

SEQUENCE LISTING

<110> JANSSEN BIOTECH, INC.

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GARDNER, DEBRA

GUO, YANXIA

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SOROOSH, PEJMAN

SWIECKI, MELISSA

WILKINSON, DEEPTI

<120> ANTIBODIES THAT SPECIFICALLY BIND PD-1 AND METHODS OF USE

<130> JBI5131WOPCT

<140> TO BE ASSIGNED

<141> 2018-06-04

<150> 62/515188

<151> 2017-06-05

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<150> 62/673185

<151> 2018-05-18

<160> 166

<170> PatentIn version 3.5

<210> 1

<211> 150

<212> PRT

<213> Homo sapiens

<400> 1

Pro	Gly	Trp	Phe	Leu	Asp	Ser	Pro	Asp	Arg	Pro	Trp	Asn	Pro	Pro	Thr
1				5					10					15	

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

Thr	Cys	Ser	Phe	Ser	Asn	Thr	Ser	Glu	Ser	Phe	Val	Leu	Asn	Trp	Tyr
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

35

40

45

Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu
 50 55 60

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

Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn
 85 90 95

Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala
 100 105 110

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

Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly
 130 135 140

Gln Phe Gln Thr Leu Val
 145 150

<210> 2

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 2

Gly Tyr Thr Phe Thr Asp Tyr Ser Met His
 1 5 10

<210> 3

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 peptide

<400> 3
Trp Ile Asn Ile Glu Thr Gly Glu Pro Thr
1 5 10

<210> 4
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 4
Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr
1 5 10

<210> 5
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 5
Thr Ala Ser Ser Ser Val Ser Ser Ser Tyr Leu His
1 5 10

<210> 6
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 6
Ser Thr Ser Asn Leu Ala Ser
1 5

<210> 7
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

peptide

<400> 7

His Gln Tyr His Arg Ser Pro Leu Thr
1 5

<210> 8

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 8

Asp Val Gln Leu Gln Glu Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

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

Gly Trp Ile Asn Ile Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 9

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 9

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Cys Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 10

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 10

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 11
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 11
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tcctgcaagg cttctggtta taccttcaca gactattcaa tgcactgggt gaagcaggct 120
ccaggaaagg gtttaaagtg gatgggctgg ataaacattg agactggtga gccaacatat 180
gcagatgact tcaagggacg gtttgccttc tctttggaaa cctctgccag cactgcctat 240
ttgcagatca acaacctcaa aaatgaggac acggctacat atttctgtgc tagagattac 300
tacggtactt acttctatgc tatggactac tggggctcaag gcaccactct cacagtctcc 360
tca 363

<210> 12
<211> 363
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 12

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tcttgtaagg	ccagcggcta	caccttcacc	gactacagca	tgactgggt	gcggcaggcc	120
cctggacagg	gcctggaatg	gatgggctgg	atcaacatcg	agaccggcga	gcccacctac	180
gcccagggct	ttaccggacg	gttcgtgttc	agcctggata	catctgtgtc	tacagcctat	240
ctgcagatct	gctctctgaa	ggccgaagat	acagccgtgt	acttctgcgc	ccgggactac	300
tacggcacct	acttctacgc	catggactac	tggggccagg	gaacactggg	gacagtgtct	360
tct						363

<210> 13

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 13

caagtgcagc	tggtgcagtc	tggcagcgag	ctgaaaaaac	ctggcgcctc	cgtgaaggtg	60
tcctgcaagg	ctagcggcta	cacctttacc	gactacagca	tgactgggt	ccgacaggct	120
ccaggacaag	gcttggaatg	gatgggctgg	atcaacatcg	agacaggcga	gcccacatac	180
gcccagggct	ttaccggcag	attcgtgttc	agcctggaca	cctctgtgtc	caccgcctac	240
ctgcagatca	gctctctgaa	ggccgaggat	accgccgtgt	acttctgcgc	cagagactac	300
tacggcacct	acttctacgc	catggattac	tggggccagg	gcaccctggg	taccgtttct	360
tct						363

<210> 14

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 14

Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Leu Gly
1 5 10 15

Glu Arg Val Thr Met Thr Cys Thr Ala Ser Ser Ser Val Ser Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Leu Trp
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
65 70 75 80

Ala Glu Asp Ala Ala Thr Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 15

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 15

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 Thr Ala Ser Ser Ser Val Ser Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser 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 His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 16

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 16

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 Thr Ala Ser Ser Ser Val Ser Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 17

<211> 324

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 17
caaattgttc tcaccagtc tccagcaatc atgtctgcat ctctagggga acgggtcacc 60
atgacctgca ctgccagctc aagtgtaagt tccagttact tgcactggta ccagcagaag 120
ccaggatcct cccccaaact ctggatttat agcacatcca acctggcttc tggagtccca 180
gctcgcttca gtggcagtgg gtctgggacc tcttactctc tcacaatcag cagcatggag 240
gctgaagatg ctgccactta ttactgccac cagtatcatc gttccccgct cacgttcggt 300
gctgggacca agctggagct gaaa 324

<210> 18
<211> 324
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 18
gagatcgtgc tgacacagtc tcctgccaca ctgtctctgt ctcttgagga acgggccaca 60
ctgagctgca ccgccagcag cagcgtgagc agcagctacc tgcactggta ccagcagaaa 120
cctggactgg cccctcggct gctgatctac agcaccagca acctggccag cggcatccct 180
gatcggtttt ctggcagcgg atctggcaca gatctttacac tgaccatcag ccggctggaa 240
cctgaggatt ttgccgtgta ctactgccac cagtaccacc ggagccccct gaccttcggc 300
caggaacaa agctggaaat caag 324

<210> 19
<211> 324
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 19

gagatcgtgc tgacacagtc tcctgccaca ctgtctctgt ctcctggaga acgggccaca	60
ctgagctgca ccgccagcag cagcgtgagc agcagctacc tgcactggta ccagcagaaa	120
cctggactgg cccctcggct gctgatctac agcaccagca acctggccag cggcatccct	180
gatcgggtttt ctggcagcgg atctggcaca gattacacac tgaccatcag ccggctggaa	240
cctgaggatt ttgccgtgta ctactgccac cagtaccacc ggagccccct gaccttcggc	300
caggaacaa agctggaaat caag	324

<210> 20

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 20

Asp Val Gln Leu Gln Glu Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

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

Gly Trp Ile Asn Ile Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Thr Leu Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
210 215 220

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val

340

345

350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 435 440 445

Pro Gly Lys
 450

<210> 21

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 21

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe

50

55

60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Cys Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
 210 215 220

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Pro Gly Lys
450

<210> 22

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 22

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His

195

200

205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
 210 215 220

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 340 345 350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Pro Gly Lys
450

<210> 23
<211> 1353
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 23
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gcagatgact tcaagggacg gtttgccttc tctttgaaa cctctgccag cactgcctat 240
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tcagcctcca ccaagggccc atcggctctc cccctggcac cctcctcaa gagcacctct 420
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tcgtggaact caggcgccct gaccagcggc gtgcacacct tcccggctgt cctacagtcc 540
tcaggactct actccctcag cagcgtggtg accgtgccct ccagcagctt gggcacccag 600
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cccaaattctt gtgacaaaac tcacacatgc ccaccgtgcc cagcacctga actcctgggg 720
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aaggagtaca agtgcaaggt ctccaacaaa gccctcccag ccccatcga gaaaaccatc	1020
tccaaagcca aagggcagcc ccgagaacca caggtgtaca ccctgcccc atcccgggag	1080
gagatgacca agaaccaggt cagcctgacc tgcctggtca aaggcttcta tcccagcgac	1140
atcgccgtgg agtgggagag caatgggcag ccggagaaca actacaagac cagcctccc	1200
gtgctggact ccgacggctc cttcttcctc tacagcaagc tcaccgtgga caagagcagg	1260
tggcagcagg ggaacgtctt ctcattgctcc gtgatgcatg aggctctgca caaccactac	1320
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<210> 24

<211> 1353

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 24

caggtgcagc tgggtgcagtc tggaagcgaa ctgaagaaac ctggagcctc tgtgaaagtg	60
tcttctaagg ccagcggcta caccttcacc gactacagca tgcaactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggctgg atcaacatcg agaccggcga gccacctac	180
gccaggggct ttaccggacg gttcgtgttc agcctggata catctgtgtc tacagcctat	240
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tacggcacct acttctacgc catggactac tggggccagg gaacactgggt gacagtgtct	360
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tcaggactct actccctcag cagcgtgggt accgtgccct ccagcagctt gggcacccag	600
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tggtacgtgg acggcgtgga ggtgcataat gccaaagaaa agccgcggga ggagcagtac	900
aacagcacgt accgtgtggt cagcgtcctc accgtcctgc accaggactg gctgaatggc	960
aaggagtaca agtgcaaggt ctccaacaaa gccctcccag ccccatcga gaaaaccatc	1020
tccaaagcca aagggcagcc ccgagaacca caggtgtaca ccctgcccc atcccgggag	1080
gagatgacca agaaccaggt cagcctgacc tgcctggtca aaggcttcta tcccagcgac	1140
atcgccgtgg agtgggagag caatgggcag ccggagaaca actacaagac cagcctccc	1200
gtgctggact ccgacggctc cttcttcctc tacagcaagc tcaccgtgga caagagcagg	1260
tggcagcagg ggaacgtctt ctcagtctcc gtgatgcatg aggctctgca caaccactac	1320
acgcagaaga gcctctccct gtctccgggt aaa	1353

<210> 25

<211> 1353

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 25

caagtgcagc tggtgcagtc tggcagcgag ctgaaaaaac ctggcgccctc cgtgaagggtg	60
tcctgcaagg ctagcggcta cacctttacc gactacagca tgcactgggt ccgacaggct	120
ccaggacaag gcttggaatg gatgggctgg atcaacatcg agacaggcga gccacatac	180
gcccagggtt ttaccggcag attcgtgttc agcctggaca cctctgtgtc caccgcctac	240
ctgcagatca gctctctgaa ggccgaggat accgccgtgt acttctgcgc cagagactac	300
tacggcacct acttctacgc catggattac tggggccagg gcaccctggt taccgtttct	360
tctgcctcca ccaagggccc atcggctctc cccctggcac cctcctcaa gagcacctct	420
gggggcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg	480
tcgtggaact caggcgccct gaccagcggc gtgcacacct tcccggctgt cctacagtcc	540
tcaggactct actccctcag cagcgtggtg accgtgccct ccagcagctt gggcacccag	600
acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gaaagttgag	660
cccaaattct gtgacaaaac tcacacatgc ccaccgtgcc cagcacctga actcctgggg	720
ggaccgtcag tcttcctctt cccccaaaa cccaaggaca ccctcatgat ctcccggacc	780

cctgaggtca catgcgtggt ggtggacgtg agccacgaag accctgaggt caagttcaac	840
tggtacgtgg acggcgtgga ggtgcataat gccaaagaaa agccgcggga ggagcagtac	900
aacagcacgt accgtgtggt cagcgtcctc accgtcctgc accaggactg gctgaatggc	960
aaggagtaca agtgcaaggt ctccaacaaa gccctcccag ccccatcga gaaaaccatc	1020
tccaaagcca aagggcagcc ccgagaacca caggtgtaca ccctgcccc atcccgggag	1080
gagatgacca agaaccaggt cagcctgacc tgcctggtca aaggcttcta tcccagcgac	1140
atgcccggtg agtgggagag caatgggcag ccggagaaca actacaagac cagcctccc	1200
gtgctggact ccgacggctc cttcttcctc tacagcaagc tcaccgtgga caagagcagg	1260
tggcagcagg ggaacgtctt ctcatgctcc gtgatgcatg aggctctgca caaccactac	1320
acgcagaaga gcctctccct gtctccgggt aaa	1353

