttt cccagtctta      780
tccacagatt gctgagttct tggcacaaaa tacccttctt ttcttctctt cactagggca      840
aggtctctta gggtttcatt agctagaaaa tcaagcagtt ttaccatttt gtattgatct      900
gaaagacttc tctgtatctc ttattttggg tgttttggta atttggggtc tcagttagtt      960
taagaatggt aaaacttttc tttctcaaca tgaaaaatta tgaaagctac ttcaattcc     1019

```

<210> 36
 <211> 202
 <212> PRT
 <213> *Nymphaea alba*

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<400> 36
Met Ser Gln Leu Leu Asp Leu Thr Glu Gln Leu Cys Tyr Val Gln Cys
1          5          10          15
Ser Phe Cys Asp Thr Ile Leu Leu Val Ser Val Pro Cys Ser Ser Leu
          20          25          30
Leu Lys Val Val Pro Val Arg Cys Gly His Cys Ser Asn Leu Phe Ser
          35          40          45
Val Asn Met Leu Lys Ala Ser Phe Leu Pro Leu Gln Leu Leu Ala Ser
          50          55          60
Ile Asn Asn Glu Ala Lys Gln Asp Ser Phe Glu Asn Ala Pro Val Lys
65          70          75          80
Ile Gly Asp Thr Thr Phe Met Glu Ser Leu Tyr Glu Glu Glu Arg Arg
          85          90          95
Pro Ala Phe Thr Val Asn Lys Pro Pro Glu Lys Arg His Arg Ala Pro
          100         105         110
Ser Ala Tyr Asn Arg Phe Ile Lys Glu Glu Ile Gln Arg Leu Lys Thr
          115         120         125
Ser Glu Pro Asn Ile Ser His Arg Glu Ala Phe Ser Thr Ala Ala Lys
          130         135         140
Asn Trp Ala His Met Pro Arg Ile Gln His Lys Pro Asp Ala Glu Ser
145         150         155         160
Gly Ser Gln Arg Gln Ser Asn Lys Gly Lys Asp Lys His Val Asp Arg
          165         170         175
Glu Asp Lys Glu Gly Asn Gln Ile Phe Gln Gln Arg Lys Val Ser Arg
          180         185         190
Gln Cys Phe Leu Thr Lys Val Pro Gln Gln
          195         200

```

<210> 37
 <211> 1037
 <212> DNA
 <213> *Oryza sativa*

```

<400> 37
ccccgcacca ccgctcacac ttgtctctcc tctctctcct cctccgcctc agtgctaggg      60
ctagcttgct tgtcgccgtc gccgccgtcg tcgccgccgc aatggatctc gtgtcgccgt      120

```


PF58575.ST25.txt

```

ccgagcacct gtgctacgtg cgctgcacct actgcaacac cgtgctcgcg gttggagtcc 180
catgcaagag gctgatggac accgtgaccg tgaaatgtgg ccactgcaac aacctctcct 240
tcctcagccc ggggccgccc atggtgcagc cgctctcccc aactgatcac cccttggggc 300
cgtttcaggg accttgcact gactgcagga ggaaccagcc gctgccgctg gtctcgccga 360
catcaaataa gggtagccca agagcacctt tcgttggtga gccccagag aagaaacacc 420
gcctcccatc tgcttacaac cgcttcatga gggaggaaat acagcgatc aaagctgcca 480
agccagatat ccctcacagg gaggccttca gcatggctgc caagaactgg gcgaagtgcg 540
acccccgctg ctcatcgacg gtttccacct ccaacagcaa ccccgagccc agagtagtag 600
ctgctcccat tcctcatcag gagagggcca acgagcaggt ggtcgagagc ttcgacatct 660
tcaagcagat ggagcgcagc ggctagggcg gcggcgcccg cgggagcccg cggcgatcta 720
tatcggcggg gaagctcgta tgaagctagc tagcctgcag gccggccact ggggagagta 780
ccaaatttca gatccccctt attatcaccg tcgtcagctc agctcatgca tgcattgcta 840
tcgttccccct ttagcatata tctgtgctcg tttgtgtgtt attagttaat tatgtttgat 900
cttggttaatt tgttggttgca tggagtatgt accccctata agaccagct gctgctaccg 960
tacgatatac gtacgtatgc tatatatata tatatatata tatatatatt tgtcatctaa 1020
aaaaaaaaaa aaaaaaaa 1037

