

SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.

<120> Anti-LAG3 Antibodies and Uses Thereof

<130> 10176W001

<150> 62/239,524

<151> 2015-10-09

<150> 62/257,791

<151> 2015-11-20

<150> 62/315,119

<151> 2016-03-30

<150> 62/359,921

<151> 2016-07-08

<150> 62/365,006

<151> 2016-07-21

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ccagggatgg ggctggagtg ggtctcaagt attagtggta gtggtcgtaa cacatactat 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgttt 240
cttcaaatga acagcctgag agccgaggac acggccgttt attactgtgc gaaagagtcc 300
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 Ala Met Ser Trp Val Arg Gln Ala Pro Gly Met Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Gly Ser Gly Arg Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Phe
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
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 100 105 110
 Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
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gggaaagccc caaagctcct gatctatgct gcatccagtt tgcaaaatgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
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 20 25 30
 Leu Asn Trp Tyr His Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ala Ala Ser Ser Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
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 Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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ggagactccg tgaagggccg attcaccatt tccagagaca attccaagaa cacggtgtat 240
ctgcaaatac acagcctgag agccgaggac acggctgtgt attactgtgc gagagattgt 300
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			20					25						30	
Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Ala	Leu	Ile	Trp	Tyr	Asp	Gly	Thr	Asn	Lys	Lys	Tyr	Gly	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Val	Tyr
65					70				75					80	
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Ala	Arg	Asp	Cys	Gly	His	Ser	Gly	Asn	Asp	Arg	Gly	Thr	Tyr	Tyr	Tyr
			100					105					110		
Tyr	Tyr	Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser
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 gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
 aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
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 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr
 20 25 30
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Pro
 85 90 95
 Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

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Gln Gln Ser Tyr Ser Thr Pro Pro Ile Thr
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ccagggaagg ggctggagtg ggttggggaa atcagtcata gaggaaccac caactacaac 180
ccgtccctca agagtcgagt caccatatca ctggacacgt ccaagaacca gttctccctg 240
aaactgacct ctgtgaccgc cgcggacacg gctgtgtatt actgttcgag agacgaggaa 300
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20 25 30
Tyr Trp Asn Trp Ile Arg Gln Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Glu Ile Ser His Arg Gly Thr Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60
Ser Arg Val Thr Ile Ser Leu Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80
Lys Leu Thr Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ser
85 90 95
Arg Asp Glu Glu Leu Glu Phe Arg Phe Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
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<400> 36

Gly Gly Ser Phe Ser Gly Tyr Tyr
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<210> 37

<211> 21

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<400> 38

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<212> DNA

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<210> 40

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ggccaggctc ccaggctcct cgtctatggc gcatccaaca gggccactgg catcccagcc 180
aggttcagtg gcagtggggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cattttatta ctgtcagcag cgtagcaact ggccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

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<400> 42

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

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Gln Gln Arg Ser Asn Trp Pro Leu Thr

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cagccccag ggaaggggct ggagtggatt ggcaatttct ttatactgg ggccacctac 180
tacaaccgt ccctcaagag tcgagtcacc atatccgctg acacgtcaa gaatcagttc 240
tccctgaagc tgagctctgt gaccgccgca gacacggctc tgtattattg tgcgagttat 300
aataggaatt accggttcga cccctggggc cagggaacct tggtcaccgt ctctca 357

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

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Ala Ser Tyr Asn Arg Asn Tyr Arg Phe Asp Pro
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gggaaagccc ctaagtcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag tctgcaacct 240
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			20					25				30			
Leu	Asn	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ala	Pro	Lys	Leu	Leu	Ile
	35						40					45			
Tyr	Ala	Ala	Ser	Ser	Leu	Gln	Ser	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly
	50					55					60				
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Thr	Ile	Ser	Ser	Leu	Gln	Pro
65					70					75					80
Glu	Asp	Phe	Ala	Thr	Tyr	Phe	Cys	Gln	Gln	Ser	Tyr	Ser	Thr	Pro	Pro
				85					90					95	
Ile	Thr	Phe	Gly	Gln	Gly	Thr	Arg	Leu	Glu	Ile	Lys				
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 1 5

<210> 61
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9

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Gln Gln Ser Tyr Ser Thr Pro Pro Ile Thr
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ccagggaagg ggctggagtg gattggagag atcaatcata gtggaaacgc cgactacaac 180
ccgtcccctca agagtcgagt ctccatatca gtggacacgt ccaagaacca gttctccctg 240
aggctgagct ctgtgaccgc cgcggacacg gctatttatt actgtgagag agcgggctat 300
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Thr	Leu	Ser	Leu	Thr	Cys	Ala	Val	Tyr	Gly	Gly	Ser	Phe	Ser	Thr	Tyr
			20					25					30		
Tyr	Trp	Ser	Trp	Ile	Arg	Gln	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Ile	
		35				40					45				
Gly	Glu	Ile	Asn	His	Ser	Gly	Asn	Ala	Asp	Tyr	Asn	Pro	Ser	Leu	Lys
	50					55					60				
Ser	Arg	Val	Ser	Ile	Ser	Val	Asp	Thr	Ser	Lys	Asn	Gln	Phe	Ser	Leu
65					70					75					80
Arg	Leu	Ser	Ser	Val	Thr	Ala	Ala	Asp	Thr	Ala	Ile	Tyr	Tyr	Cys	Ala
				85					90					95	
Arg	Ala	Gly	Tyr	Cys	Ser	Ser	Pro	Thr	Cys	Tyr	Ser	Tyr	Tyr	Tyr	Phe
			100					105					110		
Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser	
		115					120					125			

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24

<210> 68

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<223> synthetic

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Gly	Gly	Ser	Phe	Ser	Thr	Tyr	Tyr
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atcaatcata gtggaaacgc c 21

<210> 70
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Ile Asn His Ser Gly Asn Ala
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Ala Arg Ala Gly Tyr Cys Ser Ser Pro Thr Cys Tyr Ser Tyr Tyr Tyr
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Phe Gly Met Asp Val
20

<210> 73
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
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<400> 73
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctctagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttatc agcagcttct tagcctggta ccagcagaaa 120

cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcttccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatccg cagactggag 240
cctgaagatt ttgcagtgta ttactgtcag cagtatggta actcaccttg gacgttcggc 300
caagggacca aggtggagat caaa 324

<210> 74
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
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<400> 74
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Leu Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ile Ser Ser
20 25 30
Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45
Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Phe Pro Asp Arg Phe Ser
50 55 60
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Arg Arg Leu Glu
65 70 75 80
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Asn Ser Pro
85 90 95
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 75
<211> 21
<212> DNA
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<220>
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<400> 75
cagagtgtta tcagcagctt c 21

<210> 76
<211> 7
<212> PRT
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<220>
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<400> 76
Gln Ser Val Ile Ser Ser Phe
1 5

<210> 77
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
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<400> 77
ggtgcatcc

9

<210> 78
<211> 3
<212> PRT
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<220>
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<400> 78
Gly Ala Ser
1

<210> 79
<211> 27
<212> DNA
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<220>
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<400> 79
cagcagtatg gtaactcacc ttggacg

27

<210> 80
<211> 9
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<220>
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<400> 80
Gln Gln Tyr Gly Asn Ser Pro Trp Thr
1 5

<210> 81
<211> 387
<212> DNA
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<220>

<223> synthetic

<400> 81

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acctgcaccg tctctgggtt ctactcagc aatgctggga tgggtgtgag ctgggtccgt 120
cagccccctg ggaaggccct ggagtggctt gcacacattt tttcgaatga cgagaagtcc 180
tacagcacat ctctgaggac cagactcacc atctccaagg acacctcaa aagccaggtg 240
gtccttaccg tgaccaactt ggaccctgtg gacacagcca catatttctg tgcacggata 300
ccagagttta ccagctcgtc gtgggctctc tactacttct acggtatgga cgtctggggc 360
caagggacca cggtcaccgt ctcctca                                     387
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<210> 82

<211> 129

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 82

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 1          5          10          15
Thr Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Asn Ala
 20          25          30
Gly Met Gly Val Ser Trp Val Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35          40          45
Trp Leu Ala His Ile Phe Ser Asn Asp Glu Lys Ser Tyr Ser Thr Ser
 50          55          60
Leu Arg Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Ser Gln Val
 65          70          75          80
Val Leu Thr Val Thr Asn Leu Asp Pro Val Asp Thr Ala Thr Tyr Phe
 85          90          95
Cys Ala Arg Ile Pro Glu Phe Thr Ser Ser Ser Trp Ala Leu Tyr Tyr
100          105          110
Phe Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser
115          120          125
Ser
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<210> 83

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 83

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<210> 84

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<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 84

Gly Phe Ser Leu Ser Asn Ala Gly Met Gly
1 5 10

<210> 85

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 85

atttttttcga atgacgagaa g

21

<210> 86

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 86

Ile Phe Ser Asn Asp Glu Lys
1 5

<210> 87

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 87

gcacggatac cagagtttac cagctcgtcg tgggctctct actacttcta cggtatggac 60
gtc 63

<210> 88

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 88

Ala Arg Ile Pro Glu Phe Thr Ser Ser Ser Trp Ala Leu Tyr Tyr Phe
1 5 10 15
Tyr Gly Met Asp Val
20

<210> 89

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 89

gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagcgccacc 60
ctctcctgca gggccagtca gagtattacc agcacctact tcgcctggta ccagcagaaa 120
cctggccagg ctcccaggct cctcatctat gctacatcca gcagggccac tggcgtccca 180
gacaggttca gtggcagtggt gtctgggacg gacttcactc tcaccatcag cagactggag 240
cctgatgatt ttgcagtgtg ttactgtcag caatatggta gggtcaccttg gacgttcggc 300
caagggaacca aggtggaagt caaa 324

<210> 90

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 90

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

<210> 91

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 91

cagagtatta ccagcaccta c

21

<210> 92

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 92

Gln Ser Ile Thr Ser Thr Tyr

1

5

<210> 93

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 93

gctacatcc

9

<210> 94

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 94

Ala Thr Ser

1

<210> 95

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 95

cagcaatatg gtaggtcacc ttggacg

27

<210> 96

<211> 9
<212> PRT
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<220>
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<400> 96
Gln Gln Tyr Gly Arg Ser Pro Trp Thr
1 5

<210> 97
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
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<400> 97
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tcctgcaagg cttctgggta cacctttacc agttatggta tcagctgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggatgg atcagcgctt acaatgataa cacaaactat 180
gcacagaagc tccagggcag agtcaccatg accgcagaca catccacgaa tacagcctac 240
atggagctaa ggagcctgag atctgacgac acggccattt attactgtgt gcgatggaat 300
tgggggttccg tctactggta cttcgatctc tggggccgtg gcaccctggg cactgtctcc 360
tca 363

<210> 98
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
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<400> 98
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30
Gly Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45
Gly Trp Ile Ser Ala Tyr Asn Asp Asn Thr Asn Tyr Ala Gln Lys Leu
50 55 60
Gln Gly Arg Val Thr Met Thr Ala Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80
Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Ile Tyr Tyr Cys
85 90 95
Val Arg Trp Asn Trp Gly Ser Val Tyr Trp Tyr Phe Asp Leu Trp Gly
100 105 110
Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 99
<211> 24
<212> DNA
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<220>
<223> synthetic

<400> 99
ggttacacct ttaccagtta tggt

24

<210> 100
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 100
Gly Tyr Thr Phe Thr Ser Tyr Gly
1 5

<210> 101
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
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<400> 101
atcagcgctt acaatgataa caca

24

<210> 102
<211> 8
<212> PRT
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<220>
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<400> 102
Ile Ser Ala Tyr Asn Asp Asn Thr
1 5

<210> 103
<211> 42
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 103

gtgcgatgga attgggggttc cgtctactgg tacttcgatc tc

42

<210> 104

<211> 14

<212> PRT

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<223> synthetic

<400> 104

Val Arg Trp Asn Trp Gly Ser Val Tyr Trp Tyr Phe Asp Leu

1

5

10

<210> 105

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 105

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ctctcctgca gggccagtca gattattagc agcagctact ttgcctggta ccagcagaaa 120
cctggccagg ctcccaggct cctcatctat ggtgcgtcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgt gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcaatgta tttctgtcag cagtatggta actcaccttg gacgttcggc 300
caagggacca aggtggaaat caaa 324

<210> 106

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 106

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

65					70					75					80
Pro	Glu	Asp	Phe	Ala	Met	Tyr	Phe	Cys	Gln	Gln	Tyr	Gly	Asn	Ser	Pro
				85					90					95	
Trp	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys				
			100					105							

<210> 107
 <211> 21
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<220>
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<400> 107
 cagattatta gcagcagcta c 21

<210> 108
 <211> 7
 <212> PRT
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<220>
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<400> 108
 Gln Ile Ile Ser Ser Ser Tyr
 1 5

<210> 109
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 109
 ggtgctcc 9

<210> 110
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 110
 Gly Ala Ser
 1