<210> 26

<211> 215

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 26

Gln	Ile	Val	Leu	Thr	Gln	Ser	Pro	Ala	Ile	Met	Ser	Ala	Ser	Leu	Gly
1				5					10					15	

Glu	Arg	Val	Thr	Met	Thr	Cys	Thr	Ala	Ser	Ser	Ser	Val	Ser	Ser	Ser
			20					25					30		

Tyr	Leu	His	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Ser	Ser	Pro	Lys	Leu	Trp
		35					40					45			

Ile	Tyr	Ser	Thr	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser
	50					55					60				

Gly	Ser	Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Ser	Met	Glu
65					70					75				80	

Ala	Glu	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	His	Gln	Tyr	His	Arg	Ser	Pro
			85						90					95	

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

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

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

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

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 27

<211> 215

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 27

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 Thr Ala Ser Ser Ser Val Ser Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser 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 His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

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

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

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

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 28

<211> 215

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 28

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 Thr Ala Ser Ser Ser Val Ser Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

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

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

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

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 29

<211> 645

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 29

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caaattgttc tcacccagtc tccagcaatc atgtctgcat ctctagggga acgggtcacc      60
atgacctgca ctgccagctc aagtgtaagt tccagttact tgcactggta ccagcagaag      120
ccaggatcct cccccaaact ctggatttat agcacatcca acctggcttc tggagtccca      180
gctcgcttca gtggcagtgg gtctgggacc tcttactctc tcacaatcag cagcatggag      240
gctgaagatg ctgccactta ttactgccac cagtatcatc gttccccgct cacgttcggt      300
gctgggacca agctggagct gaaacgtacg gtggctgcac catctgtctt catcttcccg      360
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc      420
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc      480
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcacctg      540
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag      600
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgtt                       645
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<210> 30

<211> 645

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 30

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gagatcgtgc tgacacagtc tcctgccaca ctgtctctgt ctctggaga acgggccaca      60
ctgagctgca ccgccagcag cagcgtgagc agcagctacc tgcactggta ccagcagaaa      120
cctggactgg cccctcggct gctgatctac agcaccagca acctggccag cggcatccct      180
gatcggtttt ctggcagcgg atctggcaca gattttacac tgaccatcag ccggctggaa      240
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cctgaggatt ttgccgtgta ctactgccac cagtaccacc ggagccccct gaccttcggc	300
cagggaaaca agctggaaat caagcgtacg gtggctgcac catctgtctt catcttccc	360
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc	420
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc	480
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg	540
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag	600
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt	645

<210> 31

<211> 645

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 31

gagatcgtgc tgacacagtc tcccgccaca ctgtcactgt ctccaggcga aagagccaca	60
ctgagctgta ccgccagcag ctctgtgtcc agcagctacc tgcactggta tcagcagaag	120
cctggactgg cccctcggct gctgatctac agcacaagca atctggccag cggcatcccc	180
gatagatttt ccggctctgg aagcggcacc gactacaccc tgacaatcag cagactggaa	240
cccgaggact tcgccgtgta ctactgccac cagtaccaca gaagccctct gacctttggc	300
cagggcacca agctggaaat caagcgtacg gtggctgcac catctgtctt catcttccc	360
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc	420
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc	480
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg	540
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag	600
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt	645

<210> 32

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 32

Gly Tyr Thr Phe Thr Thr Tyr Trp Met His
1 5 10

<210> 33

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 33

Glu Ile Asn Pro Asn Asn Gly Gly Ile Asn
1 5 10

<210> 34

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 34

Glu Ile Asn Pro Asn Asn Ala Gly Ile Asn
1 5 10

<210> 35

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 35

Glu Ile Asn Pro Asn Asp Ala Gly Ile Asn
1 5 10

<210> 36

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 36

Glu	Ile	Asn	Pro	Asn	Gln	Gly	Gly	Ile	Asn
1				5					10

<210> 37

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 37

Glu	Ile	Asn	Pro	Asn	Lys	Gly	Gly	Ile	Asn
1				5					10

<210> 38

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 38

Glu	Ile	Asn	Pro	Asn	Glu	Gly	Gly	Ile	Asn
1				5					10

<210> 39

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 39

Glu	Ile	Asn	Pro	Asn	Asn	Ile	Gly	Ile	Asn
1				5					10

<210> 40

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

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 40

Asp Tyr Tyr Asp Tyr Gly Gly Tyr
1 5

<210> 41

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 41

Lys Ala Ser Gln Asn Val Gly Thr Asn Val Ala
1 5 10

<210> 42

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 42

Ser Ala Ser Tyr Arg Tyr Ser
1 5

<210> 43

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 43

Gln Gln Tyr Asn Ile Tyr Pro Tyr Thr
1 5

<210> 44
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 44
Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
20 25 30

Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn Pro Asn Asn Gly Gly Ile Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Lys Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Leu Thr Val Ser Ser
115

<210> 45
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

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

<210> 46
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polypeptide

<400> 46
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 Thr Tyr	20	25	30
---	----	----	----

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	35	40	45
---	----	----	----

Gly Glu Ile Asn Pro Asn Asn Ala Gly Ile Asn Tyr Ala Gln Lys Phe

50

55

60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 47

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 47

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Asp Ala Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu

100

105

110

Val Thr Val Ser Ser
115

<210> 48

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 48

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Gln Gly Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 49

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 49

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Lys Gly Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 50

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 50

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Glu Gly Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 51

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 51

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Asn Ile Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 52
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 52
caggtccaac tgcagcagcc tggggctgaa cttgtgaagc ctggggcttc agtgaagttg 60
tcctgcaagg cttctggcta caccttcacc acctactgga tgcactgggt gaagcagagg 120
cctggacaag gccttgagtg gattggagag attaatccta acaatgggtgg tattaattac 180
aatgagaagt tcaagaagaa ggccacactg actgtagaca aatcctccag cacagcctac 240
atgcagctca gcagcctgac atctgaggac tctgcggtct attactgtac aatagactac 300
tatgattacg ggggctactg gggccaaggc accactctca cagtctcctc a 351

<210> 53
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 53
caggtgcagc tgggtgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg 60
tcttgtaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc 120
cctggacagg gcctggaatg gatgggagat atcaacccca acaacggcgg catcaactac 180
gcccagaaat ttcaggagac ggtgaccctg acagtggata agagcatctc tacagcctac 240

atggaactgt ctcggctgcg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga acactggtga cagtgtcttc t	351

<210> 54
 <211> 351
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 54	
caggtgcagc tggatgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttctaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggcgag atcaacccca acaacgccgg catcaactac	180
gcccagaaat ttcaggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctcggctgcg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga acactggtga cagtgtcttc t	351

<210> 55
 <211> 351
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 55	
caggtgcagc tggatgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttctaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggcgag atcaacccca acgacgccgg catcaactac	180
gcccagaaat ttcaggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctcggctgcg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga acactggtga cagtgtcttc t	351

<210> 56
 <211> 351
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 56

caggtgcagc	tggtgcagtc	tgagaccgaa	gtgaagaaac	ctggagcctc	tgtgaaagtg	60
tcttgtaagg	ccagcggcta	caccttcacc	acctactgga	tgactgggt	gcggcaggcc	120
cctggacagg	gcctggaatg	gatgggcgag	atcaacccca	accagggcgg	catcaactac	180
gccagaaat	ttcaggacg	ggtgaccctg	acagtggata	agagcatctc	tacagcctac	240
atggaactgt	ctcggctgcg	gagcgatgac	acagccgtgt	actactgcac	catcgactac	300
tacgactacg	gcggctactg	gggccaggga	acactggtga	cagtgtcttc	t	351

<210> 57

<211> 351

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 57

caggtgcagc	tggtgcagtc	tgagaccgaa	gtgaagaaac	ctggagcctc	tgtgaaagtg	60
tcttgtaagg	ccagcggcta	caccttcacc	acctactgga	tgactgggt	gcggcaggcc	120
cctggacagg	gcctggaatg	gatgggcgag	atcaacccca	acaagggcgg	catcaactac	180
gccagaaat	ttcaggacg	ggtgaccctg	acagtggata	agagcatctc	tacagcctac	240
atggaactgt	ctcggctgcg	gagcgatgac	acagccgtgt	actactgcac	catcgactac	300
tacgactacg	gcggctactg	gggccaggga	acactggtga	cagtgtcttc	t	351

<210> 58

<211> 351

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 58

caggtgcagc	tggtgcagtc	tgagaccgaa	gtgaagaaac	ctggagcctc	tgtgaaagtg	60
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35

40

45

Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser
 65 70 75 80

Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
 85 90 95

Thr Phe Gly Ser Gly Thr Lys Leu Glu Met Lys
 100 105

<210> 61

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 61

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 Lys Ala Ser Gln Asn Val Gly Thr Asn
 20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser Leu Ile
 35 40 45

Tyr Ser Ala Ser Tyr Arg Tyr 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 Tyr Asn Ile Tyr Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

100

105

<210> 62

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 62

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 Lys Ala Ser Gln Asn Val Gly Thr Asn
 20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ala Leu Ile
 35 40 45

Tyr Ser Ala Ser Tyr Arg Tyr 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 Tyr Asn Ile Tyr Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 63

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 63

gacattgtga tgaccagtc tcaaaaattc atgtccacat cagtaagaga cagggtcagc 60

gtcacctgca aggccagtca gaatgtgggc actaatgtag cctggtatca acagaaacca 120

gggcaatctc ctaaagcact gatttactcg gcacccctacc ggtacagtgg agtcacctgat	180
cgcttcacag gcagtggatc tgggacagat ttcactctca ccatcaccaa tgtgcagtct	240
gaagacttgg cagaatattt ctgtcagcaa tataacatct atccgtacac gttcggatcg	300
gggaccaagc tggaaatgaa a	321

<210> 64
 <211> 321
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 64	
gacatccaga tgacacagtc tcctagctct ctgagcgcct ctgtgggaga tcgggtgaca	60
atcacctgca aggccagcca gaacgtgggc accaacgtgg cctggtacca gcagaaacct	120
gaaaaagccc ctaagagcct gatctacagc gccagctacc ggtacagcgg cgtgccttct	180
cggttttagcg gctctggaag cggaacagat ttcacactga ccatctctag cctgcagcct	240
gaagattttg ccacatacta ctgccagcag tacaacatct acccctacac cttcggccag	300
ggaacaaagc tggaaatcaa g	321