```

<210> 38
 <211> 194
 <212> PRT
 <213> *Oryza sativa*

```

<400> 38
Met Asp Leu Val Ser Pro Ser Glu His Leu Cys Tyr Val Arg Cys Thr
1          5          10          15
Tyr Cys Asn Thr Val Leu Ala Val Gly Val Pro Cys Lys Arg Leu Met
20          25          30
Asp Thr Val Thr Val Lys Cys Gly His Cys Asn Asn Leu Ser Phe Leu
35          40          45
Ser Pro Arg Pro Pro Met Val Gln Pro Leu Ser Pro Thr Asp His Pro
50          55          60
Leu Gly Pro Phe Gln Gly Pro Cys Thr Asp Cys Arg Arg Asn Gln Pro
65          70          75          80
Leu Pro Leu Val Ser Pro Thr Ser Asn Glu Gly Ser Pro Arg Ala Pro
85          90          95
Phe Val Val Lys Pro Pro Glu Lys Lys His Arg Leu Pro Ser Ala Tyr
100          105          110
Asn Arg Phe Met Arg Glu Glu Ile Gln Arg Ile Lys Ala Ala Lys Pro
115          120          125
Asp Ile Pro His Arg Glu Ala Phe Ser Met Ala Ala Lys Asn Trp Ala
130          135          140
Lys Cys Asp Pro Arg Cys Ser Ser Thr Val Ser Thr Ser Asn Ser Asn
145          150          155          160
Pro Glu Pro Arg Val Val Ala Ala Pro Ile Pro His Gln Glu Arg Ala
165          170          175
Asn Glu Gln Val Val Glu Ser Phe Asp Ile Phe Lys Gln Met Glu Arg
180          185          190
Ser Gly

```

<210> 39
 <211> 489
 <212> DNA
 <213> *Petunia x hybrida*

```

<400> 39
atggatttgg ctcaaacttc agaacatctt tgttatgtcc gttgtagctt ctgcaacact 60
gttcttgccg tcggaatacc attcaagagg ctattggata cagtaacagt aaaatgtggc 120
cattgtagta acctttcctt tctaagtact agaccaccac ttcaaggaca atgttttgat 180

```

PF58575.ST25.txt

caccaaaccg	ctcttcagca	tcaagctttc	ttcagtgatt	acaagaaagg	ccagtcttca	240
tcatcctttt	cgtcatcttc	aagtgaaccc	tcctctccaa	aggcaccttt	tgttgtaaaa	300
cctcctgaga	agaagcacag	gcttccatct	gcctacaatc	ggttcatgaa	ggaagagata	360
caacgtatta	aagcagcaaa	tccagagatt	ccacaccgag	aagctttcag	tgacagcagct	420
aaaaattggg	ctaggtatat	tcctaatact	ccaaacgggc	cattgtctga	gagcaggaat	480
aatgcttag						489