<210> 111
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 111
cagcagtatg gtaactcacc ttggacg

27

<210> 112
<211> 9
<212> PRT
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<220>
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<400> 112
Gln Gln Tyr Gly Asn Ser Pro Trp Thr
1 5

<210> 113
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
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<400> 113
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acttgcacct tctctgggtt ctcaactcaac actcatagag tgggtgtagg ctggatccgg 120
cagccccag gaaaggccct ggagtggctt gcactcattt atgggaatga tgtaagaac 180
tacagcccat ctctggagac caggctcacc atcgccaagg acacctcaa aaaccaggtg 240
gtccttacia tgaccaacat ggaccctgtg gacacagcca catatttctg ttcgtacata 300
acgggggaag gaatgtactg gggccaggga accctggtca ccgtctcctc a 351

<210> 114
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 114
Gln Ile Thr Leu Lys Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln
1 5 10 15
Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Asn Thr His
20 25 30

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

<210> 115
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 115
 gggttctcac tcaacactca tagagtgggt

30

<210> 116
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 116
 Gly Phe Ser Leu Asn Thr His Arg Val Gly
 1 5 10

<210> 117
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 117
 atttatggga atgatgttaa g

21

<210> 118
 <211> 7
 <212> PRT
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<220>

<223> synthetic

<400> 118

Ile Tyr Gly Asn Asp Val Lys
1 5

<210> 119

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 119

tcgtacataa cgggggaagg aatgtac

27

<210> 120

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 120

Ser Tyr Ile Thr Gly Glu Gly Met Tyr
1 5

<210> 121

<211> 333

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 121

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atttcctgta ggtctagtca aaacctcatg tacagtgatg gaaacaccta cttgaattgg 120
tttcaccaga ggccaggcca atctccaagg cgtctaattt ataaggtttc taaccgggac 180
tctgggggtcc cagacagatt cagcggcagt gggtcaggca ctgatttcac actgaaaatc 240
agcaggggtgg aggctgagga tgttgggggtt tattactgca tgcaaggtac acactggtac 300
acatttggcc aggggaccaa gctggagatc aaa 333

<210> 122

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 122

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

<210> 123

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 123

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<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 124

Gln	Asn	Leu	Met	Tyr	Ser	Asp	Gly	Asn	Thr	Tyr
1				5					10	

<210> 125

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 125

aaggtttct

9

<210> 126
<211> 3
<212> PRT
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<220>
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<400> 126
Lys Val Ser
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<210> 127
<211> 24
<212> DNA
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<220>
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<400> 127
atgcaaggta cacactggta caca

24

<210> 128
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 128
Met Gln Gly Thr His Trp Tyr Thr
1 5

<210> 129
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 129
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acctgcgctg tctatggtgg gtctttcagt ggttattact ggagctggat ccgccagccc 120
ccagggaagg gtctggaatg gattggggaa atcaatcata gaggaaacac caactacaac 180
ccgtccctca agagtcgagt caccatatca ctcgacacgt ccaagaaaca gttctccctg 240
aacctgagtt ctgtgaccgc cgcggacacg gctatgtatt actgtacgag agacgaagaa 300
caggaactac gtttccttga ctactggggc caggaaccc tggtcaccgt ctctca 357

<210> 130

<211> 119
<212> PRT
<213> Artificial Sequence

<220>
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<400> 130
Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15
Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30
Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45
Gly Glu Ile Asn His Arg Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60
Ser Arg Val Thr Ile Ser Leu Asp Thr Ser Lys Lys Gln Phe Ser Leu
65 70 75 80
Asn Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Met Tyr Tyr Cys Thr
85 90 95
Arg Asp Glu Glu Gln Glu Leu Arg Phe Leu Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 131
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 131
ggtaggtgctt tcagtgggta ttac

24

<210> 132
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 132
Gly Gly Ser Phe Ser Gly Tyr Tyr
1 5

<210> 133
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 133

atcaatcata gaggaacac c

21

<210> 134

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 134

Ile Asn His Arg Gly Asn Thr

1

5

<210> 135

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 135

acgagagacg aagaacagga actacgtttc cttgactac

39

<210> 136

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 136

Thr Arg Asp Glu Glu Gln Glu Leu Arg Phe Leu Asp Tyr

1

5

10

<210> 137

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 137

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ggccaggctc ccaggctcct catctatggt gcttccaaca gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cattttatta ctgtcaacag cgcagcaact ggccgctcac tttcggcgga 300
gggaccgagg tggagatcaa a 321

<210> 138
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
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<400> 138
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Asp Ile Ser Thr Tyr
20 25 30
Leu Ala Trp Tyr Gln Gln Arg Ala Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45
Tyr Gly Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80
Glu Asp Phe Ala Phe Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Glu Val Glu Ile Lys
100 105

<210> 139
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 139
caggatatta gcacctac 18

<210> 140
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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<400> 140
Gln Asp Ile Ser Thr Tyr
1 5

<210> 141
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 141
ggtgcttcc

9

<210> 142
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 142
Gly Ala Ser
1

<210> 143
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
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<400> 143
caacagcgca gcaactggcc gctcact

27

<210> 144
<211> 9
<212> PRT
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<220>
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<400> 144
Gln Gln Arg Ser Asn Trp Pro Leu Thr
1 5

<210> 145
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 145
caggtgcagc tacagcagtg gggcgcagga ctgttgaagc cttcggagac cctgtccctc 60
acctgcgttg tccatgggtgg gtccttcagt ggttactact ggaactggat ccgccagccc 120
ccagggaagg ggctggagtg gattggggaa atcaatcata gaggaaacac caactacaac 180
ccgtccctca agagtcgagt caccgtatca gaagacacgt ccaagaacca gttctccctg 240
aagctgagct ctttgaccgc cgcggacacg gctgtgtatt actgtgtgag aggagaggat 300
tacgattttt ggagtgatta ttataatgac tactggggcc agggaaccct ggtcaccgtc 360
tcctca 366

<210> 146
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 146
Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15
Thr Leu Ser Leu Thr Cys Val Val His Gly Gly Ser Phe Ser Gly Tyr
20 25 30
Tyr Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45
Gly Glu Ile Asn His Arg Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60
Ser Arg Val Thr Val Ser Glu Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80
Lys Leu Ser Ser Leu Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95
Arg Gly Glu Asp Tyr Asp Phe Trp Ser Asp Tyr Tyr Asn Asp Tyr Trp
100 105 110
Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 147
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 147
ggtgggtcct tcagtgggta ctac