<210> 65
 <211> 321
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 65	
gacatccaga tgacacagtc tcctagctct ctgagcgcct ctgtgggaga tcgggtgaca	60
atcacctgca aggccagcca gaacgtgggc accaacgtgg cctggtacca gcagaaacct	120
gaaaaagccc ctaaggccct gatctacagc gccagctacc ggtacagcgg cgtgccttct	180
cggttttagcg gctctggaag cggaacagat ttcacactga ccatctctag cctgcagcct	240
gaagattttg ccacatactt ttgccagcag tacaacatct acccctacac cttcggccag	300
ggaacaaagc tggaaatcaa g	321

<210> 66

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 66

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
20 25 30

Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn Pro Asn Asn Gly Gly Ile Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Lys Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Leu Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 67

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 67

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Asn Gly Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 68

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 68

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Asn Ala Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 69

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 69

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Asp Ala Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 70

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 70

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Gln Gly Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 71

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 71

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Lys Gly Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 72

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 72

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Glu Gly Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 73

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 73

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 Thr Tyr
20 25 30

Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Glu Ile Asn Pro Asn Asn Ile Gly Ile Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Leu Thr Val Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
115 120 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
130 135 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145 150 155 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
165 170 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
180 185 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
195 200 205

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
210 215 220

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
260 265 270

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
275 280 285

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
325 330 335

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

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
405 410 415

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 74
<211> 1341
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 74
caggtccaac tgcagcagcc tggggctgaa cttgtgaagc ctggggcttc agtgaagttg 60
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cctggacaag gccttgagtg gattggagag attaatccta acaatgggtgg tattaattac 180
aatgagaagt tcaagaagaa ggccacactg actgtagaca aatcctccag cacagcctac 240
atgcagctca gcagcctgac atctgaggac tctgcggtct attactgtac aatagactac 300
tatgattacg ggggctactg gggccaaggc accactctca cagtctcctc agcctccacc 360
aagggcccat cggtcttccc cctggcaccc tcctccaaga gcacctctgg gggcacagcg 420
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca 480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcctc aggactctac 540
tccctcagca gcgtgggtgac cgtgccctcc agcagcttgg gcaccagac ctacatctgc 600
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt 660
gacaaaactc acacatgccc accgtgcccga gcacctgaac tcctggggggg accgtcagtc 720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca 780
tgcgtgggtg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac 840
ggcgtggagg tgcataatgc caagacaaaag ccgcgggagg agcagtacaa cagcacgtac 900
cgtgtgggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag 960
tgcaaggtct ccaacaaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa 1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag 1080
aaccaggtca gcctgacctg cctgggtcaaa ggcttctatc ccagcgacat cgccgtggag 1140

tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 75

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 75

caggtgcagc tgggtgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttgtaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggagc atcaacccca acaacggcgg catcaactac	180
gcccagaaat ttcagggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctcggctgag gagcagatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga aactggtga cagtgtcttc tgcctccacc	360
aaggggccat cggctcttccc cctggcacc cctccaaga gcacctctgg gggcacagcg	420
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgtc gtggaactca	480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcttc aggactctac	540
tccctcagca gcgtgggtgac cgtgccctcc agcagcttgg gcaccagac ctacatctgc	600
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgccc gcacctgaac tcctgggggg accgtcagtc	720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780
tgcgtgggtg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900
cgtgtgggtc gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960
tgcaagggtc ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1080

aaccaggtca gcctgacctg cctgggtcaaa ggctttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 76

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 76

caggtgcagc tgggtgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttgtaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggagcag atcaacccca acaacgccgg catcaactac	180
gcccagaaat ttcaggagc ggtagacctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctgggtgag gagcagatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga acactgggtga cagtgtcttc tgcctccacc	360
aaggggccat cgggtcttccc cctggcaccc tcctccaaga gcacctctgg gggcacagcg	420
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca	480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcttc aggactctac	540
tccctcagca gcgtgggtgac cgtgccctcc agcagcttgg gcacccagac ctacatctgc	600
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgcccga gcacctgaac tcctgggggg accgtcagtc	720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780
tgcgtgggtg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900
cgtgtgggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960

tgcaaggtct ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1080
aaccaggtca gcctgacctg cctgggtcaaa ggcttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 77

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 77

caggtgcagc tgggtgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttgaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggcgag atcaacccca acgacgccgg catcaactac	180
gcccagaaat ttcagggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctcggctgcg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga aactgggtga cagtgtcttc tgcctccacc	360
aagggcccat cggctctccc cctggcaccc tcctccaaga gcacctctgg gggcacagcg	420
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgtc gtggaactca	480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcctc aggactctac	540
tccctcagca gcgtgggtgac cgtgccctcc agcagcttgg gcaccagac ctacatctgc	600
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgcccga gcacctgaac tcctgggggg accgtcagtc	720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780
tgcgtgggtg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900

cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960
tgcaaggtct ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1080
aaccaggtca gcctgacctg cctgggtcaaa ggcttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 78

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 78

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tcttgtaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggagcag atcaacccca accagggcgg catcaactac	180
gcccagaaat ttcagggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctcggctgcg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga aactggtga cagtgtcttc tgcctccacc	360
aagggcccat cggtcttccc cctggcacc tcctccaaga gcacctctgg gggcacagcg	420
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca	480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcctc aggactctac	540
tccctcagca gcgtggtgac cgtgccctcc agcagcttgg gcacccagac ctacatctgc	600
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgcca gcacctgaac tcctgggggg accgtcagtc	720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780

tgctgtggtgg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900
cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960
tgcaaggctct ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1080
aaccaggtca gcctgacctg cctgggtcaaa ggcttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 79

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 79

caggtgcagc tgggtgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttgtaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggcgag atcaaccca acaagggcgg catcaactac	180
gcccagaaat ttcagggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctcggctgcg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga aactgggtga cagtgtcttc tgcctccacc	360
aagggcccat cggtcttccc cctggcacc tcctccaaga gcacctctgg gggcacagcg	420
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca	480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtctc aggactctac	540
tccctcagca gcgtgggtgac cgtgccctcc agcagcttgg gcaccagac ctacatctgc	600
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgcca gcacctgaac tcctgggggg accgtcagtc	720

ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780
tgcgtggtgg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900
cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960
tgcaaggtct ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1080
aaccaggtca gcctgacctg cctggtcaaa ggcttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 80

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 80

caggtgcagc tggatgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttgtaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggcgag atcaacccca acgagggcgg catcaactac	180
gcccagaaat ttcagggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctcggctgcg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga aactggtga cagtgtcttc tgcctccacc	360
aagggcccat cggctcttccc cctggcacc cctccaaga gcacctctgg gggcacagcg	420
gccctgggct gcctggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca	480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcttc aggactctac	540
tccctcagca gcgtggtgac cgtgccctcc agcagcttgg gcaccagac ctacatctgc	600

aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgcccga gcacctgaac tcctggggggg accgtcagtc	720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780
tgcgtggtgg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900
cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960
tgcaaggctc ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgccccat cccgggagga gatgaccaag	1080
aaccaggtca gcctgacctg cctggtcaaa ggcttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 81

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 81

caggtgcagc tggatgcagtc tggagccgaa gtgaagaaac ctggagcctc tgtgaaagtg	60
tcttctaagg ccagcggcta caccttcacc acctactgga tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggcgag atcaacccca acaacatcgg catcaactac	180
gcccagaaat ttcaggacg ggtgaccctg acagtggata agagcatctc tacagcctac	240
atggaactgt ctggctgctg gagcgatgac acagccgtgt actactgcac catcgactac	300
tacgactacg gcggctactg gggccaggga acactggtga cagtgtcttc tgcctccacc	360
aagggcccat cggcttccc cctggcacc tcctccaaga gcacctctgg gggcacagcg	420
gccctgggct gcctggtcaa ggactacttc cccgaaccgg tgacggtgtc gtggaactca	480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcctc aggactctac	540

tccctcagca gcgtggtgac cgtgccctcc agcagcttgg gcacccagac ctacatctgc	600
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgcccga gcacctgaac tcctgggggg accgtcagtc	720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780
tgcgtggtgg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900
cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960
tgcaaggtct ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1080
aaccaggtca gcctgacctg cctggtcaaa ggcttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 82

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 82

Asp	Ile	Val	Met	Thr	Gln	Ser	Gln	Lys	Phe	Met	Ser	Thr	Ser	Val	Arg
1				5					10					15	

Asp	Arg	Val	Ser	Val	Thr	Cys	Lys	Ala	Ser	Gln	Asn	Val	Gly	Thr	Asn
			20					25					30		

Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Lys	Ala	Leu	Ile
		35					40				45				

Tyr	Ser	Ala	Ser	Tyr	Arg	Tyr	Ser	Gly	Val	Pro	Asp	Arg	Phe	Thr	Gly
	50					55					60				

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser
65 70 75 80

Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Ser Gly Thr Lys Leu Glu Met 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> 83

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 83

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 Lys Ala Ser Gln Asn Val Gly Thr Asn
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser Leu Ile
35 40 45

Tyr Ser Ala Ser Tyr Arg Tyr 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 Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu 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> 84
<211> 214
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 84

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 Lys Ala Ser Gln Asn Val Gly Thr Asn
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ala Leu Ile
35 40 45

Tyr Ser Ala Ser Tyr Arg Tyr 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 Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu 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> 85
<211> 642
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 85
gacattgtga tgaccagtc tcaaaaattc atgtccacat cagtaagaga cagggtcagc 60
gtcacctgca aggccagtca gaatgtgggc actaatgtag cctggtatca acagaaacca 120
gggcaatctc ctaaagcact gatttactcg gcacacctacc ggtacagtgg agtcacctgat 180
cgcttcacag gcagtggatc tgggacagat ttcactctca ccatcaccaa tgtgcagtct 240
gaagacttgg cagaatattt ctgtcagcaa tataacatct atccgtacac gttcggatcg 300
gggaccaagc tggaaatgaa acgtacgggtg gctgcaccat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tgggaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaagggtg gataacgccc tccaatcggg taactcccag 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt 642

<210> 86
<211> 642
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 86
gacatccaga tgacacagtc tcctagctct ctgagcgcct ctgtgggaga tcgggtgaca 60
atcacctgca aggccagcca gaacgtgggc accaacgtgg cctggtacca gcagaaacct 120
gaaaaagccc ctaagagcct gatctacagc gccagctacc ggtacagcgg cgtgccttct 180
cggtttagcg gctctggaag cggaacagat ttcacactga ccatctctag cctgcagcct 240
gaagattttg ccacatacta ctgccagcag tacaacatct acccctacac cttcggccag 300
ggaacaaagc tggaaatcaa gcgtacggtg gctgcaccat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaaggtg gataacgccc tccaatcggg taactcccag 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt 642

<210> 87
<211> 642
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 87
gacatccaga tgacacagtc tcctagctct ctgagcgcct ctgtgggaga tcgggtgaca 60
atcacctgca aggccagcca gaacgtgggc accaacgtgg cctggtacca gcagaaacct 120
gaaaaagccc ctaaggccct gatctacagc gccagctacc ggtacagcgg cgtgccttct 180
cggtttagcg gctctggaag cggaacagat ttcacactga ccatctctag cctgcagcct 240
gaagattttg ccacatactt ttgccagcag tacaacatct acccctacac cttcggccag 300
ggaacaaagc tggaaatcaa gcgtacggtg gctgcaccat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaaggtg gataacgccc tccaatcggg taactcccag 480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600

ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt

642

<210> 88

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 88

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

<210> 89

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 89

His Ile Tyr Trp Asp Asp Asp Lys Arg
1 5

<210> 90

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 90

Lys Gly Tyr Tyr Asp Tyr Gly Tyr Val Met Asp Tyr
1 5 10

<210> 91

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 91

Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Asn
1 5 10 15

<210> 92

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 92

Gln Met Ser Asn Leu Ala Ser
1 5

<210> 93

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 93

Ala Gln Asn Leu Glu Leu Pro Leu Thr
1 5

<210> 94

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 94

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Leu Leu Gln Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Met Gly Val Ser Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Ser Asn Gln Val
65 70 75 80

Phe Leu Lys Ile Thr Ser Val Asp Thr Ala Asp Thr Gly Thr Tyr Tyr
85 90 95

Cys Val Arg Lys Gly Tyr Tyr Asp Tyr Gly Tyr Val Met Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 95

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 95

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 Ser
20 25 30

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

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Ser Pro Ser
50 55 60

Leu Lys 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 Gly Thr Tyr Tyr
85 90 95

Cys Val Arg Lys Gly Tyr Tyr Asp Tyr Gly Tyr Val Met Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 96
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 96
caggttactc tgaaagagtc tggccctggg ttattgcagc cctcccagac cctcagtcgt 60
acttgttctt tctctggggtt ttcactgagc acttctggta tgggtgtgag ctggattcgt 120
cagccttcag gaaaggtct ggagtggctg gcacacattt actgggatga tgacaagcgc 180
tataacccat ccctgaagag ccggctcaca atctccaaag atacctccag caaccaggta 240
ttcctcaaga tcaccagtgt ggacactgca gatactggca catactactg tgttcgaaag 300
ggctactatg attacggcta tgtaatggac tactgggggtc aagggaccac ggtcaccgtc 360
tcctca 366

<210> 97
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 97
cagatcacac tgaaagaatc tggacctaca ctggtgaaac ctacacagac cctgacactg 60
acctgtacct tcagcggctt cagcctgagc accagcggca tgggcgtgag ctggattcgg 120
cagcctcctg gaaaggccct ggaatggctg gccacatct actgggacga cgacaagcgg 180
tacagcccta gcctgaagtc tcggctgaca atcaccaagg atacctctaa gaaccagggtg 240
gtgctgacaa tgaccaacat ggaccctgtg gacacaggca cctactactg cgtgcggaag 300

ggctactacg actacggcta cgtgatggac tactggggcc agggaacact ggtgacagtg 360

tctttct 366

<210> 98

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 98

Asp Ile Val Met Thr Gln Ala Ala Leu Ser Asn Pro Val Thr Leu Gly
1 5 10 15

Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Ile Thr Tyr Leu Asn Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
85 90 95

Leu Glu Leu Pro Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Met Lys
100 105 110

<210> 99

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 99

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly

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

<210> 100

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 100

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	Lys	Ser	Leu	Leu	His	Ser
		20						25					30		

Asn	Gly	Ile	Thr	Tyr	Leu	Asn	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			

Pro	Gln	Leu	Leu	Ile	Tyr	Gln	Met	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro
	50					55					60				

Asp Arg Phe Ser Ser 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 Ala Gln Asn
85 90 95

Leu Glu Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

$\langle 210 \rangle$ 101

<211> 336

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 101

gatattgtga tgactcaggc tgcactctcc aatccagtca ctcttgggaac atcagcttcc 60

atctcctgca ggtctagtaa gagtctccta catagtaatg gcatcactta tttgaattgg 120

tatctgcaga agccaggcca gtctcctcag ctctgattt atcagatgtc caaccttgcc 180

tcaggagtcc cagacagggtt cagtagcagt gggtcaggaa ctgatttcac actgagaatc 240

agcagagtgg aggctgagga tgtgggtggt tattactgtg ctcaaaatct agaacttccg 300

ctcacgttcg gatcggggac caagctggaa atgaaa 336

 $\langle 210 \rangle$ 102

<211> 336

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 102

gacatcgtga tgacacagtc tcctctgtct ctgcctgtga cacctggcga acctgcctct 60

atcagctgcc ggagcagcaa gagcctgctg cacagcaacg gcatcaccta cctgaactgg 120

tacctgcaga aacctggaca gtctcctcag ctgctgatct accagatgag caacctggcc 180

agcggcgtgc ctgatcggtt tagcggctct ggaagcggca cagacttcac actgaagatc 240

tctcgggtgg aagccgagga cgtgggagtg tactactgcg cccagaacct ggagctgccc 300

ctgaccttcg gaggcggaac aaaggtggag atcaag

336

<210> 103

<211> 336

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 103

gacatcgtga	tgacacagtc	tcctctgtct	ctgcctgtga	cacctggcga	acctgcctct	60
atcagctgcc	ggagcagcaa	gagcctgctg	cacagcaacg	gcatcaccta	cctgaactgg	120
tacctgcaga	aacctggaca	gtctcctcag	ctgctgatct	accagatgag	caacctggcc	180
agcggcgtgc	ctgatcgggt	tagcagctct	ggaagcggca	cagacttcac	actgaagatc	240
tctcgggtgg	aagccgagga	cgtgggagtg	tactactgcg	cccagaacct	ggagctgccc	300
ctgaccttcg	gaggcggaac	aaaggtggag	atcaag			336

<210> 104

<211> 452

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 104

Gln	Val	Thr	Leu	Lys	Glu	Ser	Gly	Pro	Gly	Leu	Leu	Gln	Pro	Ser	Gln
1				5				10					15		

Thr	Leu	Ser	Leu	Thr	Cys	Ser	Phe	Ser	Gly	Phe	Ser	Leu	Ser	Thr	Ser
			20					25					30		

Gly	Met	Gly	Val	Ser	Trp	Ile	Arg	Gln	Pro	Ser	Gly	Lys	Gly	Leu	Glu
		35					40					45			

Trp	Leu	Ala	His	Ile	Tyr	Trp	Asp	Asp	Asp	Lys	Arg	Tyr	Asn	Pro	Ser
	50					55					60				

Leu	Lys	Ser	Arg	Leu	Thr	Ile	Ser	Lys	Asp	Thr	Ser	Ser	Asn	Gln	Val
65					70					75				80	

Phe Leu Lys Ile Thr Ser Val Asp Thr Ala Asp Thr Gly Thr Tyr Tyr
85 90 95

Cys Val Arg Lys Gly Tyr Tyr Asp Tyr Gly Tyr Val Met Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
115 120 125

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

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr
145 150 155 160

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
165 170 175

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr
180 185 190

Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn
195 200 205

His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser
210 215 220

Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
225 230 235 240

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

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

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
275 280 285

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
290 295 300

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
305 310 315 320

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
325 330 335

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
340 345 350

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
355 360 365

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
370 375 380

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
385 390 395 400

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
405 410 415

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
420 425 430

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
435 440 445

Ser Pro Gly Lys
450

<210> 105

<211> 452

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 105

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 Ser
20 25 30

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

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Ser Pro Ser
50 55 60

Leu Lys 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 Gly Thr Tyr Tyr
85 90 95

Cys Val Arg Lys Gly Tyr Tyr Asp Tyr Gly Tyr Val Met Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
115 120 125

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

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr
145 150 155 160

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
165 170 175

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr
180 185 190

Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn
195 200 205

His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser
210 215 220

Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
225 230 235 240

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

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

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
275 280 285

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
290 295 300

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
305 310 315 320

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
325 330 335

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
340 345 350

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
355 360 365

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
370 375 380

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
385 390 395 400

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
405 410 415

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
420 425 430

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
435 440 445

Ser Pro Gly Lys
450

<210> 106
<211> 1356
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 106
caggttactc tgaaagagtc tggccctggg ttattgcagc cctcccagac cctcagtctg 60
acttgttctt tctctggggtt ttcactgagc acttctggta tgggtgtgag ctggattcgt 120
cagccttcag gaaaggtctt ggagtggctg gcacacattt actgggatga tgacaagcgc 180
tataacccat ccctgaagag ccggctcaca atctccaaag atacctccag caaccaggta 240
ttcctcaaga tcaccagtgt ggacactgca gatactggca catactactg tgttcgaaag 300
ggctactatg attacggcta tgtaatggac tactgggggtc aagggaccac ggtcaccgtc 360
tcctcagcct ccaccaaggg cccatcggtc ttccccctgg caccctcttc caagagcacc 420
tctggggggca cagcggccct gggctgcctg gtcaaggact acttccccga accggtgacg 480
gtgtcgtgga actcaggcgc cctgaccagc ggcgtgcaca ccttcccggc tgtcctacag 540
tcctcaggac tctactccct cagcagcgtg gtgaccgtgc cctccagcag cttgggcacc 600
cagacctaca tctgcaacgt gaatcacaag cccagcaaca ccaaggtgga caagaaagtt 660
gagcccaaatt cttgtgacaa aactcacaca tgcccaccgt gccccagcacc tgaactcctg 720
gggggaccgt cagtcttcct cttcccccca aaaccaagg acaccctcat gatctcccgg 780
acccctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagtcc 840
aactggtacg tggacggcgt ggaggtgcat aatgccaaga caaagccgcg ggaggagcag 900
tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat 960
ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagcccccat cgagaaaacc 1020
atctccaaag ccaaagggca gccccgagaa ccacaggtgt acaccctgcc cccatcccgg 1080

gaggagatga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatcccagc	1140
gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct	1200
cccgtgctgg actccgacgg ctcccttctt ctctacagca agctcaccgt ggacaagagc	1260
aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac	1320
tacacgcaga agagcctctc cctgtctccg ggtaaa	1356

<210> 107

<211> 1356

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 107

cagatcacac tgaaagaatc tggacctaca ctggtgaaac ctacacagac cctgacactg	60
acctgtacct tcagcggctt cagcctgagc accagcggca tgggcgtgag ctggattcgg	120
cagcctcctg gaaaggccct ggaatggctg gccacatct actgggacga cgacaagcgg	180
tacagcccta gcctgaagtc tcggctgaca atcaccaagg atacctctaa gaaccaggtg	240
gtgctgacaa tgaccaacat ggaccctgtg gacacaggca cctactactg cgtgcggaag	300
ggctactacg actacggcta cgtgatggac tactggggcc agggaacact ggtgacagtg	360
tcttctgcct ccaccaaggg cccatcggtc ttccccctgg caccctctc caagagcacc	420
tctgggggca cagcggccct gggctgcctg gtcaaggact acttccccga accggtgacg	480
gtgtcgtgga actcaggcgc cctgaccagc ggcgtgcaca cttcccggc tgtcctacag	540
tcctcaggac tctactccct cagcagcgtg gtgaccgtgc cctccagcag cttgggcacc	600
cagacctaca tctgcaacgt gaatcacaag cccagcaaca ccaaggtgga caagaaagtt	660
gagcccaa at cttgtgacaa aactcacaca tgcccaccgt gccagcacc tgaactcctg	720
gggggaccgt cagtcttcct cttccccca aaaccaagg acaccctcat gatctcccgg	780
acctctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagtgc	840
aactggtacg tggacggcgt ggagggtgat aatgccaaaga caaagccgcg ggaggagcag	900
tacaacagca cgtaccgtgt ggtcagcgtc ctaccgtcc tgcaccagga ctggctgaat	960
ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagcccccat cgagaaaacc	1020

atctccaaag ccaaaggga gccccgagaa ccacaggtgt acaccctgcc cccatcccgg	1080
gaggagatga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatcccagc	1140
gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct	1200
cccgctgctgg actccgacgg ctccttcttc ctctacagca agctcaccgt ggacaagagc	1260
aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac	1320
tacacgcaga agagcctctc cctgtctccg ggtaaa	1356

