

SEQUENCE LISTING

<110> ADICET BIO, INC.

<120> METHODS FOR EXPANDING GAMMA-DELTA T-CELL POPULATIONS WITH
MULTIVALENT AGENTS AND COMPOSITIONS THEREOF

<130> ADC-0007-PCT

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<160> 105

<170> PatentIn version 3.5

<210> 1

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 1

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

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Gly Gly
20 25 30

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

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

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

Leu Asn Leu Thr Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys

85

90

95

Ala Arg Glu Gly Gly Arg Gly Phe Ala Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ala
 115

<210> 2

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 2

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

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

Glu Val Tyr Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp Ile
 35 40 45

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

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

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

Ala Arg Leu Lys Ser Gly Arg Tyr Tyr Gly Asp Leu Phe Ala Tyr Trp
 100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ala

115

120

<210> 3

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 3

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

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

Tyr Met Asp Trp Val Lys Gln Ser His Gly Arg Ser Leu Glu Trp Ile
 35 40 45

Gly Tyr Ile Tyr Pro Lys Asn Val Gly Ile Ser Tyr Asn Gln Lys Phe
 50 55 60

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

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

Ala Arg Ser Leu Leu Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Ser Val Thr Val Ser Ser
 115

<210> 4

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 4

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 5

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 5

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

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

Gly Tyr His Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Arg Leu Glu
35 40 45

Trp Met Gly Tyr Ile His Asn Ser Gly Ser Thr Asn Tyr Asn Ser Phe
50 55 60

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

Phe Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Val Ala Tyr Tyr Ser Asn Ser Arg Glu Phe Trp Tyr Ala Tyr Trp
100 105 110

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

<210> 6

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 6

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

Ser Val Lys Met 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 Asp Trp Ile
35 40 45

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

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

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

Thr Tyr Gly Tyr Tyr Val Asp Tyr Tyr Ala Met Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 7

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 7

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

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

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

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

Lys Asp Lys Ala Ile 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

Ala Arg Gly Gly Asp Asn Tyr Asp Pro Phe Ala Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ala
115

<210> 8

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 8

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

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

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

Gly Val Ile Asp Pro Ser Asp Ser Tyr Thr Asn Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Val Asp Thr 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

Ala Arg Ser Asp Asp Tyr Asp Glu Gly Tyr Phe Phe Asp Gln Trp Gly
100 105 110

Gln Gly Thr Thr Leu Thr Val Ser Ala
115 120

<210> 9

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 9

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

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

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

Ala Glu Ile Arg Ala Glu Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Arg
65 70 75 80

Val Phe Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Gly Ile Tyr
85 90 95

Tyr Cys Thr Gly Leu Asp Tyr Gly Ser Ile Gly Phe Ala Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 10

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 10

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Ile Val Arg Pro Gly Ala
1 5 10 15

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

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

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

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

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

Ala Arg Glu Ser Asn Asp Val Cys Trp Tyr Phe Asp Val Trp Gly Ala
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 11

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 11

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala

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

<210> 12
 <211> 114
 <212> PRT
 <213> Artificial Sequence

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

<400> 12
Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Gly Arg Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Asp	20	25	30
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Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile

35

40

45

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

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

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

Asn Tyr Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
 100 105 110

Ser Ser

<210> 13

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 13

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

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

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

Gly Asp Leu Asp Pro Gly Thr Gly Val Thr Ala Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Lys Ala Ile Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

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

Ser Ser

<210> 14
 <211> 114
 <212> PRT
 <213> Artificial Sequence

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

<400> 14
Glu Val Gln Leu Gln Met Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
1 5 10 15

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

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

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

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

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

Thr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val

100

105

110

Ser Ser

<210> 15

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 15

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

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

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

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

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

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

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

Ser Ser

<210> 16

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

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

<400> 16
Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

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

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

Gly Trp Ile Asn Thr Tyr Ser Gly Val 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 Ser Ser Tyr Asp Tyr Asp Asp Ala Met Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 17
<211> 121
<212> PRT
<213> Artificial Sequence

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

<400> 17

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

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

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

Ala Glu Ile Arg Ala Glu Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Arg
65 70 75 80

Val Phe Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Gly Ile Tyr
85 90 95

Tyr Cys Thr Gly Leu Asp Tyr Gly Ser Val Gly Phe Ala Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 18

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 18

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

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

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

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

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

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

Ile Arg Pro Arg Gly Gly Ser His Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Ser
115

<210> 19

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 19

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

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

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

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

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

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

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

Ser Ser

<210> 20

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 20

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

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

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

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

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

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

Thr Arg Pro Arg Gly Gly Ser His Phe Asp His Trp Gly Gln Gly Thr
100 105 110

Pro Leu Thr Val Ser Ser
115

<210> 21
<211> 122
<212> PRT
<213> Artificial Sequence

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

<400> 21
Ser Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser
1 5 10 15

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

Gly Tyr Tyr Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Asn Leu Glu
35 40 45