24

<210> 148
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic

<400> 148

Gly Gly Ser Phe Ser Gly Tyr Tyr

1

5

<210> 149

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 149

atcaatcata gaggaacac c

21

<210> 150

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 150

Ile Asn His Arg Gly Asn Thr

1

5

<210> 151

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 151

gtgagaggag aggattacga ttttggagt gattattata atgactac

48

<210> 152

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 152

Val Arg Gly Glu Asp Tyr Asp Phe Trp Ser Asp Tyr Tyr Asn Asp Tyr

1

5

10

15

<210> 153

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 153

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gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gactattagc agctacttag cctggcacca acagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccaaaa gggccacggg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcaccag cctagagcct 240
gaagattttg cagtttatta ctgtcagcag cgtagcaact ggcctctcac tttcggcgga 300
gggaccaagg tggagatcaa a                                     321
```

<210> 154

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 154

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

<210> 155

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 155

cagactatta gcagctac

18

<210> 156
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 156
Gln Thr Ile Ser Ser Tyr
1 5

<210> 157
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 157
gatgcatcc

9

<210> 158
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 158
Asp Ala Ser
1

<210> 159
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 159
cagcagcgta gcaactggcc tctcact

27

<210> 160
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic

<400> 160

Gln Gln Arg Ser Asn Trp Pro Leu Thr

1

5

<210> 161

<211> 372

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 161

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caggtgcagc tacagcagtg gggcgcagga ctgttgccgc cttcggagac cctgtccctc 60
atctgcgctg tctatggtgg gtccttcagt gggtactact ggagctggat ccgccagccc 120
ccagggaagg ggctggagtg gattggggaa atcaatcata gaggaagcac caactacaac 180
ccgtccctca agagtcgagc caccatatca gttgacacgt ccaagaacca gttctccctg 240
aagctgagct ctgtgaccgc cgcggacacg gctgtgtatt actgttcgag aggcgaggat 300
tactatgata gtagtgggta ctcgtactac tttgactact ggggccaggg aaccctggtc 360
accgtctcct ca 372
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<210> 162

<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 162

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

<210> 163

<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 163
ggtgggtcct tcagtggta ctac

24

<210> 164
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 164
Gly Gly Ser Phe Ser Gly Tyr Tyr
1 5

<210> 165
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 165
atcaatcata gaggaagcac c

21

<210> 166
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 166
Ile Asn His Arg Gly Ser Thr
1 5

<210> 167
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 167
tcgagaggcg aggattacta tgatagtagt gggttactcgt actactttga ctac 54

<210> 168
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 168
Ser Arg Gly Glu Asp Tyr Tyr Asp Ser Ser Gly Tyr Ser Tyr Tyr Phe
1 5 10 15
Asp Tyr

<210> 169
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 169
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagggttagc agctacttag cctggtacca acagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cagtttatta ctgtcagcag cgtagcaact ggccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 170
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 170
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45
Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Leu

				85					90			95
Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val	Glu	Ile	Lys		
			100					105				

<210> 171
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 171
 cagagtgtta gcagctac 18

<210> 172
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 172
 Gln Ser Val Ser Ser Tyr
 1 5

<210> 173
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 173
 gatgcatcc 9

<210> 174
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 174
 Asp Ala Ser
 1

<210> 175

<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 175
cagcagcgta gcaactggcc gctcact

27

<210> 176
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 176
Gln Gln Arg Ser Asn Trp Pro Leu Thr
1 5

<210> 177
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 177
caggtgcagc tacagcagtg gggcgcagga ctgttgaggc cttcggagac cctgtccctc 60
acctgcgctg tctatggtgg gtccttcagt ggttactact ggaattggat ccgccagtcc 120
ccagggacgg ggctggagtg gattggggaa atcaatcata gaggggaacat caacttcaac 180
ccgtccctca agagtcgagt caccatatca gaggacacgt ccaaaaacca attctccctg 240
aggctgaact ctgtgaccgc cgcggacacg gctgtgtatt actgtgcgag aggagaggat 300
tacgatattt ggagtgggta ttatagggag tactggggcc agggaaccct ggtcaccgtc 360
tcctca 366

<210> 178
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 178
Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Arg Pro Ser Glu
1 5 10 15
Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30
Tyr Trp Asn Trp Ile Arg Gln Ser Pro Gly Thr Gly Leu Glu Trp Ile

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

<210> 179
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 179
 ggtgggtcct tcagtggta ctac

24

<210> 180
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 180
 Gly Gly Ser Phe Ser Gly Tyr Tyr
 1 5

<210> 181
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 181
 atcaatcata gaggaacat c

21

<210> 182
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>

<223> synthetic

<400> 182

Ile Asn His Arg Gly Asn Ile
1 5

<210> 183

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 183

gcgagaggag aggattacga tatttggagt gggtattata gggagtag 48

<210> 184

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 184

Ala Arg Gly Glu Asp Tyr Asp Ile Trp Ser Gly Tyr Tyr Arg Glu Tyr
1 5 10 15

<210> 185

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 185

gaaatttgtg tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccact 60
ctctcctgca gggccagtc gagtgtagc agctacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccaaga gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg ctgtttatta ctgtcagcag cgtagcaact ggcctctcgc tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 186

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 186
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
 20 25 30
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Asp Ala Ser Lys Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Leu
 85 90 95
 Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 187
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 187
 cagagtgtta gcagctac 18

<210> 188
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 188
 Gln Ser Val Ser Ser Tyr
 1 5

<210> 189
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 189
 gatgcatcc 9

<210> 190

<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 190
Asp Ala Ser
1

<210> 191
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 191
cagcagcgta gcaactggcc tctcgct

27

<210> 192
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 192
Gln Gln Arg Ser Asn Trp Pro Leu Ala
1 5

<210> 193
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 193
caggtgcagc tacagcagtg gggcgcagga ctgttgaagc cttcggagac cctgtccctc 60
acctgcgctg tctatggtgg gtccttcagt gagttctact ggaactggat ccgccagccc 120
ccagagaagg gcctggagtg gattggggaa atcaatcatc gtggaaacac caactacaac 180
ccgtccctca agagtcgagt caccatatca gtagacatgt ccaagaacca gttctccctg 240
cagctgaact ctgtgaccgt cgcggacacg gctctgtatt actgtgcggt tggctacgat 300
tttcggagtt cttatgagga cgtctggggc caagggacca cggtcaccgt ctcctca 357

<210> 194
<211> 119

<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 194
Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15
Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Glu Phe
20 25 30
Tyr Trp Asn Trp Ile Arg Gln Pro Pro Glu Lys Gly Leu Glu Trp Ile
35 40 45
Gly Glu Ile Asn His Arg Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60
Ser Arg Val Thr Ile Ser Val Asp Met Ser Lys Asn Gln Phe Ser Leu
65 70 75 80
Gln Leu Asn Ser Val Thr Val Ala Asp Thr Ala Leu Tyr Tyr Cys Ala
85 90 95
Phe Gly Tyr Asp Phe Arg Ser Ser Tyr Glu Asp Val Trp Gly Gln Gly
100 105 110
Thr Thr Val Thr Val Ser Ser
115

<210> 195
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 195
ggtgggtcct tcagtgagtt ctac

24

<210> 196
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 196
Gly Gly Ser Phe Ser Glu Phe Tyr
1 5

<210> 197
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 197

atcaatcatc gtggaaacac c

21

<210> 198

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 198

Ile Asn His Arg Gly Asn Thr

1

5

<210> 199

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 199

gcgtttggct acgattttcg gagttcttat gaggacgtc

39

<210> 200

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 200

Ala Phe Gly Tyr Asp Phe Arg Ser Ser Tyr Glu Asp Val

1

5

10

<210> 201

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 201

gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca ggatattagc acctacttag cctggcacca acagaaacct 120

ggccagcctc ccaggctcct catctatggt tcatccaaca gggccactgg catcccagcc 180
 aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
 gaagattttg cagtttatta ctgtcagcag cgtagcaact ggcctctcac tttcggcgga 300
 gggaccaagg tggagatcaa a 321

<210> 202
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 202
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Asp Ile Ser Thr Tyr
 20 25 30
 Leu Ala Trp His Gln Gln Lys Pro Gly Gln Pro Pro Arg Leu Leu Ile
 35 40 45
 Tyr Gly Ser Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Leu
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 203
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 203
 caggatatta gcacctac 18

<210> 204
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 204
 Gln Asp Ile Ser Thr Tyr
 1 5

<210> 205
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 205
ggttcatcc

9

<210> 206
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 206
Gly Ser Ser
1

<210> 207
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 207
cagcagcgta gcaactggcc tctcact

27

<210> 208
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 208
Gln Gln Arg Ser Asn Trp Pro Leu Thr
1 5

<210> 209
<211> 372
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 209

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gaggtgcagc tgttggagtc tgggggaggc ttggtacagc cggggggggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcaga agctatgccca tgagttgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagtt attagtgggtg gtggtggttag gacatactac 180
acagactccg tgaagggccg gttcaccatc tccagagaca attccaagag catgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccattt attactgtgc gaaagagagg 300
gtaactggaa tagaccacta ctactacggt gtggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372
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<210> 210

<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 210

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1          5          10          15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser Tyr
 20          25          30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35          40          45
Ser Val Ile Ser Gly Gly Gly Gly Arg Thr Tyr Tyr Thr Asp Ser Val
 50          55          60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Ser Met Leu Tyr
 65          70          75          80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr Tyr Cys
 85          90          95
Ala Lys Glu Arg Val Thr Gly Ile Asp His Tyr Tyr Tyr Gly Val Asp
100          105          110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115          120
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<210> 211

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 211

ggattcacct tcagaagcta tgcc

24

<210> 212

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 212

Gly Phe Thr Phe Arg Ser Tyr Ala
1 5

<210> 213

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 213

attagtgggtg gtggtggtag gaca

24

<210> 214

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 214

Ile Ser Gly Gly Gly Gly Arg Thr
1 5

<210> 215

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 215

gcgaaagaga gggtaactgg aatagaccac tactactacg gtgtggacgt c

51

<210> 216

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 216

Ala Lys Glu Arg Val Thr Gly Ile Asp His Tyr Tyr Tyr Gly Val Asp
1 5 10 15

Val

<210> 217
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 217
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gagcattagt agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct acatccagtt tgcaaagtgg ggtcccatca 180
cggttcagtg gcagtgcac tggaacagat ttcactctcg ccatcagcag tctgcaacct 240
gaagattttg caacttacta ctgtcaacag agttacacta cccccctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 218
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 218
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Ala Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Ala Ser Gly Thr Asp Phe Thr Leu Ala Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Thr Thr Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 219
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 219

cagagcatta gtagctat

18

<210> 220

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 220

Gln Ser Ile Ser Ser Tyr

1

5

<210> 221

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 221

gctacatcc

9

<210> 222

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 222

Ala Thr Ser

1

<210> 223

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 223

caacagagtt acactacccc cctcact

27

<210> 224

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 224

Gln Gln Ser Tyr Thr Thr Pro Leu Thr

1

5

<210> 225

<211> 390

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 225

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gaggtgcagc tgggtggagtc tggggggaggc ttggtacaac ctggagggtc cctgagactt 60
tcctgtgcag cctctggatt tacattcagc agttatgaaa tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtttcatat atcagtagta gtggtaatac caaagactac 180
gcaggctctg tgaagggccg agtcaccatc tccagagaca acgccaagaa cttactgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgttt atcactgtgc gagagatgga 300
gggcattacg atattttgac tggttccatg tcctactact actacgcttt ggacgtctgg 360
ggccaaggga ccacggtcac cgtctcctca 390
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<210> 226

<211> 130

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 226

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1          5          10          15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 20          25          30
Glu Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35          40          45
Ser Tyr Ile Ser Ser Ser Gly Asn Thr Lys Asp Tyr Ala Gly Ser Val
 50          55          60
Lys Gly Arg Val Thr Ile Ser Arg Asp Asn Ala Lys Asn Leu Leu Tyr
 65          70          75          80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
 85          90          95
Ala Arg Asp Gly Gly His Tyr Asp Ile Leu Thr Gly Ser Met Ser Tyr
100          105          110
Tyr Tyr Tyr Ala Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val
115          120          125
Ser Ser
130
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<210> 227
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 227
ggatttacat tcagcagtta tgaa

24

<210> 228
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 228
Gly Phe Thr Phe Ser Ser Tyr Glu
1 5

<210> 229
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 229
atcagtagta gtggtaatac caaa

24

<210> 230
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 230
Ile Ser Ser Ser Gly Asn Thr Lys
1 5

<210> 231
<211> 69
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 231

gcgagagatg gagggcatta cgatattttg actgggtcca tgtcctacta ctactacgt 60
ttggacgtc 69

<210> 232

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 232

Ala	Arg	Asp	Gly	Gly	His	Tyr	Asp	Ile	Leu	Thr	Gly	Ser	Met	Ser	Tyr
1				5				10				15			
Tyr	Tyr	Tyr	Ala	Leu	Asp	Val									
			20												

<210> 233

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 233

gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gagcattagc agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccgtca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg caacttacta ctgtcaacag agttacagta cccctccgat caccttcggc 300
caagggacac gactggagat taaa 324

<210> 234

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 234

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

50		55		60											
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Thr	Ile	Ser	Ser	Leu	Gln	Pro
65					70					75					80
Glu	Asp	Phe	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Ser	Tyr	Ser	Thr	Pro	Pro
			85					90					95		
Ile	Thr	Phe	Gly	Gln	Gly	Thr	Arg	Leu	Glu	Ile	Lys				
			100					105							

<210> 235
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 235
 cagagcatta gcagctat 18

<210> 236
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 236
 Gln Ser Ile Ser Ser Tyr
 1 5

<210> 237
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 237
 gctgcatcc 9

<210> 238
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 238
 Ala Ala Ser

1

<210> 239
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 239
caacagagtt acagtacccc tccgatcacc 30

<210> 240
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 240
Gln Gln Ser Tyr Ser Thr Pro Pro Ile Thr
1 5 10

<210> 241
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 241
gaggtgcagc tgggtggagtc tggggggaggc ttggtacagc ctgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttaaa acctatgcca tgagctgggt ccgccaggct 120
ccagggaggg ggctggagtg ggtctcaggt attagtggta gtggtagtac ctcatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attacaagaa gacgctgtct 240
ctgcaaatac acagtctgag agccgaggac acggccgttt attactgtgc gctggatata 300
atggcaacgg taggaggtct cttaacaac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 242
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 242
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

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

<210> 243
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 243
 ggattcacct ttaaaaccta tgcc

24

<210> 244
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 244
 Gly Phe Thr Phe Lys Thr Tyr Ala
 1 5

<210> 245
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 245
 attagtggtgta gtggtagtagc ctca

24

<210> 246
 <211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 246
Ile Ser Gly Ser Gly Ser Thr Ser
1 5

<210> 247
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 247
gcgctggata taatggcaac ggtaggaggt ctctttaaca ac 42

<210> 248
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 248
Ala Leu Asp Ile Met Ala Thr Val Gly Gly Leu Phe Asn Asn
1 5 10

<210> 249
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 249
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtc gagtgtagc agcagctact tagcctggta ccagcagaaa 120
cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180
gacaggttca gtggcagtggt gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcagtgtt ttactgtcag cagtatggta gctcaccttg gacgttcggc 300
caagggacca aggtggaaat caaa 324

<210> 250
<211> 108
<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 250

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

<210> 251

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 251

cagagtgtta gcagcagcta c

21

<210> 252

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 252

Gln	Ser	Val	Ser	Ser	Ser	Tyr
1				5		

<210> 253

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 253
ggtgcatcc

9

<210> 254
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 254
Gly Ala Ser
1

<210> 255
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 255
cagcagtatg gtagctcacc ttggacg

27

<210> 256
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 256
Gln Gln Tyr Gly Ser Ser Pro Trp Thr
1 5

<210> 257
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 257
caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggctc 60
tcctgcaagg cttctggagg caccttcagc agacatacta tcagctgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggaggg atcatcccta tctttggtac agcaaactac 180
gcacacaagt tccagggcag agtcacgatt accacggacg aatccacgag cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtat attattgtgc gagagcccct 300

tatacccgac aggggtactt cgatctctgg ggccgtggca ccctggtcac cgtctcctca 360

<210> 258

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 258

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

<210> 259

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 259

ggaggcacct tcagcagaca tact

24

<210> 260

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 260

Gly	Gly	Thr	Phe	Ser	Arg	His	Thr
1				5			

<210> 261
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 261
atcatcccta tctttggtac agca

24

<210> 262
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 262
Ile Ile Pro Ile Phe Gly Thr Ala
1 5

<210> 263
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 263
gcgagagccc cttatacccg acaggggtac ttcgatctc

39

<210> 264
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 264
Ala Arg Ala Pro Tyr Thr Arg Gln Gly Tyr Phe Asp Leu
1 5 10

<210> 265
<211> 339
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 265

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gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacagctcca acaataagaa ctacttagct 120
tggtaccagc agaaaccagg acagcctcct aagctactca tttactgggc atctaccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaaga ttatagtact 300
ccgtggacgt tcggccaagg gaccaagtg gaaatcaaa 339
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<210> 266

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 266

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Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1           5           10           15
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser
 20           25           30
Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 35           40           45
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
 50           55           60
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 65           70           75           80
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
 85           90           95
Asp Tyr Ser Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
 100          105          110
Lys
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<210> 267

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 267

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cagagtgttt tatacagctc caacaataag aactac 36
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<210> 268

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 268

Gln Ser Val Leu Tyr Ser Ser Asn Asn Lys Asn Tyr
1 5 10

<210> 269

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 269

tgggcatct

9

<210> 270

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 270

Trp Ala Ser
1

<210> 271

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 271

cagcaagatt atagtactcc gtggacg

27

<210> 272

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 272

Gln Gln Asp Tyr Ser Thr Pro Trp Thr
1 5

<210> 273
 <211> 354
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 273
 caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaagggt 60
 tcctgcaagg catctggata caccttcacc aactactata tacactgggt gcgacaggcc 120
 cctggacaag ggcttgactg gatgggaatt atcaaccctg gtggtggtaa cacaaactac 180
 gcacagaagt tcctgggcag agtcaccatg accagggaca cgtccacgac cacagtctac 240
 atggagctga gcagcctgag atctgaggac acggccatat attactgtgc gagagaaaac 300
 tggaactctt actttgacaa ctggggccag ggaaccctgg tcaccgtctc ctca 354

<210> 274
 <211> 118
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 274
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Asp Trp Met
 35 40 45
 Gly Ile Ile Asn Pro Gly Gly Gly Asn Thr Asn Tyr Ala Gln Lys Phe
 50 55 60
 Leu Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Thr Thr Val Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Ile Tyr Tyr Cys
 85 90 95
 Ala Arg Glu Asn Trp Asn Ser Tyr Phe Asp Asn Trp Gly Gln Gly Thr
 100 105 110
 Leu Val Thr Val Ser Ser
 115

<210> 275
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 275
 ggatacacct tcaccaacta ctat

<210> 276
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 276
Gly Tyr Thr Phe Thr Asn Tyr Tyr
1 5

<210> 277
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 277
atcaaccctg gtggtggtaa caca

24

<210> 278
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 278
Ile Asn Pro Gly Gly Gly Asn Thr
1 5

<210> 279
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 279
gcgagagaaa actggaactc ttactttgac aac

33

<210> 280
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic

<400> 280

Ala Arg Glu Asn Trp Asn Ser Tyr Phe Asp Asn
1 5 10

<210> 281

<211> 339

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 281

gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacagctcca acaataagaa cttcttagct 120
tggtaccagc agaaaccagg acagcctcct aagctgctca tttactgggc atctaccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca ctttattact gtcagcaata ttatggtgct 300
ccgtggacgt tcggccaagg gaccaaggtg gaaatcaaa 339

<210> 282

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 282

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

<210> 283

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 283

cagagtgttt tatacagctc caacaataag aacttc

36

<210> 284

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 284

Gln Ser Val Leu Tyr Ser Ser Asn Asn Lys Asn Phe
1 5 10

<210> 285

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 285

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9

<210> 286

<211> 3

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<220>

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<400> 286

Trp Ala Ser
1

<210> 287

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 287

cagcaatatt atggtgctcc gtggacg

27

<210> 288

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> synthetic

<400> 288

Gln Gln Tyr Tyr Gly Ala Pro Trp Thr

1

5

<210> 289

<211> 357

<212> DNA

<213> Artificial Sequence

<220>

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<400> 289

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tcctgcaagg cttctggagg caccttcagc agctatacta tcaactgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggaggg atcatcccta tctttggtat agcaaactac 180
gcacagaagt tccagggcag agtcacgatt accacggacg aatccacgaa cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccattt attactgtgc gagagcgaga 300
tatggttcgg ggagttatga ctactggggc cagggaaccc tggtcaccgt ctctca 357

<210> 290

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

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<400> 290

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

Thr Leu Val Thr Val Ser Ser
115

<210> 291
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
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<400> 291
ggaggcacct tcagcagcta tact 24

<210> 292
<211> 8
<212> PRT
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<220>
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<400> 292
Gly Gly Thr Phe Ser Ser Tyr Thr
1 5

<210> 293
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
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<400> 293
atcatcccta tctttggtat agca 24

<210> 294
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 294
Ile Ile Pro Ile Phe Gly Ile Ala
1 5

<210> 295
<211> 36

<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 295
gcgagagcga gatatgggtc ggggagttat gactac 36

<210> 296
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 296
Ala Arg Ala Arg Tyr Gly Ser Gly Ser Tyr Asp Tyr
1 5 10

<210> 297
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 297
gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacacctcca acaataagaa ctacttagct 120
tggtaccagc agaaaccagg acagcctcct aagctgtcga tttactgggc atctaccgg 180
gaatccggggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttataatact 300
ccatggacgt tcggccaagg gaccaaggtg gaaatcaaa 339

<210> 298
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 298
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Thr
20 25 30
Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val

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

<210> 299
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 299
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<210> 300
 <211> 12
 <212> PRT
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<220>
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<400> 300
 Gln Ser Val Leu Tyr Thr Ser Asn Asn Lys Asn Tyr
 1 5 10

<210> 301
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 301
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<210> 302
 <211> 3
 <212> PRT
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<220>
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<400> 302
Trp Ala Ser
1

<210> 303
<211> 27
<212> DNA
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<220>
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<400> 303
cagcaatatt ataatactcc atggacg 27

<210> 304
<211> 9
<212> PRT
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<220>
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<400> 304
Gln Gln Tyr Tyr Asn Thr Pro Trp Thr
1 5

<210> 305
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
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<400> 305
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acctgcacct tctctgggtt ctactcagc actaatggag tgggtgtggg ctggatccgt 120
cagccccag gaaaggccct ggagtggctt ggaatcattt attggaatga tgataagcgc 180
tacagcccat ctctgaggag cagactcacc atcaccaagg acacctcaa aaaccaggtg 240
gtccttacia tgaccaacat ggaccctgtg gacacagcca catattactg tgcacacaga 300
ggcctcttcg gaggttggtt cgacccttg ggccaggga ccctggtcac cgtctcctca 360

<210> 306
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
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<400> 306
 Gln Ile Thr Leu Lys Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Asn
 20 25 30
 Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Gly Ile Ile Tyr Trp Asn Asp Asp Lys Arg Tyr Ser Pro Ser
 50 55 60
 Leu Arg Ser Arg Leu Thr Ile Thr Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala His Arg Gly Leu Phe Gly Gly Trp Phe Asp Pro Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 307
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 307
 gggttctcac tcagcactaa tggagtgggt 30

<210> 308
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 308
 Gly Phe Ser Leu Ser Thr Asn Gly Val Gly
 1 5 10

<210> 309
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 309
 atttattgga atgatgataa g 21

<210> 310
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 310
Ile Tyr Trp Asn Asp Asp Lys
1 5

<210> 311
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 311
gcacacagag gcctcttcgg aggttggttc gacccc 36

<210> 312
<211> 12
<212> PRT
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<220>
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<400> 312
Ala His Arg Gly Leu Phe Gly Gly Trp Phe Asp Pro
1 5 10

<210> 313
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 313
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atcacttgcc gggcaagtca gagcattagc aggtatttaa attggtatca gcagaaacca 120
gggaaagccc ctaacctcct gatctttgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg caacttactt ctgtcaacag agttacaata ccccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 314

<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 314
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Arg Tyr
20 25 30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Asn Leu Leu Ile
35 40 45
Phe Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Tyr Asn Thr Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 315
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
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<400> 315
cagagcatta gcaggtat

18

<210> 316
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 316
Gln Ser Ile Ser Arg Tyr
1 5

<210> 317
<211> 9
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 317

gctgcatcc

9

<210> 318

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 318

Ala Ala Ser

1

<210> 319

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 319

caacagagtt acaatacccc gtcact

27

<210> 320