<210> 108

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 108

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

Asn	Gly	Ile	Thr	Tyr	Leu	Asn	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
	35					40					45				

Pro	Gln	Leu	Leu	Ile	Tyr	Gln	Met	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro
	50					55					60				

Asp	Arg	Phe	Ser	Ser	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Arg	Ile
65					70				75					80	

Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ala	Gln	Asn
			85					90						95	

Leu	Glu	Leu	Pro	Leu	Thr	Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Met	Lys
			100					105					110		

Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe	Pro	Pro	Ser	Asp	Glu
		115					120					125			

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
195 200 205

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

<210> 109

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 109

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 Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Ile Thr Tyr Leu Asn Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu 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 Ala Gln Asn
85 90 95

Leu Glu Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
195 200 205

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

<210> 110

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 110

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 Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Ile Thr Tyr Leu Asn Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Ser 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 Ala Gln Asn
85 90 95

Leu Glu Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
195 200 205

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

<210> 111

<211> 657

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 111

gatattgtga tgactcaggc tgcactctcc aatccagtca ctcttggaac atcagcttcc	60
atctcctgca ggtctagtaa gagtctccta catagtaatg gcatcactta tttgaattgg	120
tatctgcaga agccaggcca gtctcctcag ctctgattt atcagatgtc caaccttgcc	180
tcaggagtcc cagacagggt cagtagcagt gggtcaggaa ctgatttcac actgagaatc	240
agcagagtgg aggctgagga tgtgggtgtt tattactgtg ctcaaatct agaacttccg	300
ctcacgttcg gatcggggac caagctggaa atgaaacgta cgggtggctgc accatctgtc	360
ttcatcttcc cgccatctga tgagcagttg aaatctggaa ctgcctctgt tgtgtgcctg	420
ctgaataact tctatcccag agaggccaaa gtacagtgga aggtggataa cgccctccaa	480
tcgggtaact cccaggagag tgtcacagag caggacagca aggacagcac ctacagcctc	540
agcagcacc tgacgtgag caaagcagac tacgagaaac acaaagtcta cgcctgcgaa	600
gtcacccatc agggcctgag ctgcccgtc acaaagagct tcaacagggg agagtgt	657

<210> 112

<211> 657

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 112

gacatcgtga tgacacagtc tcctctgtct ctgcctgtga cacctggcga acctgcctct	60
atcagctgcc ggagcagcaa gaggcctgtg cacagcaacg gcatcaccta cctgaactgg	120
tacctgcaga aacctggaca gtctcctcag ctgctgatct accagatgag caacctggcc	180
agcggcgtgc ctgatcgggt tagcggctct ggaagcggca cagacttcac actgaagatc	240
tctcgggtgg aagccgagga cgtgggagtg tactactgcg ccagaaacct ggagctgccc	300
ctgaccttcg gaggcggaac aaaggtggag atcaagcgta cgggtggctgc accatctgtc	360
ttcatcttcc cgccatctga tgagcagttg aaatctggaa ctgcctctgt tgtgtgcctg	420
ctgaataact tctatcccag agaggccaaa gtacagtgga aggtggataa cgccctccaa	480

tcgggtaact cccaggagag tgtcacagag caggacagca aggacagcac ctacagcctc	540
agcagcaccc tgacgctgag caaagcagac tacgagaaac acaaagtcta cgcctgcgaa	600
gtcacccatc agggcctgag ctgcccgtc acaaagagct tcaacagggg agagtgt	657

<210> 113
 <211> 657
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 113	
gacatcgtga tgacacagtc tcctctgtct ctgcctgtga cacctggcga acctgcctct	60
atcagctgcc ggagcagcaa gagcctgctg cacagcaacg gcatcaccta cctgaactgg	120
tacctgcaga aacctggaca gtctcctcag ctgctgatct accagatgag caacctggcc	180
agcggcgtgc ctgatcggtt tagcagctct ggaagcggca cagacttcac actgaagatc	240
tctcgggtgg aagccgagga cgtgggagtg tactactgcg ccagaaacct ggagctgccc	300
ctgaccttcg gaggcggaac aaaggtggag atcaagcgta cggaggctgc accatctgtc	360
ttcatcttcc cgccatctga tgagcagttg aaatctggaa ctgcctctgt tgtgtgcctg	420
ctgaataact tctatcccag agaggccaaa gtacagtggg aggtggataa cgccctccaa	480
tcgggtaact cccaggagag tgtcacagag caggacagca aggacagcac ctacagcctc	540
agcagcaccc tgacgctgag caaagcagac tacgagaaac acaaagtcta cgcctgcgaa	600
gtcacccatc agggcctgag ctgcccgtc acaaagagct tcaacagggg agagtgt	657

<210> 114
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic polypeptide

<400> 114	
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala	
1 5 10 15	

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Asp Ile Asn Trp Val Arg Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Phe Pro Gly Asp Gly Ser Thr Lys Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Phe Ser Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95

Ala Arg Gly Gly Met Arg Gln Leu Gly Arg Phe Val Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 115

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 115

Asp Ile Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Glu Arg Val Ser Leu Thr Cys Arg Ala Ser Gln Glu Ile Ser Gly Tyr
20 25 30

Leu Ser Trp Leu Gln Gln Lys Pro Asp Gly Thr Ile Lys Arg Leu Ile
35 40 45

Tyr Ala Ala Ser Thr Leu Asp Ser Gly Val Pro Lys Arg Phe Ser Gly
50 55 60

Ser Arg Ser Gly Ser Asp Tyr Ser Leu Thr Ile Ser Ser Leu Glu Ser
65 70 75 80

Glu Asp Phe Ala Asp Tyr Tyr Cys Leu Gln Tyr Ala Ser Asn Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 116

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 116

Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Val Lys Asp Thr
20 25 30

Tyr Phe His Trp Val Lys Gln Arg Pro Asp Gln Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Val Ser Ala Asn Gly Asp Thr Lys Tyr Ala Pro Lys Leu
50 55 60

Gln Asp Lys Ala Thr Ile Thr Thr Asp Thr Ser Ser Asn Thr Ala Tyr
65 70 75 80

Leu Gln Leu Ser Arg Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Val Leu Ile Tyr Tyr Gly Phe Glu Glu Gly Asp Phe Trp Gly Gln Gly
100 105 110

Thr Thr Leu Thr Val Ser Ser
115

<210> 117
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 117
Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Asp Thr Ile Thr Ile Thr Cys His Ala Ser Gln Asn Ile Asn Val Trp
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Asn Val Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu His Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gly Phe Thr Leu Asn Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Gly Gln Ser Phe Pro Leu
85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 118
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<220>
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<222> (1)..(1)
<223> D or Q

<220>
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<222> (5)..(5)
<223> Q or V

<220>
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<222> (6)..(6)
<223> E or Q

<220>
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<222> (9)..(9)
<223> P or S

<220>
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<222> (16)..(16)
<223> E or A

<220>
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<222> (17)..(17)
<223> T or S

<220>
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<222> (20)..(20)
<223> I or V

<220>
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<222> (38)..(38)
<223> K or R

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<222> (43)..(43)
<223> K or Q

<220>
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<222> (46)..(46)
<223> K or E

<220>
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<222> (57)..(57)
<223> E, Y, H or W

<220>
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<222> (62)..(62)
<223> D or Q

<220>
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<222> (63)..(63)
<223> D or G

<220>
<221> MOD_RES
<222> (65)..(65)
<223> K or T

<220>
<221> MOD_RES
<222> (69)..(69)
<223> A or V

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<222> (73)..(73)
<223> E or D

<220>
<221> MOD_RES
<222> (76)..(76)
<223> A or V

<220>
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<222> (84)..(84)
<223> N, C or S

<220>
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<222> (85)..(85)
<223> N or S

<220>
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<222> (88)..(88)
<223> N or A

<220>
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<222> (93)..(93)
<223> T or V

<220>
<221> MOD_RES
<222> (116)..(116)
<223> T or L

<220>
<221> MOD_RES
<222> (117)..(117)

<223> L or V

<400> 118

Xaa Val Gln Leu Xaa Xaa Ser Gly Xaa Glu Leu Lys Lys Pro Gly Xaa
1 5 10 15

Xaa Val Lys Xaa Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Xaa Gln Ala Pro Gly Xaa Gly Leu Xaa Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Xaa Pro Thr Tyr Ala Xaa Xaa Phe
50 55 60

Xaa Gly Arg Phe Xaa Phe Ser Leu Xaa Thr Ser Xaa Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Xaa Xaa Leu Lys Xaa Glu Asp Thr Ala Xaa Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Xaa Xaa Thr Val Ser Ser
115 120

<210> 119

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Q or E

<220>

<221> MOD_RES

<222> (10)..(10)

<223> I or T

<220>
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<222> (11)..(11)
<223> M or L

<220>
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<222> (13)..(13)
<223> A or L

<220>
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<222> (15)..(15)
<223> L or P

<220>
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<222> (19)..(19)
<223> V or A

<220>
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<222> (21)..(21)
<223> M or L

<220>
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<222> (22)..(22)
<223> T or S

<220>
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<222> (29)..(29)
<223> V or F

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<222> (30)..(30)
<223> S or P

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<223> S or L

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<223> S or A

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<222> (46)..(46)

<223> K or R

<220>

<221> MOD_RES

<222> (48)..(48)

<223> W or L

<220>

<221> MOD_RES

<222> (59)..(59)

<223> V or I

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<223> A or D

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<222> (71)..(71)

<223> S or D

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<222> (72)..(72)

<223> Y or F

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<222> (73)..(73)

<223> S or T

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<221> MOD_RES

<222> (78)..(78)

<223> S or R

<220>

<221> MOD_RES

<222> (79)..(79)

<223> M or L

<220>

<221> MOD_RES

<222> (81)..(81)

<223> A or P

<220>

<221> MOD_RES

<222> (84)..(84)

<223> A or F

<220>

<221> MOD_RES

<222> (86)..(86)
<223> T or V

<220>
<221> MOD_RES
<222> (101)..(101)
<223> A or Q

<220>
<221> MOD_RES
<222> (107)..(107)
<223> L or I

<400> 119
Xaa Ile Val Leu Thr Gln Ser Pro Ala Xaa Xaa Ser Xaa Ser Xaa Gly
1 5 10 15

Glu Arg Xaa Thr Xaa Xaa Cys Thr Ala Ser Ser Ser Xaa Xaa Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Xaa Xaa Pro Xaa Leu Xaa
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Xaa Pro Xaa Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Xaa Xaa Xaa Leu Thr Ile Ser Xaa Xaa Glu
65 70 75 80

Xaa Glu Asp Xaa Ala Xaa Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Xaa Gly Thr Lys Leu Glu Xaa Lys
100 105

<210> 120
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<220>
<221> MOD_RES