<210> 40
 <211> 162
 <212> PRT
 <213> Petunia x hybrida

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

<210> 41
 <211> 1105
 <212> DNA
 <213> Triticum aestivum

<400> 41
 tgcgggcggt catgctcaga aacaaggttg ggacaagcac ttccaggcta acacagtcag 60
 aaatcgaaac gtactctcaa cagttcgctt aggcattgga gttttgcggc attctggcta 120
 cacaataaca aggaagact tactcgtggc tgcaacccta ctagctcaaa atttattcac 180
 acatggttac gctttgggga aattatgagg ggatctctca gtgcagagca tggatttggg 240
 gtcgccgtcc gagcacctct gctacgtgcg ctgcacgtac cgcaacaccg tgctctcgct 300
 gcagggtggg gttccatgca agaggctgat ggacacggtg actgtgaaat gcggccactg 360
 caacaacctc tcctttctca gccacggcc gccgccatg gtgcagcccc tctcccaaaa 420
 tgaccaccac caccatgg ggccgttcca gggatggact gactgcagga ggaaccagcc 480
 gctgccaccg ctggcctcgc cgacatcaag tgatgccagc ccagagctc cctttgttgt 540
 caagccccca gagaagaac accgcctgcc atctgcctac aatcgcttca tgaggaggga 600
 aatacaacgt atcaaagctg caaagccaga catccctcac agagaagcct tcagcatggc 660
 tgtaagaac tgggcgaagt gcgaccctcg ctgctcatcg actgtctctg cttccaacag 720
 cgccccggag cccagaataa tagtgcccg tcctcagctg caggagaggg ctaccgagca 780
 agtgggttag agcttcgaca tcttcaagca gatggagcgc agcgcctaag gaatcataag 840
 catgggtggga ttaattagta ctgctaccgc atgcatcggt cacttatcag ctagctcatc 900
 atcatcatcc gtcgctatgc atatatataa tgcataagcg caccggtttt atttgtgttt 960
 ggttacttcg ttgctgctgc tgctgtgtcg ttaagttgat ggtgttgtct gttatatattg 1020

PF58575.ST25.txt

ttgttggagc gtacgtactc acactttaat tatgaacagc tgctacctta taatatatttt 1080
catcgaaaaa aaaaaaaaaa aaaaa 1105

<210> 42
<211> 199
<212> PRT
<213> Triticum aestivum

<400> 42
Met Asp Leu Val Ser Pro Ser Glu His Leu Cys Tyr Val Arg Cys Thr
1 5 10 15
Tyr Arg Asn Thr Val Leu Ser Leu Gln Val Gly Val Pro Cys Lys Arg
20 25 30
Leu Met Asp Thr Val Thr Val Lys Cys Gly His Cys Asn Asn Leu Ser
35 40 45
Phe Leu Ser Pro Arg Pro Pro Met Val Gln Pro Leu Ser Pro Asn
50 55 60
Asp His His His Pro Met Gly Pro Phe Gln Gly Trp Thr Asp Cys Arg
65 70 75 80
Arg Asn Gln Pro Leu Pro Pro Leu Ala Ser Pro Thr Ser Ser Asp Ala
85 90 95
Ser Pro Arg Ala Pro Phe Val Val Lys Pro Pro Glu Lys Lys His Arg
100 105 110
Leu Pro Ser Ala Tyr Asn Arg Phe Met Arg Glu Glu Ile Gln Arg Ile
115 120 125
Lys Ala Ala Lys Pro Asp Ile Pro His Arg Glu Ala Phe Ser Met Ala
130 135 140
Ala Lys Asn Trp Ala Lys Cys Asp Pro Arg Cys Ser Ser Thr Val Ser
145 150 155 160
Ala Ser Asn Ser Ala Pro Glu Pro Arg Ile Ile Val Pro Gly Pro Gln
165 170 175
Leu Gln Glu Arg Ala Thr Glu Gln Val Val Glu Ser Phe Asp Ile Phe
180 185 190
Lys Gln Met Glu Arg Ser Ala
195