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 320

Gln Gln Ser Tyr Asn Thr Pro Leu Thr

1

5

<210> 321

<211> 366

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 321

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tcctgtgcaa tctctggatt cacctttagg agttatgcca tgacctgggt ccgccaggct 120
ccaggaagg cgctggagtg ggtctcagtt attagtggta gcggtggtaa cacatactac 180

gcagactccg tgaagggccg gttcacccgtc tccagagaca attccaggaa cacgctgtat 240
 ctgcaaata acagcctgag agccgaggac acggccgtat atttctgttc gaaagttgca 300
 gcagctaata attactatta cgctttggac gtctggggcc aaggggaccac ggtcaccgtc 360
 tcctca 366

<210> 322
 <211> 122
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 322
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ile Ser Gly Phe Thr Phe Arg Ser Tyr
 20 25 30
 Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Ala Leu Glu Trp Val
 35 40 45
 Ser Val Ile Ser Gly Ser Gly Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Arg Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95
 Ser Lys Val Ala Ala Ala Asn Asn Tyr Tyr Tyr Ala Leu Asp Val Trp
 100 105 110
 Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 323
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 323
 ggattcacct ttaggagttg tgcc 24

<210> 324
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 324
 Gly Phe Thr Phe Arg Ser Tyr Ala
 1 5

<210> 325
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 325
attagtggta gcggtggtaa caca

24

<210> 326
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 326
Ile Ser Gly Ser Gly Gly Asn Thr
1 5

<210> 327
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
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<400> 327
tcgaaagttg cagcagctaa taattactat tacgctttgg acgtc

45

<210> 328
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 328
Ser Lys Val Ala Ala Ala Asn Asn Tyr Tyr Tyr Ala Leu Asp Val
1 5 10 15

<210> 329
<211> 336
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 329

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atctcctgca ggtctagtca gagcctcctg catagtaatg gatacaagta tttggattgg 120
tacctgcaga agccagggca gtctccacaa ctcctgatct atttggtttc taatcgggcc 180
tccgggggtcc ctgacaggtt cagtggcagt ggatcaggca cagattttac actgaaaatc 240
agcagagtgg aggctgagga tgttgggggtt tattattgca tgcaagctct acaaactccg 300
tacacttttg gccaggggac caagctggag atcaaa 336
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<210> 330

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 330

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1      5      10     15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
20     25     30
Asn Gly Tyr Lys Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35     40     45
Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Ala Ser Gly Val Pro
50     55     60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65     70     75     80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
85     90     95
Leu Gln Thr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100    105    110
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<210> 331

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 331

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<210> 332

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 332

Gln Ser Leu Leu His Ser Asn Gly Tyr Lys Tyr
1 5 10

<210> 333

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 333

ttggtttct

9

<210> 334

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 334

Leu Val Ser
1

<210> 335

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 335

atgcaagctc tacaaactcc gtacact

27

<210> 336

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 336

Met Gln Ala Leu Gln Thr Pro Tyr Thr
1 5

<210> 337
<211> 381
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 337
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tcctgtgtag cgtctggatt caccttcagt aactatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt atatggaatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctccaagtga gcagcctgag agccgatgac acggctgtat attactgtgc gagggacgga 300
gaggtcgaat atagcagctc gaattacaac tactacggtc tggatgtctg gggccaaggg 360
accacggtca ccgtctcctc a 381

<210> 338
<211> 127
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 338
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Val Ile Trp Asn Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Val Ser Ser Leu Arg Ala Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Asp Gly Glu Val Glu Tyr Ser Ser Ser Asn Tyr Asn Tyr Tyr
100 105 110
Gly Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 339
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 339

ggattcacct tcagtaacta tggc

24

<210> 340

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 340

Gly Phe Thr Phe Ser Asn Tyr Gly

1

5

<210> 341

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 341

atatggaatg atggaagtaa taaa

24

<210> 342

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 342

Ile Trp Asn Asp Gly Ser Asn Lys

1

5

<210> 343

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 343

gcgagggacg gagaggtcga atatagcagc tcgaattaca actactacgg tctggatgtc 60

<210> 344

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 344

Ala	Arg	Asp	Gly	Glu	Val	Glu	Tyr	Ser	Ser	Ser	Asn	Tyr	Asn	Tyr	Tyr
1				5				10					15		
Gly	Leu	Asp	Val												
				20											

<210> 345

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 345

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gggaaagccc	ctaaactcct	gatctacgat	gcatccaatt	tggaacagg	gggtcccatca	180
aggttcagt	gaagtggatc	tgggacagat	tttactttca	ccatcagcag	cctgcagcct	240
gaagatattg	taacatatta	ctgtcaacag	tatgatgatc	tcccgatcac	cttcggccaa	300
gggacacgac	tggagattaa	a				321

<210> 346

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 346

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

<210> 347

<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 347
caggacatta gcaactat

18

<210> 348
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 348
Gln Asp Ile Ser Asn Tyr
1 5

<210> 349
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 349
gatgcatcc

9

<210> 350
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
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<400> 350
Asp Ala Ser
1

<210> 351
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
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<400> 351
caacagtatg atgatctccc gatcacc

27

<210> 352
<211> 9
<212> PRT
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<220>
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<400> 352
Gln Gln Tyr Asp Asp Leu Pro Ile Thr
1 5

<210> 353
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 353
gagggtgcagc tgggtggagtc tggggggaggc ttggtacagc ctgggggggtc cctgagactc 60
tcctgtgcag cctctggatt ctcctttcat aattttgcca tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagtt attactggta gtggtactag cacacactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa aacgctatat 240
ctgcaaataa atagcctgag agccgaggac acggccgtat attactgtgc gaaagatcgg 300
ggctatgatt atagtggttc ttactacaac tggttcgacc cctggggcca gggaaccctg 360
gtcaccgtct cctca 375

<210> 354
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 354
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe His Asn Phe
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Val Ile Thr Gly Ser Gly Thr Ser Thr His Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Lys Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

				85					90					95			
Ala	Lys	Asp	Arg	Gly	Tyr	Asp	Tyr	Ser	Gly	Ser	Tyr	Tyr	Asn	Trp	Phe		
			100					105					110				
Asp	Pro	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser					
		115					120					125					

<210> 355
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 355
 ggattctcct ttcataattt tgcc 24

<210> 356
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 356
 Gly Phe Ser Phe His Asn Phe Ala
 1 5

<210> 357
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 <212> DNA
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<220>
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<400> 357
 attactggta gtggtactag caca 24

<210> 358
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<220>
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<400> 358
 Ile Thr Gly Ser Gly Thr Ser Thr
 1 5

<210> 359
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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<400> 359
gcgaaagatc ggggctatga ttatagtggg tcttactaca actggttcga cccc 54

<210> 360
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
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<400> 360
Ala Lys Asp Arg Gly Tyr Asp Tyr Ser Gly Ser Tyr Tyr Asn Trp Phe
1 5 10 15
Asp Pro

<210> 361
<211> 327
<212> DNA
<213> Artificial Sequence

<220>
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<400> 361
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagaatcacc 60
atcacttgcc gggcaagtca gagtattagc agctatTTaa attggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctttgct gcatcaaatt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagtag tctgcaacct 240
gaagatTTtg caacttacta ctgtcaacag agttacagta ccccatcctt attcactttc 300
ggccctggga ccaaagtgga tatcaaa 327

<210> 362
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
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<400> 362
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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<220>
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<400> 363
 cagagtatta gcagctat

18

<210> 364
 <211> 6
 <212> PRT
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<220>
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<400> 364
 Gln Ser Ile Ser Ser Tyr
 1 5

<210> 365
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 365
 gctgcatca

9

<210> 366
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 366
Ala Ala Ser
1

<210> 367
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
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<400> 367
caacagagtt acagtacccc atccttattc act 33

<210> 368
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 368
Gln Gln Ser Tyr Ser Thr Pro Ser Leu Phe Thr
1 5 10

<210> 369
<211> 384
<212> DNA
<213> Artificial Sequence

<220>
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<400> 369
gagggtgcagc tgggtggagtc tggggggaggc ttggtacagc ctggagggtc cctgagactc 60
tcctgtgcag tctctggatt caccttcagt agttacgaga tgaactgggt ccgccaggct 120
ccagggaagg ggctggaatg ggtttcacac attagtagta gtggaagtac catatactac 180
gcagactctg tgaagggccg attcaccatg tccagagaca acgccaagaa ctcactgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgttt attactgtgc gagagatggg 300
aatatctgga gtggttatta tgccgcctac tacttctac gtatggacgt ctggggccaa 360
gggaccacgg tcaccgtctc ctca 384

<210> 370
<211> 128
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic

<400> 370

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

<210> 371

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 371

ggattcacct tcagtagtta cgag

24

<210> 372

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 372

Gly	Phe	Thr	Phe	Ser	Ser	Tyr	Glu		
1				5					

<210> 373

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 373
attagtagta gtggaagtac cata 24

<210> 374
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 374
Ile Ser Ser Ser Gly Ser Thr Ile
1 5

<210> 375
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 375
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gtc 63

<210> 376
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 376
Ala Arg Asp Gly Asn Ile Trp Ser Gly Tyr Tyr Ala Ala Tyr Tyr Phe
1 5 10 15
Tyr Gly Met Asp Val
20

<210> 377
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 377
gatattgtga tgaccagac tccactctcc tcacctgtca cccttgaca gccggcctcc 60
atctcctgca ggtctagtca aagcctcgta cacagtgatg gaaaaaccta cttgagttgg 120

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cttcagcaga ggccaggcca gcctccaaga ctcctaattt ataagatttc taaccggttc 180
tctgggggtcc cagacagaat cagtggcagt ggggcaggga cagatttcac actgaaaatc 240
agcagggtgg aagctgagga tgtcgggggtt tattactgca tgcaagctgt acaatttcct 300
cggacgttcg gccaaaggac caaggtggaa atcaaa 336

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<210> 378
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 378
 Asp Ile Val Met Thr Gln Thr Pro Leu Ser Ser Pro Val Thr Leu Gly
 1 5 10 15
 Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30
 Asp Gly Lys Thr Tyr Leu Ser Trp Leu Gln Gln Arg Pro Gly Gln Pro
 35 40 45
 Pro Arg Leu Leu Ile Tyr Lys Ile Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60
 Asp Arg Ile Ser Gly Ser Gly Ala Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
 85 90 95
 Val Gln Phe Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 379
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 379
 caaagcctcg tacacagtga tggaaaaacc tac 33

<210> 380
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 380
 Gln Ser Leu Val His Ser Asp Gly Lys Thr Tyr
 1 5 10

<210> 381
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 381
aagatttct

9

<210> 382
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
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<400> 382
Lys Ile Ser
1

<210> 383
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 383
atgcaagctg tacaatttcc tcggacg

27

<210> 384
<211> 9
<212> PRT
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<220>
<223> synthetic

<400> 384
Met Gln Ala Val Gln Phe Pro Arg Thr
1 5

<210> 385
<211> 366
<212> DNA
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<220>

<223> synthetic

<400> 385

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acctgcgctg tctatggtgg ggccttcagt gattactact ggaattggat ccgccagccc 120
ccaggggaagg ggctggagtg gattggggaa atcaatcatc gcggaagcac caactacaac 180
ccgtccctca agagtcgtgt caccatttca gttgacacgt ccaagaacca gttctccctg 240
aggatgagct ctgtgaccgc cgcggacgcg gctgtgtatt actgtgagag aggagaggat 300
tacgatattt ggaatggtta ttatcaggaa aaatggggcc agggaaccct ggtcaccgtc 360
tcctca                                     366
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<210> 386

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 386

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Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Asn Pro Ser Glu
 1           5           10           15
Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ala Phe Ser Asp Tyr
 20           25           30
Tyr Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
 35           40           45
Gly Glu Ile Asn His Arg Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
 50           55           60
Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
 65           70           75           80
Arg Met Ser Ser Val Thr Ala Ala Asp Ala Ala Val Tyr Tyr Cys Ala
 85           90           95
Arg Gly Glu Asp Tyr Asp Ile Trp Asn Gly Tyr Tyr Gln Glu Lys Trp
100          105          110
Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115          120
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<210> 387

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 387

ggtggggcct tcagtgatta ctac

24

<210> 388

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 388

Gly Gly Ala Phe Ser Asp Tyr Tyr
1 5

<210> 389

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 389

atcaatcatc gcggaagcac c

21

<210> 390

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 390

Ile Asn His Arg Gly Ser Thr
1 5

<210> 391

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 391

gcgagaggag aggattacga tatttggaat gggtattatc aggaaaaa

48

<210> 392

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 392

Ala Arg Gly Glu Asp Tyr Asp Ile Trp Asn Gly Tyr Tyr Gln Glu Lys
1 5 10 15

<210> 393
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 393
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ctctcctgca gggccagtca gagtattagc acctacttag cctggtacca acagaagcct 120
ggccaggctc ccaggctcct catctatgat gcatccaaga gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg tagtttatta ctgtcaccag cgtagcaact ggcctctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 394
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

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

<210> 395
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 395
cagagtatta gcacctac