<222> (5)..(5)
<223> Q or V

<220>
<221> MOD_RES
<222> (7)..(7)
<223> S or P

<220>
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<222> (11)..(11)
<223> L or V

<220>
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<222> (12)..(12)
<223> V or K

<220>
<221> MOD_RES
<222> (20)..(20)
<223> L or V

<220>
<221> MOD_RES
<222> (38)..(38)
<223> K or R

<220>
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<222> (40)..(40)
<223> R or A

<220>
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<223> I or M

<220>
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<222> (55)..(55)
<223> N, D, Q, K or E

<220>
<221> MOD_RES
<222> (56)..(56)
<223> G, A or I

<220>
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<222> (61)..(61)
<223> N or A

<220>

<221> MOD_RES
<222> (62)..(62)
<223> E or Q

<220>
<221> MOD_RES
<222> (65)..(65)
<223> K or Q

<220>
<221> MOD_RES
<222> (66)..(66)
<223> K or G

<220>
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<222> (67)..(67)
<223> K or R

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<222> (68)..(68)
<223> A or V

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<223> S or I

<220>
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<222> (82)..(82)
<223> Q or E

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<222> (85)..(85)
<223> S or R

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<222> (87)..(87)
<223> T or R

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<222> (89)..(89)
<223> E or D

<220>
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<222> (91)..(91)
<223> S or T

<220>
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<222> (112)..(112)
<223> T or L

<220>
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<222> (113)..(113)
<223> L or V

<400> 120
Gln Val Gln Leu Xaa Gln Xaa Gly Ala Glu Xaa Xaa Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Xaa Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
20 25 30

Trp Met His Trp Val Xaa Gln Xaa Pro Gly Gln Gly Leu Glu Trp Xaa
35 40 45

Gly Glu Ile Asn Pro Asn Xaa Xaa Gly Ile Asn Tyr Xaa Xaa Lys Phe
50 55 60

Xaa Xaa Xaa Xaa Thr Leu Thr Val Asp Lys Ser Xaa Ser Thr Ala Tyr
65 70 75 80

Met Xaa Leu Ser Xaa Leu Xaa Ser Xaa Asp Xaa Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Asp Tyr Tyr Asp Tyr Gly Gly Tyr Trp Gly Gln Gly Thr Xaa
100 105 110

Xaa Thr Val Ser Ser
115

<210> 121
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<220>

<221> MOD_RES
<222> (3)..(3)
<223> V or Q

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Q or P

<220>
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<222> (9)..(9)
<223> K or S

<220>
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<222> (10)..(10)
<223> F or S

<220>
<221> MOD_RES
<222> (11)..(11)
<223> M or L

<220>
<221> MOD_RES
<222> (13)..(13)
<223> T or A

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<222> (16)..(16)
<223> R or G

<220>
<221> MOD_RES
<222> (20)..(20)
<223> S or T

<220>
<221> MOD_RES
<222> (21)..(21)
<223> V or I

<220>
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<222> (41)..(41)
<223> G or E

<220>
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<222> (42)..(42)
<223> Q or K

<220>
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<222> (43)..(43)
<223> S or A

<220>
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<222> (46)..(46)
<223> A or S

<220>
<221> MOD_RES
<222> (60)..(60)
<223> D or S

<220>
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<222> (63)..(63)
<223> T or S

<220>
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<222> (76)..(76)
<223> T or S

<220>
<221> MOD_RES
<222> (77)..(77)
<223> N or S

<220>
<221> MOD_RES
<222> (78)..(78)
<223> V or L

<220>
<221> MOD_RES
<222> (80)..(80)
<223> S or P

<220>
<221> MOD_RES
<222> (83)..(83)
<223> L or F

<220>
<221> MOD_RES
<222> (85)..(85)
<223> E or T

<220>
<221> MOD_RES
<222> (87)..(87)
<223> F or Y

<220>
<221> MOD_RES
<222> (100)..(100)
<223> S or Q

<220>
<221> MOD_RES
<222> (106)..(106)
<223> M or I

<400> 121
Asp Ile Xaa Met Thr Gln Ser Xaa Xaa Xaa Xaa Ser Xaa Ser Val Xaa
1 5 10 15

Asp Arg Val Xaa Xaa Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Xaa Xaa Xaa Pro Lys Xaa Leu Ile
35 40 45

Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Xaa Arg Phe Xaa Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Xaa Xaa Xaa Gln Xaa
65 70 75 80

Glu Asp Xaa Ala Xaa Tyr Xaa Cys Gln Gln Tyr Asn Ile Tyr Pro Tyr
85 90 95

Thr Phe Gly Xaa Gly Thr Lys Leu Glu Xaa Lys
100 105

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

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<220>
<221> MOD_RES
<222> (2)..(2)
<223> V or I

<220>
<221> MOD_RES
<222> (10)..(10)
<223> G or T

<220>
<221> MOD_RES
<222> (12)..(12)
<223> L or V

<220>
<221> MOD_RES
<222> (13)..(13)
<223> Q or K

<220>
<221> MOD_RES
<222> (15)..(15)
<223> S or T

<220>
<221> MOD_RES
<222> (19)..(19)
<223> S or T

<220>
<221> MOD_RES
<222> (23)..(23)
<223> S or T

<220>
<221> MOD_RES
<222> (43)..(43)
<223> S or P

<220>
<221> MOD_RES
<222> (46)..(46)
<223> G or A

<220>
<221> MOD_RES
<222> (62)..(62)
<223> N or S

<220>
<221> MOD_RES
<222> (72)..(72)
<223> S or T

<220>
<221> MOD_RES
<222> (77)..(77)

<223> S or K

<220>

<221> MOD_RES

<222> (81)..(81)

<223> F or V

<220>

<221> MOD_RES

<222> (83)..(83)

<223> K or T

<220>

<221> MOD_RES

<222> (84)..(84)

<223> I or M

<220>

<221> MOD_RES

<222> (86)..(86)

<223> S or N

<220>

<221> MOD_RES

<222> (87)..(87)

<223> V or M

<220>

<221> MOD_RES

<222> (89)..(89)

<223> T or P

<220>

<221> MOD_RES

<222> (90)..(90)

<223> A or V

<220>

<221> MOD_RES

<222> (117)..(117)

<223> T or L

<400> 122

Gln	Xaa	Thr	Leu	Lys	Glu	Ser	Gly	Pro	Xaa	Leu	Xaa	Xaa	Pro	Xaa	Gln
1				5				10						15	

Thr	Leu	Xaa	Leu	Thr	Cys	Xaa	Phe	Ser	Gly	Phe	Ser	Leu	Ser	Thr	Ser
			20					25					30		

Gly	Met	Gly	Val	Ser	Trp	Ile	Arg	Gln	Pro	Xaa	Gly	Lys	Xaa	Leu	Glu
		35					40					45			

Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Xaa Pro Ser
50 55 60

Leu Lys Ser Arg Leu Thr Ile Xaa Lys Asp Thr Ser Xaa Asn Gln Val
65 70 75 80

Xaa Leu Xaa Xaa Thr Xaa Xaa Asp Xaa Xaa Asp Thr Gly Thr Tyr Tyr
85 90 95

Cys Val Arg Lys Gly Tyr Tyr Asp Tyr Gly Tyr Val Met Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Xaa Val Thr Val Ser Ser
115 120

<210> 123
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<220>
<221> MOD_RES
<222> (7)..(7)
<223> A or S

<220>
<221> MOD_RES
<222> (8)..(8)
<223> A or P

<220>
<221> MOD_RES
<222> (11)..(11)
<223> N or L

<220>
<221> MOD_RES
<222> (15)..(15)
<223> L or P

<220>
<221> MOD_RES
<222> (17)..(17)

<223> T or E

<220>

<221> MOD_RES

<222> (18)..(18)

<223> S or P

<220>

<221> MOD_RES

<222> (69)..(69)

<223> S or G

<220>

<221> MOD_RES

<222> (79)..(79)

<223> R or K

<220>

<221> MOD_RES

<222> (105)..(105)

<223> S or G

<220>

<221> MOD_RES

<222> (109)..(109)

<223> L or V

<220>

<221> MOD_RES

<222> (111)..(111)

<223> M or I

<400> 123

Asp Ile Val Met Thr Gln Xaa Xaa Leu Ser Xaa Pro Val Thr Xaa Gly
1 5 10 15

Xaa Xaa Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Ile Thr Tyr Leu Asn Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Xaa Ser Gly Ser Gly Thr Asp Phe Thr Leu Xaa Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn

85

90

95

Leu Glu Leu Pro Leu Thr Phe Gly Xaa Gly Thr Lys Xaa Glu Xaa Lys
 100 105 110

<210> 124

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (6)..(6)

<223> N, D, Q, K or E

<220>

<221> MOD_RES

<222> (7)..(7)

<223> G, A or I

<400> 124

Glu Ile Asn Pro Asn Xaa Xaa Gly Ile Asn
 1 5 10

<210> 125

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 125

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu 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

Ala Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asn Thr Gly Asn Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg

<210> 126

<211> 96

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 126

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 Gly Ala Ser Gln Ser Val Ser Ser Ser
20 25 30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Asp 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

<210> 127

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 127

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 Gly Tyr
20 25 30

Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Pro Asn Ser Gly Gly Thr Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Arg Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg

<210> 128

<211> 95

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 128

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 Gly Ile Ser Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser 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 Tyr Asn Ser Tyr Pro
85 90 95

<210> 129

<211> 98

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 129

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 Ser
20 25 30

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

Trp Leu Ala Leu Ile Tyr Trp Asn Asp Asp Lys Arg Tyr Ser Pro Ser
50 55 60

Leu Lys 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 Gly Thr Tyr Tyr
85 90 95

Cys Val

<210> 130

<211> 100

<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 130

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 His Ser
20 25 30

Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Gly 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
100

<210> 131

<211> 268

<212> PRT

<213> Homo sapiens

<400> 131

Pro Gly Trp Phe Leu Asp Ser Pro Asp Arg Pro Trp Asn Pro Pro Thr
1 5 10 15

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

Thr Cys Ser Phe Ser Asn Thr Ser Glu Ser Phe Val Leu Asn Trp Tyr
35 40 45

Arg Met Ser Pro Ser Asn Gln Thr Asp Lys Leu Ala Ala Phe Pro Glu
50 55 60

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

Pro Asn Gly Arg Asp Phe His Met Ser Val Val Arg Ala Arg Arg Asn
85 90 95

Asp Ser Gly Thr Tyr Leu Cys Gly Ala Ile Ser Leu Ala Pro Lys Ala
100 105 110

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

Ala Glu Val Pro Thr Ala His Pro Ser Pro Ser Pro Arg Pro Ala Gly
130 135 140

Gln Phe Gln Thr Leu Val Val Gly Val Val Gly Gly Leu Leu Gly Ser
145 150 155 160

Leu Val Leu Leu Val Trp Val Leu Ala Val Ile Cys Ser Arg Ala Ala
165 170 175

Arg Gly Thr Ile Gly Ala Arg Arg Thr Gly Gln Pro Leu Lys Glu Asp
180 185 190

Pro Ser Ala Val Pro Val Phe Ser Val Asp Tyr Gly Glu Leu Asp Phe
195 200 205

Gln Trp Arg Glu Lys Thr Pro Glu Pro Pro Val Pro Cys Val Pro Glu
210 215 220

Gln Thr Glu Tyr Ala Thr Ile Val Phe Pro Ser Gly Met Gly Thr Ser
225 230 235 240

Ser Pro Ala Arg Arg Gly Ser Ala Asp Gly Pro Arg Ser Ala Gln Pro
245 250 255

Leu Arg Pro Glu Asp Gly His Cys Ser Trp Pro Leu
260 265

<210> 132
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 132
caagtgcagc tgggtgcagtc tggcagcgag ctgaaaaaac ctggcgcctc cgtgaagggtg 60
tcctgcaagg ctagcggcta cacctttacc gactacagca tgcactgggt cgcacaggct 120
ccaggacaag gcttggaatg gatgggctgg atcaacatcg agacaggcga gcccacatac 180
gcccagggct ttaccggcag attcgtgttc agcctggaca cctctgtgtc caccgcctac 240
ctgcagatca gctctctgaa ggccgaggat accgccgtgt acttctgcgc cagagactac 300
tacggcacct acttctacgc catggattac tggggccagg gcaccctggt taccgtttct 360
tct 363