<210> 43
<211> 1001
<212> DNA
<213> Zea mays

<400> 43
gcacgagcac acagctagca gacagccaga cagcgctgc tttctgatct ctccccggat 60
cggaggctcc tcccaacata ccacctgcc agccgcgcgc ccacgtccac gccggccggc 120
caccaagcaa gcatggatat ggtttcgcag tccgagcacc tgtgctacgt ccgctgcacc 180
tactgcaaca ccgtgctcgc ggttgggggt ccatgcaaga ggctgatgga cacggtgact 240
gtcaagtgcg gccactgcaa caacctctcc tacctcagtc cacggcccc catggtgcag 300
ccgctctcgc cgactgatca ccctttgggg ccattccagt gtcagggacc ctgcaacgac 360
tgcaggagga accaaccgct gccgctggct tcgccgtcat caactgagct aagcccgaga 420
atgcccttcg tagtcaagcc cccggagaag aaacaccgcc tcccatctgc ttataatcgc 480
ttcatgaggg aggagattca gcgcatacaa gctgcgaagc cagatatccc tcacagggag 540
gccttcagca tggctgccaa gaattgggca aagtgtgacc cgcgctgctc gacggtgcc 600
tctaccgaaa cttctaacag cgctcctgct gagcctagag ttgtgcccac tccccagtta 660
actgagccac gctttgacct ggaggatagg gccaaagggc aagtcattga gagcttcgac 720
atcttcaagc atattgagcg cagcatctag aggtcgttcg atgccgctgt tgtagccag 780
tatcgatcga gtaccatcag ctatatgtat aacctatccc gtatcgccgt cgtcgcctcg 840
caatcatgca tccccatcct gtacttttac ccccgtagct gttactgttg ctgttattct 900
cgttatgggt ggattgtacg caccatttaa ttatgaacag ctgctaccta tatatataat 960
atttgccttc tttttgttc ctaaaaaaaaa aaaaaaaaaa a 1001

<210> 44
 <211> 205
 <212> PRT
 <213> Zea mays

<400> 44
 Met Asp Met Val Ser Gln Ser Glu His Leu Cys Tyr Val Arg Cys Thr
 1 5 10 15
 Tyr Cys Asn Thr Val Leu Ala Val Gly Val Pro Cys Lys Arg Leu Met
 20 25 30
 Asp Thr Val Thr Val Lys Cys Gly His Cys Asn Asn Leu Ser Tyr Leu
 35 40 45
 Ser Pro Arg Pro Pro Met Val Gln Pro Leu Ser Pro Thr Asp His Pro
 50 55 60
 Leu Gly Pro Phe Gln Cys Gln Gly Pro Cys Asn Asp Cys Arg Arg Asn
 65 70 75 80
 Gln Pro Leu Pro Leu Ala Ser Pro Ser Ser Thr Glu Leu Ser Pro Arg
 85 90 95
 Met Pro Phe Val Val Lys Pro Pro Glu Lys Lys His Arg Leu Pro Ser
 100 105 110
 Ala Tyr Asn Arg Phe Met Arg Glu Glu Ile Gln Arg Ile Lys Ala Ala
 115 120 125
 Lys Pro Asp Ile Pro His Arg Glu Ala Phe Ser Met Ala Ala Lys Asn
 130 135 140
 Trp Ala Lys Cys Asp Pro Arg Cys Ser Thr Ala Ala Ser Thr Glu Thr
 145 150 155 160
 Ser Asn Ser Ala Pro Ala Glu Pro Arg Val Val Pro Thr Pro Gln Leu
 165 170 175
 Thr Glu Pro Arg Phe Asp Leu Glu Asp Arg Ala Lys Gly Gln Val Ile
 180 185 190
 Glu Ser Phe Asp Ile Phe Lys His Ile Glu Arg Ser Ile
 195 200 205

<210> 45
 <211> 20
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif 1

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> /replace="Gly" /replace="Asp"

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> /replace="Arg" /replace="His"

<220>
 <221> VARIANT
 <222> (3)..(3)
 <223> /replace="Leu"

<220>
 <221> VARIANT

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<222> (4)..(4)
<223> /replace="Gly" /replace="Tyr"

<220>
<221> VARIANT
<222> (5)..(5)
<223> /replace="Tyr" /replace="Cys"

<220>
<221> VARIANT
<222> (7)..(7)
<223> /replace="Arg"

<220>
<221> VARIANT
<222> (9)..(9)
<223> /replace="Ser" /replace="Asn" /replace="Thr"

<220>
<221> VARIANT
<222> (10)..(10)
<223> /replace="Ile" /replace="Tyr"

<220>
<221> VARIANT
<222> (11)..(11)
<223> /replace="Arg"

<220>
<221> VARIANT
<222> (12)..(12)
<223> /replace="Ala" /replace="Asp" /replace="Asn" /replace="Ser"

<220>
<221> VARIANT
<222> (14)..(14)
<223> /replace="Val" /replace="Leu"

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

<220>
<221> VARIANT
<222> (18)..(18)
<223> /replace="Gly"