<210> 396
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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<400> 396
Gln Ser Ile Ser Thr Tyr
1 5

<210> 397
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 397
gatgcatcc

9

<210> 398
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
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<400> 398
Asp Ala Ser
1

<210> 399
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
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<400> 399
caccagcgta gcaactggcc tctcact

27

<210> 400
<211> 9
<212> PRT
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<220>

<223> synthetic

<400> 400

His Gln Arg Ser Asn Trp Pro Leu Thr
1 5

<210> 401

<211> 351

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 401

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acctgcactg tctctggtgg ttccttcagt agttactact ggagttggct ccggcagccc 120
ccaggaaagg ggctggagtg gattggatat atcttttaca gtgggagtac cgactacaac 180
ccctccctca agagtcgagt caccatttca gtagacacgt ccaagaagca gttctccctg 240
aagctgacct ctgtgaccgc tgcggacacg gccgtctatt actgtgcgcg aacaataagt 300
acgtggtggt tcgccccctg gggccagga accctggtca ccgtctcctc a 351
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<210> 402

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 402

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1 5 10 15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Phe Ser Ser Tyr
20 25 30
Tyr Trp Ser Trp Leu Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45
Gly Tyr Ile Phe Tyr Ser Gly Ser Thr Asp Tyr Asn Pro Ser Leu Lys
50 55 60
Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Lys Gln Phe Ser Leu
65 70 75 80
Lys Leu Thr Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95
Arg Thr Ile Ser Thr Trp Trp Phe Ala Pro Trp Gly Gln Gly Thr Leu
100 105 110
Val Thr Val Ser Ser
115
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<210> 403

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 403

ggtgggttcct tcagtagtta ctac

24

<210> 404

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 404

Gly Gly Ser Phe Ser Ser Tyr Tyr

1

5

<210> 405

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 405

atctttttaca gtgggagtac c

21

<210> 406

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 406

Ile Phe Tyr Ser Gly Ser Thr

1

5

<210> 407

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 407

gcgcgaacaa taagtacgtg gtggttcgcc ccc

33

<210> 408
<211> 11
<212> PRT
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<220>
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<400> 408
Ala Arg Thr Ile Ser Thr Trp Trp Phe Ala Pro
1 5 10

<210> 409
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
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<400> 409
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ctctcctgca gggccagtca gagtgttagc aacaacgtag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catctatggt gcatccacca gggccactgg tatcccaggc 180
aggttcagtg gcagtggggtc tggaacagag ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttattc ctgtcagcag tataataact ggctcacttt cggcggaggg 300
accaaggtgg agatcaaa 318

<210> 410
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
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<400> 410
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15
Gly Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn Asn
20 25 30
Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45
Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Gly Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80
Glu Asp Phe Ala Val Tyr Ser Cys Gln Gln Tyr Asn Asn Trp Leu Thr
85 90 95
Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 411
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 411
cagagtgtta gcaacaac

18

<210> 412
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 412
Gln Ser Val Ser Asn Asn
1 5

<210> 413
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 413
ggtgcatcc

9

<210> 414
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
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<400> 414
Gly Ala Ser
1

<210> 415
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 415

cagcagtata ataactggct cact

24

<210> 416

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 416

Gln Gln Tyr Asn Asn Trp Leu Thr

1

5

<210> 417

<211> 369

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 417

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ccaggcaagg ggctggagtg ggtggcaatt atatggtatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccata tccagagaca attccaagaa cacacagtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gtcagtagct 300
acgtctgggg acttcgacta ctacggtatg gacgtctggg gccaaaggac cacggtcacc 360
gtctcctca 369

<210> 418

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 418

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

65					70					75				80	
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Ala	Ser	Val	Ala	Thr	Ser	Gly	Asp	Phe	Asp	Tyr	Tyr	Gly	Met	Asp	Val
			100					105					110		
Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser					
		115					120								

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<220>
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<400> 419
 ggattcactt tcagtagtta tggc 24

<210> 420
 <211> 8
 <212> PRT
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<220>
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<400> 420
 Gly Phe Thr Phe Ser Ser Tyr Gly
 1 5

<210> 421
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 421
 atatggtatg atggaagtaa taaa 24

<210> 422
 <211> 8
 <212> PRT
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<220>
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<400> 422
 Ile Trp Tyr Asp Gly Ser Asn Lys

1

5

<210> 423
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 423
gcgtcagtag ctacgtctgg ggacttcgac tactacggta tggacgtc 48

<210> 424
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
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<400> 424
Ala Ser Val Ala Thr Ser Gly Asp Phe Asp Tyr Tyr Gly Met Asp Val
1 5 10 15

<210> 425
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 425
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ctctcctgca gggccagtca gagaattagc acctacttag cctggtatca acagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccaaaa gggccactgg catcccagcc 180
aggttcagtg gtagtgggtc tgggacaggc ttcactctca ccatcagcag cctagagcct 240
gaagattttg cagtttatta ctgtcagcag cgtagtaact ggcctctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 426
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 426
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

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

<210> 427
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 427
 cagagaatta gcacctac

18

<210> 428
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 428
 Gln Arg Ile Ser Thr Tyr
 1 5

<210> 429
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 429
 gatgcatcc

9

<210> 430
 <211> 3
 <212> PRT
 <213> Artificial Sequence

<220>
<223> synthetic

<400> 430
Asp Ala Ser
1

<210> 431
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 431
cagcagcgta gtaactggcc tctcact 27

<210> 432
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 432
Gln Gln Arg Ser Asn Trp Pro Leu Thr
1 5

<210> 433
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 433
gagggtgcagc tgggtgcagtc tggagcagag gtgagaaaagc ccgggggagtc tctgaagatc 60
tcctgtaagg gttctggata cagctttact aactactgga tcgtctgggt gcgccagatg 120
cccgggaaaag gcctggagtg gatggggatc atctatcctg gtgactctga taccagatac 180
agcccgtcct tccaaggcca ggtcaccatc tcagccgaca agtccatcag caccgcctac 240
ctgcagtgga gcagcctgaa ggcctcggac accgccatgt attactgtgc gagacgggat 300
acgattttcc cttcctatcc cctctggggc cagggaaccc tggtcaccgt ctctca 357

<210> 434
<211> 119
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic

<400> 434

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

<210> 435

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 435

ggatacagct ttactaacta ctgg

24

<210> 436

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 436

Gly	Tyr	Ser	Phe	Thr	Asn	Tyr	Trp
1				5			

<210> 437

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 437

atctatcctg gtgactctga tacc

24

<210> 438

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 438

Ile Tyr Pro Gly Asp Ser Asp Thr

1

5

<210> 439

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 439

gcgagacggg atacgatttt cccttcctat cccctc

36

<210> 440

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 440

Ala Arg Arg Asp Thr Ile Phe Pro Ser Tyr Pro Leu

1

5

10

<210> 441

<211> 336

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 441

gatattgtga tgactcagtc tcctctctcc ctgcccgtca cccctggaga gccggcctcc 60
atctcctgca ggtctagtca gagcctcctg aatagtaatg gatacaactt tttggattgg 120
tacctgcaga agccagggca gtctccacaa ctctgatct atttggtttc taatcgggcc 180
tccgggggtcc ctgacagggt cagtggcagt ggatcaggca cagattttac actgaaaatc 240
agcagagtgg aggctgagga tattgggggt tattactgca tgcaagctct ccaaactccg 300
atcaccttcg gccaaaggac acgactggag attaaa 336

<210> 442
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 442
 Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15
 Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30
 Asn Gly Tyr Asn Phe Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Ala Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Ile Gly Val Tyr Tyr Cys Met Gln Ala
 85 90 95
 Leu Gln Thr Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105 110

<210> 443
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 443
 cagagcctcc tgaatagtaa tggatacaac ttt

33

<210> 444
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 444
 Gln Ser Leu Leu Asn Ser Asn Gly Tyr Asn Phe
 1 5 10

<210> 445
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>

<223> synthetic

<400> 445

ttggtttct

9

<210> 446

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 446

Leu Val Ser

1

<210> 447

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 447

atgcaagctc tccaaactcc gatcacc

27

<210> 448

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 448

Met Gln Ala Leu Gln Thr Pro Ile Thr

1

5

<210> 449

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 449

cagatcacct tgaaggagtc tggctctacg ctggtgaaac ccacacagac cctcacgctg 60

acctgcacct tctctgggtt ctcactcagc actaatggag tgggtgtggg ctggatccgt 120
 cagccccag gaaaggccct ggagtggctt acactcattt attggaatga aaataagcac 180
 tacagcccat ctctgaaaaa caggatcacc atcaccaagg acacctcaa aaaccaggtg 240
 gtccttacaa tgaccaactt ggaccctgtg gacacagcca cttattactg tgtacacagg 300
 ggatggttgg gagcaatctt tgcctactgg ggccagggaa ccctggtcac cgtctcctca 360

<210> 450
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 450
 Gln Ile Thr Leu Lys Glu Ser Gly Pro Thr Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Asn
 20 25 30
 Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Thr Leu Ile Tyr Trp Asn Glu Asn Lys His Tyr Ser Pro Ser
 50 55 60
 Leu Lys Asn Arg Ile Thr Ile Thr Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Leu Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Val His Arg Gly Trp Leu Gly Ala Ile Phe Ala Tyr Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 451
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 451
 gggttctcac tcagcactaa tggagtgggt 30

<210> 452
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 452

Gly Phe Ser Leu Ser Thr Asn Gly Val Gly
1 5 10

<210> 453
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 453
atttattgga atgaaaataa g 21

<210> 454
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 454
Ile Tyr Trp Asn Glu Asn Lys
1 5

<210> 455
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 455
gtacacaggg gatggttggg agcaatcttt gcctac 36

<210> 456
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 456
Val His Arg Gly Trp Leu Gly Ala Ile Phe Ala Tyr
1 5 10

<210> 457
<211> 378

<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 457
gaggtgcagc tgggtggagtc tggggggaggc ttggtacagc ctgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttact agttatgcca tgacctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagat attagtggta gtggtggtag aacatattac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa tatgctgtat 240
ctgcaaataa acatcctgag agccgaagac acggccgtat atcattgtgc gaagggaaca 300
ggccagcagg tggaccttta caactactac tatgctttgg acgtctgggg ccaagggacc 360
acggtcaccg tctcctca 378

<210> 458
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 458
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Ser Tyr
20 25 30
Ala Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Asp Ile Ser Gly Ser Gly Gly Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Leu Tyr
65 70 75 80
Leu Gln Met Asn Ile Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys
85 90 95
Ala Lys Gly Thr Gly Gln Gln Val Asp Leu Tyr Asn Tyr Tyr Tyr Ala
100 105 110
Leu Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 459
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 459
ggattcacct ttactagtta tgcc

<210> 460

<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 460
Gly Phe Thr Phe Thr Ser Tyr Ala
1 5

<210> 461
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 461
attagtggtgta gtggtggtag aaca

24

<210> 462
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 462
Ile Ser Gly Ser Gly Gly Arg Thr
1 5

<210> 463
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 463
gcgaagggaa caggccagca ggtggacctt tacaactact actatgcttt ggacgtc

57

<210> 464
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 464

Ala Lys Gly Thr Gly Gln Gln Val Asp Leu Tyr Asn Tyr Tyr Tyr Ala
1 5 10 15
Leu Asp Val

<210> 465

<211> 387

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 465

caggtgcagc tgggtggagtc tggggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt tactatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctgggagt ggtggcagtt atatggtatg atggaagtaa taaacactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgacgac acggctgtct attactgtgc gagagataag 300
ggtataagtg gaattaaggg gggttcttac tactactact atgccatgga cgtctggggc 360
caagggacca cggtcaccgt ctcctca 387

<210> 466

<211> 129

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 466

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

<210> 467
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 467
ggattcacct tcagttacta tggc

24

<210> 468
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 468
Gly Phe Thr Phe Ser Tyr Tyr Gly
1 5

<210> 469
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 469
atatggtatg atggaagtaa taaa

24

<210> 470
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 470
Ile Trp Tyr Asp Gly Ser Asn Lys
1 5

<210> 471
<211> 66
<212> DNA
<213> Artificial Sequence

<220>

<223> synthetic

<400> 471

gcgagagata aggggtataag tggaattaag ggggggttctt actactacta ctatgccatg 60
gacgtc 66

<210> 472

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 472

Ala	Arg	Asp	Lys	Gly	Ile	Ser	Gly	Ile	Lys	Gly	Gly	Ser	Tyr	Tyr	Tyr
1				5				10					15		
Tyr	Tyr	Ala	Met	Asp	Val										
			20												

<210> 473

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 473

gaggtgcagc tggtggagtc tggggggaggc ttggtaaagc ctgggggggtc ccttagactc 60
tcctgtgcag cctctggatt cactttcagt aacgcctgga tgacctgggt ccgccaggct 120
ccaggggaagg ggctggagtg ggttggccgt attaaaaaca aaattgatgg tgggacaaca 180
gactacgtgc caccctgtaa aggcagattc accatctcaa gagatgattc aaaaaacacg 240
gtttatctgc aaatgaacag cctgaaaacc gaggacacag ccgtttatta ctgttccacg 300
gtggactaca attggtactt cgatttctgg ggccgtggca ccctggtcac tgtctcctca 360

<210> 474

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 474

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

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

<210> 475
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 475
 ggattcactt tcagtaacgc ctgg 24

<210> 476
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 476
 Gly Phe Thr Phe Ser Asn Ala Trp
 1 5

<210> 477
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 477
 attaaaaaca aaattgatgg tgggacaaca 30

<210> 478
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 478
Ile Lys Asn Lys Ile Asp Gly Gly Thr Thr
1 5 10

<210> 479
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 479
tccacggtgg actacaattg gtacttcgat ttc 33

<210> 480