<210> 133
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 133
gagatcgtgc tgacacagtc tcccgccaca ctgtcactgt ctccaggcga aagagccaca 60
ctgagctgta ccgccagcag ctctgtgtcc agcagctacc tgcactggta tcagcagaag 120
cctggactgg cccctcggct gctgatctac agcacaagca atctggccag cggcatcccc 180
gatagatfff ccggctctgg aagcggcacc gactacaccc tgacaatcag cagactggaa 240
cccgaggact tcgccgtgta ctactgccac cagtaccaca gaagccctct gacctttggc 300
cagggcacca agctggaaat caag 324

<210> 134
<211> 1353
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 134

caagtgcagc tgggtgcagtc tggcagcgag ctgaaaaaac ctggcgcctc cgtgaagggtg	60
tcctgcaagg ctagcggcta cacctttacc gactacagca tgcactgggt cgcacaggct	120
ccaggacaag gcttggaatg gatgggctgg atcaacatcg agacaggcga gcccacatac	180
gcccagggtt ttaccggcag attcgtgttc agcctggaca cctctgtgtc caccgcctac	240
ctgcagatca gctctctgaa ggccgaggat accgccgtgt acttctgcgc cagagactac	300
tacggcacct acttctacgc catggattac tggggccagg gcaccctgggt taccgtttct	360
tctgcctcca ccaagggccc atcgggtcttc cccctggcac cctcctcaa gagcacctct	420
gggggcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacgggtg	480
tcgtggaact caggcgccct gaccagcggc gtgcacacct tcccggctgt cctacagtcc	540
tcaggactct actccctcag cagcgtgggt accgtgccct ccagcagctt gggcacccag	600
acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gaaagttgag	660
cccaaattct gtgacaaaac tcacacatgc ccaccgtgcc cagcacctga actcctgggg	720
ggaccgtcag tcttcctctt cccccaaaa cccaaggaca ccctcatgat ctcccggacc	780
cctgaggtca catgcgtggg ggtggacgtg agccacgaag accctgaggt caagttcaac	840
tgggtacgtg acggcgtgga ggtgcataat gccaaagaaa agccgcggga ggagcagtac	900
aacagcacgt accgtgtggg cagcgtcctc accgtcctgc accaggactg gctgaatggc	960
aaggagtaca agtgcaagg ctccaacaaa gccctcccag ccccatcga gaaaaccatc	1020
tccaaagcca aagggcagcc ccgagaacca caggtgtaca ccctgcccc atcccgggag	1080
gagatgacca agaaccagg cagcctgacc tgcctgggtc aaggcttcta tcccagcgac	1140
atgccgtgg agtgggagag caatgggcag ccggagaaca actacaagac cagcctccc	1200
gtgctggact ccgacggctc cttcttcctc tacagcaagc tcaccgtgga caagagcagg	1260
tggcagcagg ggaacgtctt ctcatgctcc gtgatgcatg aggctctgca caaccactac	1320
acgcagaaga gcctctccct gtctccgggt aaa	1353

<210> 135

<211> 645
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 135
gagatcgtgc tgacacagtc tcccgccaca ctgtcactgt ctccaggcga aagagccaca 60
ctgagctgta ccgccagcag ctctgtgtcc agcagctacc tgcactggta tcagcagaag 120
cctggactgg cccctcggct gctgatctac agcacaagca atctggccag cggcatcccc 180
gatagatttt ccggctctgg aagcggcacc gactacaccc tgacaatcag cagactggaa 240
cccgaggact tcgccgtgta ctactgccac cagtaccaca gaagccctct gacctttggc 300
cagggcacca agctggaaat caagcgtacg gtggctgcac catctgtctt catcttcccg 360
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 420
tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc 480
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccttg 540
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt caccatcag 600
ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt 645

<210> 136
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 136
caagtgcagc tgggtgcaatc tggcgccgaa gtgaaaaagc ctggcgccctc tgtgaagggtg 60
tcctgcaagg ccagcggcta cacctttacc acctactgga tgcactgggt ccgacaggct 120
ccaggacaag gcttggagtg gatgggcgag atcaaccca atgaaggcgg catcaactac 180
gcccagaaat tccagggcag agtgaccctg accgtggaca agagcatcag caccgcctac 240
atggaactga gccggctgag atccgatgac accgccgtgt actactgcac catcgactac 300
tacgactacg gcggctattg gggccagggc aactggtta cagtgtcctc t 351

<210> 137
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 137
gacatccaga tgacacagag ccctagcagc ctgtctgcct ctgtgggcga tagagtgacc 60
atcacatgca aggccagcca gaacgtgggc accaatgtgg cctggtatca gcagaagcct 120
gagaaggccc ctaagagcct gatctacagc gccagctaca gatacagcgg cgtgccaagc 180
agattttctg gaagcggcag cggcaccgac ttcaccctga caattagtag cctgcagcct 240
gaggacttcg ccacctacta ctgccagcag tacaacatct acccctacac cttcggccag 300
ggcaccaagc tggaaatcaa g 321

<210> 138
<211> 1341
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 138
caagtgcagc tgggtgcaatc tggcgccgaa gtgaaaaagc ctggcgccctc tgtgaagggtg 60
tcctgcaagg ccagcggcta cacctttacc acctactgga tgcactgggt cgcacaggct 120
ccaggacaag gcttggagtg gatgggcgag atcaacccca atgaaggcgg catcaactac 180
gcccagaaat tccagggcag agtgaccctg accgtggaca agagcatcag caccgcctac 240
atggaaactga gccggctgag atccgatgac accgccgtgt actactgcac catcgactac 300
tacgactacg gcggctattg gggccagggc acactggtta cagtgtcctc tgcctccacc 360
aaggggcccat cggctcttccc cctggcacc cctccaaga gcacctctgg gggcacagcg 420
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgtc gtggaactca 480
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcctc aggactctac 540
tccctcagca gcgtgggtgac cgtgccctcc agcagcttgg gcaccagac ctacatctgc 600

aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	660
gacaaaactc acacatgccc accgtgcccga gcacctgaac tcctggggggg accgtcagtc	720
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	780
tgcgtggtgg tggacgtgag ccacgaagac cctgaggtca agttcaactg gtacgtggac	840
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagtacaa cagcacgtac	900
cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	960
tgcaaggctc ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1020
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1080
aaccaggtca gcctgacctg cctgggtcaaa ggcttctatc ccagcgacat cgccgtggag	1140
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1200
gacggctcct tcttcctcta cagcaagctc accgtggaca agagcaggtg gcagcagggg	1260
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1320
ctctccctgt ctccgggtaa a	1341

<210> 139

<211> 642

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 139

gacatccaga tgacacagag ccctagcagc ctgtctgcct ctgtgggcga tagagtgacc	60
atcacatgca aggccagcca gaacgtgggc accaatgtgg cctggtatca gcagaagcct	120
gagaaggccc ctaagagcct gatctacagc gccagctaca gatacagcgg cgtgccaaagc	180
agattttctg gaagcggcag cggcaccgac ttcaccctga caattagtag cctgcagcct	240
gaggacttcg ccacctacta ctgccagcag tacaacatct acccctacac cttcggccag	300
ggcaccaagc tggaaatcaa gcgtacggtg gctgcaccat ctgtcttcat cttcccgcca	360
tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat	420
cccagagagg ccaaagtaca gtggaaggtg gataacgccc tccaatcggg taactcccag	480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg	540

ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600

ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt 642

<210> 140

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 140

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Tyr Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 141

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 141

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly His Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 142

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 142

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Trp Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 143

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 143

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 Thr Ala Ser Ser Ser Phe Ser Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 144

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 144

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 Thr Ala Ser Ser Ser Val Pro Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 145

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 145

Trp Ile Asn Ile Glu Thr Gly Tyr Pro Thr
1 5 10

<210> 146

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 146

Trp Ile Asn Ile Glu Thr Gly His Pro Thr
1 5 10

<210> 147

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 147

Trp Ile Asn Ile Glu Thr Gly Trp Pro Thr
1 5 10

<210> 148

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 148

Thr Ala Ser Ser Ser Phe Ser Ser Ser Tyr Leu His
1 5 10

<210> 149

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 149

Thr Ala Ser Ser Ser Val Pro Ser Ser Tyr Leu His
1 5 10

<210> 150

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 150

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Tyr Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
210 215 220

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Pro Gly Lys
450

<210> 151

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 151

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly His Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
210 215 220

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Pro Gly Lys
450

<210> 152

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 152

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Ile Glu Thr Gly Trp Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Tyr Phe Tyr Ala Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
210 215 220

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Pro Gly Lys
450

<210> 153

<211> 215

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 153

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 Thr Ala Ser Ser Ser Phe Ser Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

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

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

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

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 154

<211> 215

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 154

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 Thr Ala Ser Ser Ser Val Pro Ser Ser
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Pro
85 90 95

Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

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

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

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

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190

Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205

Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 155
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 155
caggtgcagc tggtgcagtc tggaagcgaa ctgaagaaac ctggagcctc tgtgaaagtg 60
tcttgtaagg ccagcggcta caccttcacc gactacagca tgcactgggt gcggcaggcc 120
cctggacagg gcctggaatg gatgggctgg atcaacatcg agaccggcta tcccacctac 180
gcccagggct ttaccggacg gttcgtgttc agcctggata catctgtgtc tacagcctat 240
ctgcagatca gctctctgaa ggccgaagat acagccgtgt acttctgcgc ccgggactac 300
tacggcacct acttctacgc catggactac tggggccagg gaacactggt gacagtgtct 360

tct	363
<210> 156	
<211> 363	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic polynucleotide	
<400> 156	
caggtgcagc tggtgcagtc tggaagcgaa ctgaagaaac ctggagcctc tgtgaaagtg	60
tcttgtaagg ccagcggcta caccttcacc gactacagca tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggctgg atcaacatcg agaccggcca tcccacctac	180
gcccagggct ttaccggacg gttcgtgttc agcctggata catctgtgtc tacagcctat	240
ctgcagatca gctctctgaa ggccgaagat acagccgtgt acttctgcgc ccgggactac	300
tacggcacct acttctacgc catggactac tggggccagg gaacactggt gacagtgtct	360
tct	363
<210> 157	
<211> 363	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Synthetic polynucleotide	
<400> 157	
caggtgcagc tggtgcagtc tggaagcgaa ctgaagaaac ctggagcctc tgtgaaagtg	60
tcttgtaagg ccagcggcta caccttcacc gactacagca tgcactgggt gcggcaggcc	120
cctggacagg gcctggaatg gatgggctgg atcaacatcg agaccggctg gcccacctac	180
gcccagggct ttaccggacg gttcgtgttc agcctggata catctgtgtc tacagcctat	240
ctgcagatca gctctctgaa ggccgaagat acagccgtgt acttctgcgc ccgggactac	300
tacggcacct acttctacgc catggactac tggggccagg gaacactggt gacagtgtct	360
tct	363
<210> 158	