<220>
<221> VARIANT
<222> (19)..(19)
<223> /replace="Ile"

<400> 45
Glu Gln Ile Cys His Val Gln Cys Gly Phe Cys Thr Thr Ile Leu Leu
1 5 10 15
Val Ser Val Pro
20

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<210> 46
 <211> 10
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif 2

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> /replace="Ala" /replace="Thr"

<220>
 <221> VARIANT
 <222> (3)..(3)
 <223> /replace="Ala" /replace="Pro"

<220>
 <221> VARIANT
 <222> (5)..(5)
 <223> /replace="Gln" /replace="Lys"

<220>
 <221> VARIANT
 <222> (10)..(10)
 <223> /replace="Gly" /replace="Ser" /replace="Asn"

<400> 46
 Val Val Thr Val Arg Cys Gly His Cys Thr
 1 5 10

<210> 47
 <211> 5
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif 3

<400> 47
 Leu Leu Val Ser Val
 1 5

<210> 48
 <211> 5
 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif 4

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> /replace="Glu"

<400> 48
 Asp Thr Val Thr Val

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1              5

<210>  49
<211>  14
<212>  PRT
<213>  Artificial sequence

<220>
<223>  motif 5

<220>
<221>  VARIANT
<222>  (5)..(5)
<223>  /replace="Arg"

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

<220>
<221>  VARIANT
<222>  (7)..(7)
<223>  /replace="His"

<220>
<221>  VARIANT
<222>  (9)..(9)
<223>  /replace="Thr" /replace="Leu"

<400>  49
Lys Pro Pro Glu Lys Arg Gln Arg Ala Pro Ser Ala Tyr Asn
1              5              10

<210>  50
<211>  12
<212>  PRT
<213>  Artificial sequence

<220>
<223>  motif 6

<220>
<221>  VARIANT
<222>  (1)..(1)
<223>  /replace="Arg"

<220>
<221>  VARIANT
<222>  (2)..(2)
<223>  /replace="Lys" /replace="Asp"

<220>
<221>  VARIANT
<222>  (5)..(5)
<223>  /replace="Lys" /replace="Gln"

<220>
<221>  VARIANT

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<222> (7)..(7)
<223> /replace="Ile"

<220>
<221> VARIANT
<222> (8)..(8)
<223> /replace="Glu"

<220>
<221> VARIANT
<222> (9)..(9)
<223> /replace="Ile" /replace="Ser" /replace="Thr"

<220>
<221> VARIANT
<222> (10)..(10)
<223> /replace="Glu" /replace="Met" /replace="Ser" /replace="Ala"
      /replace="Gly"

<220>
<221> VARIANT
<222> (11)..(11)
<223> /replace="Tyr" /replace="Glu" /replace="Lys"

<400> 50
Lys Glu Glu Ile Arg Arg Leu Lys Ala Gln Asn Pro
1          5          10

<210> 51
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> motif 7

<220>
<221> VARIANT
<222> (2)..(2)
<223> /replace="Arg"

<220>
<221> VARIANT
<222> (3)..(3)
<223> /replace="Gln"

<220>
<221> VARIANT
<222> (7)..(7)
<223> /replace="Ala" /replace="Thr" /replace="Ser" /replace="Met"

<220>
<221> VARIANT
<222> (14)..(14)
<223> /replace="Lys" /replace="Arg"