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 480
Ser Thr Val Asp Tyr Asn Trp Tyr Phe Asp Phe
1 5 10

<210> 481
<211> 387
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 481
caggtgcagc tgggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt ttctttggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcactt atatgggatg atggaactaa tgaaaactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagtc cacgctgtat 240
ctgcaaatga acagtctgag agccgaggac acggctgttt actactgtgc gagagatagg 300
ggagtggcga catttacgag ggggaattac tactacaact acggtatgga cgtctggggc 360
caagggacca cggtcaccgt ctcctca 387

<210> 482
<211> 129
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 482
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Phe Phe
 20 25 30
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Leu Ile Trp Tyr Asp Gly Thr Asn Glu Asn Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Ser Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Asp Arg Gly Val Ala Thr Phe Thr Arg Gly Asn Tyr Tyr Tyr
 100 105 110
 Asn Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser
 115 120 125
 Ser

<210> 483
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 483
 ggattcacct tcagtttctt tggc

24

<210> 484
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 484
 Gly Phe Thr Phe Ser Phe Phe Gly
 1 5

<210> 485
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 485

atatggtatg atggaactaa tgaa

24

<210> 486

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 486

Ile Trp Tyr Asp Gly Thr Asn Glu

1

5

<210> 487

<211> 66

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 487

gcgagagata ggggagtggc gacatttacg agggggaatt actactacaa ctacggtatg 60

gacgtc

66

<210> 488

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 488

Ala Arg Asp Arg Gly Val Ala Thr Phe Thr Arg Gly Asn Tyr Tyr Tyr

1

5

10

15

Asn Tyr Gly Met Asp Val

20

<210> 489

<211> 387

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 489

caggtgcagc tgggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

tcctgtgcag cgtctggatt caccttcagt ttctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggaggg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccata tccagagaca attccaagaa catgctgtat 240
 ctacaaatga ccagcctgag agccgaggac acggctgtgt attactgtgc gagagattcg 300
 ggtaaaactg gaactgggat aactgggtac tcctactact acggtatgga cgtctggggc 360
 caagggacca cggtcaccgt ctcctca 387

<210> 490
 <211> 129
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 490
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Phe Tyr
 20 25 30
 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Gly Val
 35 40 45
 Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Met Leu Tyr
 65 70 75 80
 Leu Gln Met Thr Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Asp Ser Gly Lys Thr Gly Thr Gly Ile Thr Gly Tyr Ser Tyr
 100 105 110
 Tyr Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser
 115 120 125
 Ser

<210> 491
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 491
 ggattcacct tcagtttcta tggc 24

<210> 492
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 492

Gly Phe Thr Phe Ser Phe Tyr Gly
1 5

<210> 493
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 493
atatggtatg atggaagtaa taaa 24

<210> 494
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 494
Ile Trp Tyr Asp Gly Ser Asn Lys
1 5

<210> 495
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 495
gcgagagatt cgggtaaaac tggaactggg ataactgggt actcctacta ctacggtatg 60
gacgtc 66

<210> 496
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 496
Ala Arg Asp Ser Gly Lys Thr Gly Thr Gly Ile Thr Gly Tyr Ser Tyr
1 5 10 15
Tyr Tyr Gly Met Asp Val
20

<210> 497
 <211> 354
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<220>
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<400> 497
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 acctgcactg tctctggtgg ctccatcatc actaatagtt attactgggg ctggatccgc 120
 cagccccag ggaagggtct ggagtggatt ggtagtatct attatagtgg gaggacctac 180
 tacaaccgt ccctcgagag tcgagtcacc atatccgtgg acacgtccaa gaaccagttc 240
 tccctgaagt tgacctctgt gaccgccga gacacggcta tatattactg tgcgagggaa 300
 ggggatccgt cgctcgacc ctggggccag ggaaccctgg tcaccgtctc ctca 354

<210> 498
 <211> 118
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 498
 Gln Leu Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ile Thr Asn
 20 25 30
 Ser Tyr Tyr Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45
 Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Arg Thr Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Glu Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe
 65 70 75 80
 Ser Leu Lys Leu Thr Ser Val Thr Ala Ala Asp Thr Ala Ile Tyr Tyr
 85 90 95
 Cys Ala Arg Glu Gly Asp Pro Ser Leu Asp Pro Trp Gly Gln Gly Thr
 100 105 110
 Leu Val Thr Val Ser Ser
 115

<210> 499
 <211> 30
 <212> DNA
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<220>
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<400> 499
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<210> 500
<211> 10
<212> PRT
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<220>
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<400> 500
Gly Gly Ser Ile Ile Thr Asn Ser Tyr Tyr
1 5 10

<210> 501
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<212> DNA
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<220>
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<400> 501
atctattata gtgggaggac c

21

<210> 502
<211> 7
<212> PRT
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<220>
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<400> 502
Ile Tyr Tyr Ser Gly Arg Thr
1 5

<210> 503
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 503
gcgagggaag gggatccgtc gctcgacccc

30

<210> 504
<211> 10
<212> PRT
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<220>

<223> synthetic

<400> 504

Ala Arg Glu Gly Asp Pro Ser Leu Asp Pro
1 5 10

<210> 505

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 505

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tcctgtgcag cctctggatt cacctttagc acctatgccca tgaactgggt ccgccaggct 120
ccaggggaagg ggctggagtg ggtctcacat attagtggta gtggtggtaa ttcatactcc 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctatat 240
ctgcaaatga acagcctgcg agccgaggac acggccatat attactgttc gctggatata 300
atggctacag taggcggtct ctttgcctac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 506

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 506

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

<210> 507

<211> 24

<212> DNA
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<220>
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<400> 507
ggattcacct ttagcaccta tgcc

24

<210> 508
<211> 8
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<220>
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<400> 508
Gly Phe Thr Phe Ser Thr Tyr Ala
1 5

<210> 509
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<212> DNA
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<220>
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<400> 509
attagtggtgta gtggtggttaa ttca

24

<210> 510
<211> 8
<212> PRT
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<220>
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<400> 510
Ile Ser Gly Ser Gly Gly Asn Ser
1 5

<210> 511
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
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<400> 511
tcgctggata taatggctac agtaggcggt ctctttgcct ac 42

<210> 512
<211> 14
<212> PRT
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<220>
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<400> 512
Ser Leu Asp Ile Met Ala Thr Val Gly Gly Leu Phe Ala Tyr
1 5 10

<210> 513
<211> 393
<212> DNA
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<220>
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<400> 513
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tcctgtgtag cgtctggatt catcttcagt ttctatggca tgcactgggt ccgccaggct 120
ccagacaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa tgaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgg gagagatcaa 300
ggatatttcgt attacgatat ttgactgggt aattataact attactacgg tgtggacgtc 360
tggggccaag ggaccacggt caccgtctcc tca 393

<210> 514
<211> 131
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 514
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Ile Phe Ser Phe Tyr
20 25 30
Gly Met His Trp Val Arg Gln Ala Pro Asp Lys Gly Leu Glu Trp Val
35 40 45
Ala Val Ile Trp Tyr Asp Gly Ser Asn Glu Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Gly	Arg	Asp	Gln	Gly	Ile	Ser	Tyr	Tyr	Asp	Ile	Leu	Thr	Gly	Asn	Tyr
			100					105					110		
Asn	Tyr	Tyr	Tyr	Gly	Val	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr
		115					120					125			
Val	Ser	Ser													
	130														

<210> 515
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 515
 ggattcatct tcagtttcta tggc

24

<210> 516
 <211> 8
 <212> PRT
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<220>
 <223> synthetic

<400> 516
 Gly Phe Ile Phe Ser Phe Tyr Gly
 1 5

<210> 517
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 517
 atatggtatg atggaagtaa tgaa

24

<210> 518
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 518
 Ile Trp Tyr Asp Gly Ser Asn Glu
 1 5

<210> 519
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 519
gggagagatc aaggtatttc gtattacgat attttgactg gtaattataa ctattactac 60
ggtgtggacg tc 72

<210> 520
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 520
Gly Arg Asp Gln Gly Ile Ser Tyr Tyr Asp Ile Leu Thr Gly Asn Tyr
1 5 10 15
Asn Tyr Tyr Tyr Gly Val Asp Val
20

<210> 521
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 521
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gacattagc agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccgtca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg caacttacta ctgtcaacag agttacagta cccctccgat caccttcggc 300
caaggacac gactggagat taaa 324

<210> 522
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 522

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

<210> 523
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 523
 cagagcatta gcagctat

18

<210> 524
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 524
 Gln Ser Ile Ser Ser Tyr
 1 5

<210> 525
 <211> 9
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 525
 gctgcatcc

9

<210> 526
 <211> 3
 <212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 526

Ala Ala Ser

1

<210> 527

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 527

caacagagtt acagtacccc tccgatcacc

30

<210> 528

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 528

Gln Gln Ser Tyr Ser Thr Pro Pro Ile Thr

1

5

10

<210> 529

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 529

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ctctcctgca gggccagtc gagtgtagc agcagctact tagcctggta ccagcagaaa 120
cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcagtgtg ttactgtcag cagtatggta gctcaccttg gacgttcggc 300
caagggacca aggtggaaat caaa 324

<210> 530

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 530

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

<210> 531

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 531

cagagtgtta gcagcagcta c

21

<210> 532

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 532

Gln	Ser	Val	Ser	Ser	Ser	Tyr
1				5		

<210> 533

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 533

ggtgcatcc

9

<210> 534

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 534

Gly Ala Ser

1

<210> 535

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 535

cagcagtatg gtagctcacc ttggacg

27

<210> 536

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 536

Gln Gln Tyr Gly Ser Ser Pro Trp Thr

1

5

<210> 537

<211> 357

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 537

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acctgcgctg tctatggtgg gtccttcagt ggttactact ggaactggat ccgccagccc 120
ccagggaagg ggctggagtg ggttggggaa atcagtcata gaggaagcac caactacaac 180
ccgtccctca agagtcgagt caccatatca ctggacacgt ccaagaacca gttctccctg 240
aagctgacct ctgtgaccgc cgcggacacg gctgtgtatt actgttcgag agacgaggaa 300
ctggaattcc gtttctttga ctactggggc cagggaaccc tggtcaccgt ctctca 357

<210> 538
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 538
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 1 5 10 15
 Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
 20 25 30
 Tyr Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Gly Glu Ile Ser His Arg Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
 50 55 60
 Ser Arg Val Thr Ile Ser Leu Asp Thr Ser Lys Asn Gln Phe Ser Leu
 65 70 75 80
 Lys Leu Thr Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ser
 85 90 95
 Arg Asp Glu Glu Leu Glu Phe Arg Phe Asp Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ser
 115

<210> 539
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 539
 ggtgggtcct tcagtgggta ctac

24

<210> 540
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 540
 Gly Gly Ser Phe Ser Gly Tyr Tyr
 1 5

<210> 541
 <211> 21

<212> DNA
<213> Artificial Sequence

<220>
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<400> 541
atcagtcata gaggaagcac c

21

<210> 542
<211> 7
<212> PRT
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<220>
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<400> 542
Ile Ser His Arg Gly Ser Thr
1 5

<210> 543
<211> 39
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<400> 543
tcgagagacg aggaactgga attccgtttc tttgactac

39

<210> 544
<211> 13
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<220>
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<400> 544
Ser Arg Asp Glu Glu Leu Glu Phe Arg Phe Phe Asp Tyr
1 5 10

<210> 545
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
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<400> 545
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagggttagc agctatttag cctgggtacca acaaaaacct 120
ggccaggctc ccaggctcct cgtctatggg gcatccaaca gggccactgg catcccagcc 180
aggttcagtg gcagtggtgc tgggacagac ttactctca ccatcagcag cctagagcct 240
gaagattttg cattttatta ctgtcagcag cgtagcaact ggccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 546
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 546
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Val
35 40 45
Tyr Gly Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80
Glu Asp Phe Ala Phe Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 547
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 547
cagagtgtta gcagctat 18

<210> 548
<211> 6
<212> PRT
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<220>
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<400> 548
Gln Ser Val Ser Ser Tyr

1

5

<210> 549
<211> 9
<212> DNA
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<220>
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<400> 549
ggtgcatcc

9

<210> 550
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
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<400> 550
Gly Ala Ser
1

<210> 551
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
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<400> 551
cagcagcgta gcaactggcc gctcact

27

<210> 552
<211> 9
<212> PRT
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<220>
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<400> 552
Gln Gln Arg Ser Asn Trp Pro Leu Thr
1 5

<210> 553
<211> 372
<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 553

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ccagggaagg ggctggaatg ggtctcaact attagtggta gtggtggtgg cacatactac 180
acagactccg ttaagggccg gttcaccatc tccagagaca attccaagaa cacactgtat 240
ctgcaaatga acagcctgag agccgacgac acggccgttt ttactgtac gaaagagagt 300
acaactggaa cttactccta cttctacggg atggacgtct ggggccaagg gaccacggtc 360
accgttcct ca 372
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<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 554

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 1          5          10          15
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Leu Tyr
 20          25          30
Ala Met Thr Trp Val Arg Gln Val Pro Gly Lys Gly Leu Glu Trp Val
 35          40          45
Ser Thr Ile Ser Gly Ser Gly Gly Gly Thr Tyr Tyr Thr Asp Ser Val