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

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 158
gagatcgtgc tgacacagtc tcctgccaca ctgtctctgt ctcctggaga acgggccaca 60
ctgagctgca ccgccagcag cagcttcagc agcagctacc tgcactggta ccagcagaaa 120
cctggactgg cccctcggct gctgatctac agcaccagca acctggccag cggcatccct 180
gatcggtttt ctggcagcgg atctggcaca gattacacac tgaccatcag ccggctggaa 240
cctgaggatt ttgccgtgta ctactgccac cagtaccacc ggagccccct gaccttcggc 300
caggaacaa agctggaaat caag 324

<210> 159
<211> 324
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 159
gagatcgtgc tgacacagtc tcctgccaca ctgtctctgt ctcctggaga acgggccaca 60
ctgagctgca ccgccagcag cagcgtgcca agcagctacc tgcactggta ccagcagaaa 120
cctggactgg cccctcggct gctgatctac agcaccagca acctggccag cggcatccct 180
gatcggtttt ctggcagcgg atctggcaca gattacacac tgaccatcag ccggctggaa 240
cctgaggatt ttgccgtgta ctactgccac cagtaccacc ggagccccct gaccttcggc 300
caggaacaa agctggaaat caag 324

<210> 160
<211> 1813
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 160

tctgataaga gtcagaggta actcccgttg cggtgctgtt aacggtggag ggcagtgtag	60
tctgagcagt actcgttgct gccgcgcgcg ccaccagaca taatagctga cagactaaca	120
gactgttcct ttccatgggt cttttctgca gtcaccgtcc ttagatccac tagtccagtg	180
tggtgaagct tgccgccacc atggcttggg tgtggacctt gctattcctg atggcagctg	240
cccaaagtat acaggcccag gtgcagctgg tgcagtctgg aagcgaactg aagaaacctg	300
gagcctctgt gaaagtgtct tgtaaggcca gcggctacac cttcaccgac tacagcatgc	360
actgggtgcg gcaggcccct ggacagggcc tggaatggat gggctggatc aacatcgaga	420
ccggctatcc cacctacgcc cagggttcta ccggacgggt cgtgttcagc ctggatacat	480
ctgtgtctac agcctatctg cagatcagct ctctgaaggc cgaagataca gccgtgtact	540
tctgcgcccg ggactactac ggcacctact tctacgcat ggactactgg ggccagggaa	600
cactggtgac agtgtcttct gcctccacca agggcccata ggtcttcccc ctggcacctt	660
cctccaagag cacctctggg ggcacagcgg ccctgggctg cctggtcaag gactacttcc	720
ccgaaccggt gacggtgtcg tggaactcag gcgccctgac cagcggcgtg cacaccttcc	780
cgggtgtcct acagtcctca ggactctact ccctcagcag cgtggtgacc gtgccctcca	840
gcagcttggg caccagacc tacatctgca acgtgaatca caagcccagc aacaccaagg	900
tggacaagaa agttgagccc aaatcttgtg acaaaaactca cacatgcca ccgtgcccag	960
cacctgaact cctggggggga ccgtcagtct tcctcttccc cccaaaaccc aaggacaccc	1020
tcatgatctc ccggaccctt gaggtcacat gcgtggtggt ggacgtgagc cacgaagacc	1080
ctgagggtcaa gttcaactgg tacgtggacg gcgtggaggt gcataatgcc aagacaaagc	1140
cgcgggagga gcagtacaac agcacgtacc gtgtggtcag cgtcctcacc gtcctgcacc	1200
aggactggct gaatggcaag gagtacaagt gcaaggctct caacaaagcc ctcccagccc	1260
ccatcgagaa aaccatctcc aaagccaaag ggcagccccg agaaccacag gtgtacaccc	1320
tgcccccatc ccgggaggag atgaccaaga accaggctcag cctgacctgc ctggtcaaag	1380
gcttctatcc cagcgacatc gccgtggagt gggagagcaa tgggcagccg gagaacaact	1440
acaagaccac gcctcccgtg ctggactccg acggctcctt cttcctctac agcaagctca	1500
ccgtggacaa gagcaggtgg cagcagggga acgtcttctc atgctccgtg atgcatgagg	1560
ctctgcacaa ccactacacg cagaagagcc tctccctgtc tccgggtaaa tgatagttcg	1620

aattcctaga agacatgata agatacattg atgagtttgg acaaaccaca actagaatgc	1680
agtgaaaaaa atgcttttatt tgtgaaatth gtgatgctat tgctttatth gtaaccatta	1740
taagctgcaa taaacaagth aacaacaaca attgcattca ttttatgtth caggthcagg	1800
gggaggtgtg gga	1813

<210> 161

<211> 1813

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 161

tctgataaga gtcagaggta actcccgttg cggtgctgtt aacggtggag ggcagtgtag	60
tctgagcagt actcgttgct gccgcgcgcg ccaccagaca taatagctga cagactaaca	120
gactgttcct ttccatgggt cttttctgca gtcaccgtcc ttagatccac tagtccagtg	180
tggtgaagct tgccgccacc atggcttggg tgtggacctt gctattcctg atggcagctg	240
cccaaagtat acaggcccag gtgcagctgg tgcagtctgg aagcgaactg aagaaacctg	300
gagcctctgt gaaagtgtct tgtaaggcca gcggctacac cttcaccgac tacagcatgc	360
actgggtgcg gcaggcccct ggacagggcc tggaatggat gggctggatc aacatcgaga	420
ccggccatcc cacctacgcc cagggtctta ccggacggth cgtgttcagc ctggatacat	480
ctgtgtctac agcctatctg cagatcagct ctctgaaggc cgaagataca gccgtgtact	540
tctgcgcccc ggactactac ggcacctact tctacgcat ggactactgg ggccagggaa	600
cactggtgac agtgtcttct gcctccacca agggcccata ggtcttcccc ctggcacctt	660
cctccaagag cacctctggg ggcacagcgg ccctgggctg cctggtcaag gactacttcc	720
ccgaaccggt gacggtgtcg tggaactcag gcgccctgac cagcggcgtg cacaccttcc	780
cggctgtcct acagtcctca ggactctact ccctcagcag cgtggtgacc gtgccctcca	840
gcagcttggg caccagacc tacatctgca acgtgaatca caagcccagc aacaccaagg	900
tggacaagaa agttgagccc aaatcttgtg aaaaaactca cacatgcca ccgtgcccag	960
cacctgaact cctgggggga ccgtcagtct tcctcttccc cccaaaaccc aaggacaccc	1020

tcatgatctc ccggaccct gaggtcacat gcgtgggtgg ggacgtgagc cacgaagacc	1080
ctgagggtcaa gttcaactgg tacgtggacg gcgtggaggt gcataatgcc aagacaaaagc	1140
cgcggggagga gcagtacaac agcacgtacc gtgtgggtcag cgtcctcacc gtcctgcacc	1200
aggactggct gaatggcaag gagtacaagt gcaaggtctc caacaaagcc ctcccagccc	1260
ccatcgagaa aaccatctcc aaagccaaag ggcagccccg agaaccacag gtgtacaccc	1320
tgcccccatc ccgggaggag atgaccaaga accaggtcag cctgacctgc ctgggtcaaag	1380
gcttctatcc cagcgacatc gccgtggagt gggagagcaa tgggcagccg gagaacaact	1440
acaagaccac gcctcccgtg ctggactccg acggctcctt cttcctctac agcaagctca	1500
ccgtggacaa gagcagggtg cagcagggga acgtcttctc atgctccgtg atgcatgagg	1560
ctctgcacaa ccactacacg cagaagagcc tctccctgtc tccgggtaaa tgatagttcg	1620
aattcctaga agacatgata agatacattg atgagtttgg acaaaccaca actagaatgc	1680
agtgaaaaaa atgctttatt tgtgaaattt gtgatgctat tgctttattt gtaaccatta	1740
taagctgcaa taaacaagtt aacaacaaca attgcattca ttttatgttt caggttcagg	1800
gggaggtgtg gga	1813

<210> 162

<211> 1813

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 162

tctgataaga gtcagaggta actcccgttg cggtgctgtt aacgggtggag ggcagtgtag	60
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gactgttcct ttccatgggt cttttctgca gtcaccgtcc ttagatccac tagtccagtg	180
tggtgaagct tgccgccacc atggccttggg tgtggacctt gctattcctg atggcagctg	240
cccaaagtat acaggcccag gtgcagctgg tgcagtctgg aagcgaactg aagaaacctg	300
gagcctctgt gaaagtgtct tgtaaggcca gcggctacac cttcaccgac tacagcatgc	360
actgggtgcg gcaggcccct ggacagggcc tggaatggat gggctggatc aacatcgaga	420
ccggctggcc cacctacgcc cagggtttta ccggacggtt cgtgttcagc ctggatacat	480

ctgtgtctac agcctatctg cagatcagct ctctgaaggc cgaagataca gccgtgtact	540
tctgcgcccg ggactactac ggcacctact tctacgcat ggactactgg ggccagggaa	600
cactggtgac agtgtcttct gcctccacca agggcccatc ggtcttcccc ctggcacctt	660
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<210> 163

<211> 1105

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 163

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caactagaat gcagtaaaa aaatgcttta tttgtgaaat ttgtgatgct attgctttat	1020
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ttcaggttca gggggaggtg tggga	1105

<210> 164

<211> 1105

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 164

tctgataaga gtcagaggta actcccgttg cggtgctggt aacggtggag ggcagtgtag	60
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tctgagcagt actcgttgct gccgcgcgcg ccaccagaca taatagctga cagactaaca	120
gactgttcct ttccatgggt cttttctgca gtcaccgtcc ttagatccac tagtccagt	180
tgggaagct tgccgccacc atggcctggg tgtggacctt gctattcctg atggcggccg	240
cccaaagtat acaggccgag atcgtgctga cacagtctcc tgccacactg tctctgtctc	300
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caactagaat gcagtgaaaa aaatgcttta tttgtgaaat ttgtgatgct attgctttat	1020
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<210> 165

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (8)..(8)

<223> E, Y, H or W

<400> 165

Trp Ile Asn Ile Glu Thr Gly Xaa Pro Thr
1 5 10

<210> 166

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MOD_RES

<222> (6)..(6)

<223> V or F

<220>

<221> MOD_RES

<222> (7)..(7)

<223> S or P

<400> 166

Thr Ala Ser Ser Ser Xaa Xaa Ser Ser Tyr Leu His
1 5 10