<400> 51
His Lys Glu Ala Phe Ser Leu Ala Ala Lys Asn Trp Ala His
1          5          10

```


PF58575.ST25.txt

<210> 52
<211> 2193
<212> DNA
<213> *Oryza sativa*

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<400> 52
aatccgaaaa gtttctgcac cgttttcacc ccctaactaa caatataggg aacgtgtgct      60
aaatataaaa tgagacctta tatatgtagc gctgataact agaactatgc aagaaaaact      120
catccaccta 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 acacactctc aatatcactc gcctatttaa 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 cctcctcctc ccactctataa attcctcccc ccttttcccc tctctatata     1020
ggaggcatcc aagccaagaa gagggagagc accaaggaca cgcgactagc agaagccgag     1080
cgaccgcctt cttcgatcca tatcttcggg tcgagttctt ggtcgatctc ttccctcctc     1140
cacctcctcc tcacagggtg tgtgcccttc ggtgtgtctt ggattttattg ttctaggttg     1200
tgtagtacgg gcgttgatgt taggaaaggg gatctgtatc tgtgatgatt cctgttcttg     1260
gatttgggat agaggggttc ttgatgttgc atgttatcgg ttcggtttga ttagtagtat     1320
ggttttcaat cgtctggaga gctctatgga aatgaaatgg tttagggtac ggaatcctgc     1380
gattttgtga gtaccttttg tttgaggtaa aatcagagca ccggtgattt tgcttggtgt     1440
aataaaagta cggttgtttg gtcctcgatt ctggtagtga tgcttctcga tttgacgaag     1500
ctatcctttg tttattccct attgaacaaa aataatccaa ctttgaagac ggtcccgttg     1560
atgagattga atgattgatt cttaagcctg tccaaaattt cgcagctggc ttgttttagat     1620
acagtagtcc ccactacgaa attcatggaa acagttataa tcctcaggaa caggggattc     1680
cctgttcttc cgatttgctt tagtcccaga attttttttc ccaaatatct taaaaagtca     1740
ctttctgggt cagttcaatg aattgattgc tacaataaat gcttttatag cgttatccta     1800
gctgtagttc agttaatagg taatacccct atagtttagt caggagaaga acttatccga     1860
tttctgatct ccatttttaa ttatatgaaa tgaactgtag cataagcagt attcattttg     1920
attatttttt ttattagctc tcaccccttc attattctga gctgaaagtc tggcatgaac     1980
tgtcctcaat tttgttttca aattcacatc gattatctat gcattatcct cttgtatcta     2040
cctgtagaag tttctttttg gttattcctt gactgcttga ttacagaaag aaatttatga     2100
agctgtaatc gggatagtta tactgcttgt tcttatgatt catttccttt gtgcagttct     2160
tggtgtagct tgccactttc accagcaaag ttc                                     2193

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<210> 53
<211> 56
<212> DNA
<213> Artificial sequence

<220>
<223> primer: prm9238

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<400> 53
ggggacaagt ttgtacaaaa aagcaggctt aaacaatgaa cctagaagag aaacca      56

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<210> 54
<211> 50
<212> DNA

<213> Artificial sequence

<220>

<223> primer: prm9239

<400> 54

ggggaccact ttgtacaaga aagctggggtt tatttttagg cttcttttcc

50

<210> 55

<211> 2794

<212> DNA

<213> Artificial sequence

<220>

<223> expression cassette

<400> 55

aatccgaaaa	gtttctgcac	cgttttcacc	ccctaactaa	caatataggg	aacgtgtgct	60
aaatataaaa	tgagacctta	tatatgtagc	gctgataact	agaactatgc	aagaaaaact	120
catccaccta	ctttagtggc	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	caatTTTTt	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	tgcccacaga	acaaccacac	aaaaacgatg	atctaacgga	ggacagcaag	900
tccgcaacaa	ccttttaaca	gcaggccttg	cggccaggag	agaggaggag	aggcaaagaa	960
aaccaagcat	cctcctcctc	ccatctataa	attcctcccc	ccttttcccc	tctctatata	1020
ggaggcatcc	aagccaagaa	gagggagagc	accaaggaca	cgcgactagc	agaagccgag	1080
cgaccgcctt	cttcgatcca	tatcttcctg	tcgagttcct	ggtcgatctc	ttccctcctc	1140
cacctcctcc	tcacagggtg	tgtgcccttc	ggtgtgtcct	ggattttattg	ttctagggtg	1200
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PF58575.ST25.txt

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 20

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<220>
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<220>
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<220>
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<210> 58
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 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif 4

<220>
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<400> 58
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 1 5

<210> 59
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 <212> PRT
 <213> Artificial sequence

<220>
 <223> motif 5

<220>
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<220>
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PF58575.ST25.txt

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<210> 60

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<213> Oryza sativa

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