 50          55          60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65          70          75          80
Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Val Phe Tyr Cys
 85          90          95
Thr Lys Glu Ser Thr Thr Gly Thr Tyr Ser Tyr Phe Tyr Gly Met Asp
100          105          110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115          120
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<210> 555

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 555

ggattcacct ttagcctcta tgcc

24

<210> 556

<211> 8

<212> PRT
<213> Artificial Sequence

<220>
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<400> 556
Gly Phe Thr Phe Ser Leu Tyr Ala
1 5

<210> 557
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 557
attagtggta gtggtggtgg caca

24

<210> 558
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<400> 558
Ile Ser Gly Ser Gly Gly Gly Thr
1 5

<210> 559
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 559
acgaaagaga gtacaactgg aacttactcc tacttctacg gtatggacgt c

51

<210> 560
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 560

Thr Lys Glu Ser Thr Thr Gly Thr Tyr Ser Tyr Phe Tyr Gly Met Asp
1 5 10 15
Val

<210> 561

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 561

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atcacttgcc gggcaagtca gaccattagc agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccctcagcgg tctccaacct 240
gaagattttg caacttacta ctgtcaacag agttacagta ccccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 562

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 562

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

<210> 563

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 563

cagaccatta gcagctat

18

<210> 564

<211> 6

<212> PRT

<213> Artificial Sequence

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<223> synthetic

<400> 564

Gln Thr Ile Ser Ser Tyr

1

5

<210> 565

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 565

gctgcatcc

9

<210> 566

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

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Ala Ala Ser

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<210> 567

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 567

caacagagtt acagtacccc gtcact

27

<210> 568

<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 568
Gln Gln Ser Tyr Ser Thr Pro Leu Thr
1 5

<210> 569
<211> 327
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 569
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15
Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30
Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45
Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60
Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80
Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95
Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
100 105 110
Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125
Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140
Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160
Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175
Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190
Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205
Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220
Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240
Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255
Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys

			260					265				270			
Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser
		275					280					285			
Arg	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Glu	Gly	Asn	Val	Phe	Ser
	290					295					300				
Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser
305					310					315					320
Leu	Ser	Leu	Ser	Leu	Gly	Lys									
				325											

<210> 570

<211> 326

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 570

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

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

<210> 571

<211> 326

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 571

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

Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Glu	Gly	Asn	Val	Phe	Ser	Cys
290						295					300				
Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu
305					310					315					320
Ser	Leu	Ser	Leu	Gly	Lys										
				325											

<210> 573

<211> 326

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 573

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

290	295	300
Ser Val Met His Glu	Ala Leu His Asn Arg Phe Thr Gln Lys Ser Leu	
305	310	315
Ser Leu Ser Pro Gly Lys		320
	325	

<210> 574
 <211> 450
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> aa 1-478: Human Lag3 (aa 29 through 450 of
 NP_002277.4)
 aa 451-478: myc-myc-hexahistidine tag

<400> 574

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

Thr	Leu	Arg	Leu	Glu	Asp	Val	Ser	Gln	Ala	Gln	Ala	Gly	Thr	Tyr	Thr
290						295					300				
Cys	His	Ile	His	Leu	Gln	Glu	Gln	Gln	Leu	Asn	Ala	Thr	Val	Thr	Leu
305					310					315					320
Ala	Ile	Ile	Thr	Val	Thr	Pro	Lys	Ser	Phe	Gly	Ser	Pro	Gly	Ser	Leu
				325					330					335	
Gly	Lys	Leu	Leu	Cys	Glu	Val	Thr	Pro	Val	Ser	Gly	Gln	Glu	Arg	Phe
		340						345					350		
Val	Trp	Ser	Ser	Leu	Asp	Thr	Pro	Ser	Gln	Arg	Ser	Phe	Ser	Gly	Pro
	355						360					365			
Trp	Leu	Glu	Ala	Gln	Glu	Ala	Gln	Leu	Leu	Ser	Gln	Pro	Trp	Gln	Cys
370						375					380				
Gln	Leu	Tyr	Gln	Gly	Glu	Arg	Leu	Leu	Gly	Ala	Ala	Val	Tyr	Phe	Thr
385					390					395					400
Glu	Leu	Ser	Ser	Pro	Gly	Ala	Gln	Arg	Ser	Gly	Arg	Ala	Pro	Gly	Ala
				405					410					415	
Leu	Pro	Ala	Gly	His	Leu	Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu
			420					425					430		
Gly	Gly	Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	His	His	His	His
	435						440					445			
His	His														
450															

<210> 575

<211> 655

<212> PRT

<213> Artificial Sequence

<220>

<223> aa 1-683: Human Lag3 (aa 29 through 450 of
NP_002277.4)

aa 451-683: mIgG2aFc

<400> 575

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

145					150					155					160
Cys	Ser	Phe	Ser	Arg	Pro	Asp	Arg	Pro	Ala	Ser	Val	His	Trp	Phe	Arg
				165					170					175	
Asn	Arg	Gly	Gln	Gly	Arg	Val	Pro	Val	Arg	Glu	Ser	Pro	His	His	His
			180					185					190		
Leu	Ala	Glu	Ser	Phe	Leu	Phe	Leu	Pro	Gln	Val	Ser	Pro	Met	Asp	Ser
		195					200				205				
Gly	Pro	Trp	Gly	Cys	Ile	Leu	Thr	Tyr	Arg	Asp	Gly	Phe	Asn	Val	Ser
	210				215					220					
Ile	Met	Tyr	Asn	Leu	Thr	Val	Leu	Gly	Leu	Glu	Pro	Pro	Thr	Pro	Leu
225				230					235					240	
Thr	Val	Tyr	Ala	Gly	Ala	Gly	Ser	Arg	Val	Gly	Leu	Pro	Cys	Arg	Leu
			245					250						255	
Pro	Ala	Gly	Val	Gly	Thr	Arg	Ser	Phe	Leu	Thr	Ala	Lys	Trp	Thr	Pro
		260					265						270		
Pro	Gly	Gly	Gly	Pro	Asp	Leu	Leu	Val	Thr	Gly	Asp	Asn	Gly	Asp	Phe
	275					280					285				
Thr	Leu	Arg	Leu	Glu	Asp	Val	Ser	Gln	Ala	Gln	Ala	Gly	Thr	Tyr	Thr
	290				295					300					
Cys	His	Ile	His	Leu	Gln	Glu	Gln	Gln	Leu	Asn	Ala	Thr	Val	Thr	Leu
305				310						315					320
Ala	Ile	Ile	Thr	Val	Thr	Pro	Lys	Ser	Phe	Gly	Ser	Pro	Gly	Ser	Leu
			325					330						335	
Gly	Lys	Leu	Leu	Cys	Glu	Val	Thr	Pro	Val	Ser	Gly	Gln	Glu	Arg	Phe
		340					345				350				
Val	Trp	Ser	Ser	Leu	Asp	Thr	Pro	Ser	Gln	Arg	Ser	Phe	Ser	Gly	Pro
	355					360					365				
Trp	Leu	Glu	Ala	Gln	Glu	Ala	Gln	Leu	Leu	Ser	Gln	Pro	Trp	Gln	Cys
	370				375					380					
Gln	Leu	Tyr	Gln	Gly	Glu	Arg	Leu	Leu	Gly	Ala	Ala	Val	Tyr	Phe	Thr
385				390					395						400
Glu	Leu	Ser	Ser	Pro	Gly	Ala	Gln	Arg	Ser	Gly	Arg	Ala	Pro	Gly	Ala
			405					410						415	
Leu	Pro	Ala	Gly	His	Leu	Glu	Pro	Arg	Gly	Pro	Thr	Ile	Lys	Pro	Cys
		420					425					430			
Pro	Pro	Cys	Lys	Cys	Pro	Ala	Pro	Asn	Leu	Leu	Gly	Gly	Pro	Ser	Val
	435					440					445				
Phe	Ile	Phe	Pro	Pro	Lys	Ile	Lys	Asp	Val	Leu	Met	Ile	Ser	Leu	Ser
	450				455					460					
Pro	Ile	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Glu	Asp	Asp	Pro	Asp
465				470					475					480	
Val	Gln	Ile	Ser	Trp	Phe	Val	Asn	Asn	Val	Glu	Val	His	Thr	Ala	Gln
			485					490						495	
Thr	Gln	Thr	His	Arg	Glu	Asp	Tyr	Asn	Ser	Thr	Leu	Arg	Val	Val	Ser
		500					505						510		
Ala	Leu	Pro	Ile	Gln	His	Gln	Asp	Trp	Met	Ser	Gly	Lys	Glu	Phe	Lys
	515					520					525				
Cys	Lys	Val	Asn	Asn	Lys	Asp	Leu	Pro	Ala	Pro	Ile	Glu	Arg	Thr	Ile
	530				535					540					
Ser	Lys	Pro	Lys	Gly	Ser	Val	Arg	Ala	Pro	Gln	Val	Tyr	Val	Leu	Pro
545				550					555					560	
Pro	Pro	Glu	Glu	Glu	Met	Thr	Lys	Lys	Gln	Val	Thr	Leu	Thr	Cys	Met
			565					570						575	
Val	Thr	Asp	Phe	Met	Pro	Glu	Asp	Ile	Tyr	Val	Glu	Trp	Thr	Asn	Asn

			580					585				590			
Gly	Lys	Thr	Glu	Leu	Asn	Tyr	Lys	Asn	Thr	Glu	Pro	Val	Leu	Asp	Ser
			595				600					605			
Asp	Gly	Ser	Tyr	Phe	Met	Tyr	Ser	Lys	Leu	Arg	Val	Glu	Lys	Lys	Asn
			610				615				620				
Trp	Val	Glu	Arg	Asn	Ser	Tyr	Ser	Cys	Ser	Val	Val	His	Glu	Gly	Leu
					630					635					640
His	Asn	His	His	Thr	Thr	Lys	Ser	Phe	Ser	Arg	Thr	Pro	Gly	Lys	
				645					650				655		

<210> 576

<211> 516

<212> PRT

<213> Artificial Sequence

<220>

<223> aa 1-533 (aa 18 through 533 of cynomolgus
XP_005570011.1 modified to replace amino acid at
position 74 with a P based on Rhesus macaque
XP_001108923.1

<400> 576

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

				245					250					255			
Ala	Gly	Ser	Arg	Val	Glu	Leu	Pro	Cys	Arg	Leu	Pro	Pro	Ala	Val	Gly		
			260					265					270				
Thr	Gln	Ser	Phe	Leu	Thr	Ala	Lys	Trp	Ala	Pro	Pro	Gly	Gly	Gly	Pro		
		275					280					285					
Asp	Leu	Leu	Val	Ala	Gly	Asp	Asn	Gly	Asp	Phe	Thr	Leu	Arg	Leu	Glu		
	290				295						300						
Asp	Val	Ser	Gln	Ala	Gln	Ala	Gly	Thr	Tyr	Ile	Cys	His	Ile	Arg	Leu		
305				310					315						320		
Gln	Gly	Gln	Gln	Leu	Asn	Ala	Thr	Val	Thr	Leu	Ala	Ile	Ile	Thr	Val		
			325					330						335			
Thr	Pro	Lys	Ser	Phe	Gly	Ser	Pro	Gly	Ser	Leu	Gly	Lys	Leu	Leu	Cys		
		340						345					350				
Glu	Val	Thr	Pro	Ala	Ser	Gly	Gln	Glu	His	Phe	Val	Trp	Ser	Pro	Leu		
	355						360					365					
Asn	Thr	Pro	Ser	Gln	Arg	Ser	Phe	Ser	Gly	Pro	Trp	Leu	Glu	Ala	Gln		
	370					375					380						
Glu	Ala	Gln	Leu	Leu	Ser	Gln	Pro	Trp	Gln	Cys	Gln	Leu	His	Gln	Gly		
385				390						395					400		
Glu	Arg	Leu	Leu	Gly	Ala	Ala	Val	Tyr	Phe	Thr	Glu	Leu	Ser	Ser	Pro		
			405						410					415			
Gly	Ala	Gln	Arg	Ser	Gly	Arg	Ala	Pro	Gly	Ala	Leu	Arg	Ala	Gly	His		
		420						425					430				
Leu	Pro	Leu	Phe	Leu	Ile	Leu	Gly	Val	Leu	Phe	Leu	Leu	Leu	Leu	Val		
	435						440				445						
Thr	Gly	Ala	Phe	Gly	Phe	His	Leu	Trp	Arg	Arg	Gln	Trp	Arg	Pro	Arg		
	450					455					460						
Arg	Phe	Ser	Ala	Leu	Glu	Gln	Gly	Ile	His	Pro	Pro	Gln	Ala	Gln	Ser		
465				470						475					480		
Lys	Ile	Glu	Glu	Leu	Glu	Gln	Glu	Pro	Glu	Leu	Glu	Pro	Glu	Pro	Glu		
			485						490					495			
Leu	Glu	Arg	Glu	Leu	Gly	Pro	Glu	Pro	Glu	Pro	Gly	Pro	Glu	Pro	Glu		
		500						505					510				
Pro	Glu	Gln	Leu														
	515																

<210> 577

<211> 449

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 577

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

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

Lys

<210> 578

<211> 214

<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 578

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

<210> 579
<211> 450
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 579

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

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

<210> 580

<211> 445

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 580

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

370		375		380											
Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly
385					390					395					400
Ser	Phe	Phe	Leu	Tyr	Ser	Arg	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln
				405					410					415	
Glu	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn
			420					425					430		
His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Leu	Gly	Lys			
		435				440						445			

<210> 581
 <211> 214
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 581
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Val
35 40 45
Tyr Gly Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80
Glu Asp Phe Ala Phe Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110
Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125
Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140
Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160
Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175
Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190
Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205
Phe Asn Arg Gly Glu Cys
210

<210> 582
 <211> 525
 <212> PRT
 <213> Artificial Sequence

<220>

<223> synthetic

<400> 582

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

385					390					395				400	
Gln	Glu	Ala	Gln	Leu	Leu	Ser	Gln	Pro	Trp	Gln	Cys	Gln	Leu	Tyr	Gln
				405					410					415	
Gly	Glu	Arg	Leu	Leu	Gly	Ala	Ala	Val	Tyr	Phe	Thr	Glu	Leu	Ser	Ser
			420					425					430		
Pro	Gly	Ala	Gln	Arg	Ser	Gly	Arg	Ala	Pro	Gly	Ala	Leu	Pro	Ala	Gly
		435				440						445			
His	Leu	Leu	Phe	Leu	Ile	Leu	Gly	Val	Leu	Ser	Leu	Leu	Leu	Leu	
	450			455					460						
Val	Thr	Gly	Ala	Phe	Gly	Phe	His	Leu	Trp	Arg	Arg	Gln	Trp	Arg	Pro
465				470				475						480	
Arg	Arg	Phe	Ser	Ala	Leu	Glu	Gln	Gly	Ile	His	Pro	Pro	Gln	Ala	Gln
			485					490					495		
Ser	Lys	Ile	Glu	Glu	Leu	Glu	Gln	Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro
		500				505						510			
Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro	Glu	Pro	Glu	Gln	Leu			
	515					520						525			

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 <213> Artificial Sequence

<220>
 <223> synthetic

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 1 5 10 15

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 <211> 17
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic

<400> 584
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<210> 585
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 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 585
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<210> 586
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<220>
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 ttgccgtatg gttggtttga ac

22

<210> 587
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 1 5 10 15
 Pro Ala Gln Leu Pro Cys Ser Pro Thr Ile Pro Leu Gln Asp Leu Ser
 20 25 30
 Leu Leu Arg Arg Ala Gly Val Thr Trp Gln His Gln Pro Asp Ser Gly
 35 40 45
 Pro Pro Ala Ala Ala Pro Gly His Pro Leu Ala Pro Gly Pro His Pro
 50 55 60
 Ala Ala Pro Ser Ser Trp Gly Pro Arg Pro Arg Arg Tyr Thr Val Leu
 65 70 75 80
 Ser Val Gly Pro Gly Gly Leu Arg Ser Gly Arg Leu Pro Leu Gln Pro
 85 90 95
 Arg Val Gln Leu Asp Glu Arg Gly Arg Gln Arg Gly Asp Phe Ser Leu
 100 105 110
 Trp Leu Arg Pro Ala Arg Arg Ala Asp Ala Gly Glu Tyr Arg Ala Ala
 115 120 125
 Val His Leu Arg Asp Arg Ala Leu Ser Cys Arg Leu Arg Leu Arg Leu
 130 135 140
 Gly Gln Ala Ser Met Thr Ala Ser Pro Pro Gly Ser Leu Arg Ala Ser
 145 150 155 160
 Asp Trp Val Ile Leu Asn Cys Ser Phe Ser Arg Pro Asp Arg Pro Ala
 165 170 175
 Ser Val His Trp Phe Arg Asn Arg Gly Gln Gly Arg Val Pro Val Arg
 180 185 190
 Glu Ser Pro His His His Leu Ala Glu Ser Phe Leu Phe Leu Pro Gln
 195 200 205
 Val Ser Pro Met Asp Ser Gly Pro Trp Gly Cys Ile Leu Thr Tyr Arg
 210 215 220
 Asp Gly Phe Asn Val Ser Ile Met Tyr Asn Leu Thr Val Leu Gly Leu
 225 230 235 240
 Glu Pro Pro Thr Pro Leu Thr Val Tyr Ala Gly Ala Gly Ser Arg Val
 245 250 255
 Gly Leu Pro Cys Arg Leu Pro Ala Gly Val Gly Thr Arg Ser Phe Leu
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$\langle 210 \rangle$ 588
 $\langle 211 \rangle$ 422

$\langle 211 \rangle$ 422

<212> PRT

<213> Artificial Sequence

<220>

<223> hLAG3 extracellular domain P18627

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

370		375		380	
Gln	Leu	Tyr	Gln	Gly	Glu
385					390
Glu	Leu	Ser	Ser	Pro	Gly
				405	
Leu	Pro	Ala	Gly	His	Leu
				420	

<210> 589

<211> 44

<212> PRT

<213> Artificial Sequence

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<223> hLAG3 epitope

<400> 589

Leu	Arg	Arg	Ala	Gly	Val	Thr	Trp	Gln	His	Gln	Pro	Asp	Ser	Gly	Pro
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Pro	Ala	Ala	Ala	Pro	Gly	His	Pro	Leu	Ala	Pro	Gly	Pro	His	Pro	Ala
			20				25						30		
Ala	Pro	Ser	Ser	Trp	Gly	Pro	Arg	Pro	Arg	Arg	Tyr				
		35					40								