Trp Met Gly Tyr Ile Ser His Asp Gly Ser Asn Asn Tyr Asn Pro Ala
50 55 60

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

Phe Leu Lys Leu Asn Ser Val Thr Thr Glu Asp Thr Gly Thr Tyr Tyr
85 90 95

Cys Ala Ser Val Tyr Tyr Gly Asp Tyr Glu Val Trp Tyr Thr Tyr Trp
100 105 110

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

<210> 22
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 22
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
1 5 10 15

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

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

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

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

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

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

Val Thr Val Ser Ala
115

<210> 23
<211> 126
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 23

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

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

Tyr Met Asn Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
35 40 45

Gly His Ile Asn Pro Tyr Asn Gly Gly Thr Ser Tyr Asn Gln Lys Phe
50 55 60

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

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

Ala Arg Asn His Ile Tyr Tyr Tyr Asp Gly Gly Tyr Phe Tyr Tyr Ala
100 105 110

Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
115 120 125

<210> 24

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 24

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

Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Arg Phe Pro Asp Tyr

50

55

60

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

Phe Leu Lys Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Asp Asp Gly Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110

Leu Thr Val Ser Ser
 115

<210> 26

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 26

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

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

Tyr Met Tyr Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
 35 40 45

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

Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
 65 70 75 80

Leu Gln Met Ser Arg Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys

85

90

95

Ala Ser Arg Gly Tyr Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser
 100 105 110

Ser

<210> 27

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 27

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

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

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

Ala Tyr Ile Ser Ser Gly Ser Arg Thr Ile Tyr Tyr Ala Asp Thr Val
 50 55 60

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

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

Ala Arg Glu Gly Ala Tyr Ser Ser Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser

115

<210> 28

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 28

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

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

Gly Asn Ser Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

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

Pro Val Glu Ser Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asn Asn
85 90 95

Glu Asp Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 29

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 29

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

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

Tyr Trp Tyr Gln Gln Lys Pro Arg Ser Ser Pro Lys Pro Trp Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

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

<210> 30

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 30

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

Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His Phe Trp Gly Ile Pro Tyr
85 90 95

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

<210> 31

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 31

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

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser
20 25 30

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

Pro Lys Leu Leu Ile Tyr Leu Val Ser Lys Leu Glu Ser Gly Val Pro
50 55 60

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

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

Thr His Phe Pro Leu Thr Cys Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

<210> 32
<211> 113
<212> PRT
<213> Artificial Sequence

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

<400> 32
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

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

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60

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

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

Asp Tyr Ser Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu
100 105 110

Lys

<210> 33
<211> 107
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 33

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

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

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

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

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

Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln His Tyr Ser Ile Pro Cys
85 90 95

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

<210> 34

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 34

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

Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn

20

25

30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Gly Ser Tyr Phe Cys Gln His Phe Trp Asp Thr Thr Phe
 85 90 95

Thr Phe Gly Ser Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 35

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 35

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

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser
 20 25 30

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

Pro Lys Leu Leu Ile Tyr Leu Val Ser Lys Val Glu 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	Leu	Gly	Leu	Tyr	Tyr	Cys	Leu	Gln	Val
			85					90						95	

Thr	His	Phe	Pro	Leu	Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu	Lys
			100				105						110		

<210> 36
 <211> 113
 <212> PRT
 <213> Artificial Sequence

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

<400> 36															
Asp	Val	Leu	Met	Thr	Gln	Thr	Pro	Leu	Ser	Leu	Pro	Val	Ser	Leu	Gly
1			5					10					15		

Asp	Gln	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Val	Val	His	Arg
			20					25					30		

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

Pro	Lys	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	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	Leu	Gly	Leu	Tyr	Tyr	Cys	Phe	Gln	Gly
			85					90						95	

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

Arg

<210> 37
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 37
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

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

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

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

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

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

<210> 38
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 38

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

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

Tyr Trp Tyr Gln Gln Lys Pro Arg Ser Ser Pro Lys Pro Trp Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Gly Asp Pro Pro Thr
85 90 95

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

<210> 39

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 39

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
20 25 30

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

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe 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 Leu Gly Val Tyr Tyr Cys Phe Gln Gly
85 90 95

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

Arg

<210> 40

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 40

Ser Asp Val Val Arg Pro Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe 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 Leu Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

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

Lys

<210> 41

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 41

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
20 25 30

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

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe 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 Leu Gly Val Tyr Phe Cys Ser Gln Phe
85 90 95

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

Lys

<210> 42

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 42

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe 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 Leu Gly Val Tyr Phe Cys Ser His Ser
85 90 95

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

Arg

<210> 43

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 43

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

Glu Thr Ile Thr Ile Asn Cys Arg Thr Ser Lys Ser Ile Ser Lys Tyr
20 25 30

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

Tyr Ser Gly Ser Thr Leu Gln Ser Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Met Tyr Tyr Cys Gln His His Asn Glu Tyr Pro Tyr
85 90 95

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

<210> 44

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 44

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Val Val His Arg

50

55

60

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

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

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

<210> 46

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 46

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe 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 Leu Gly Val Tyr Phe Cys Ser His Ser
85 90 95

Thr His Val Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys

100

105

110

Arg

<210> 47

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 47

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

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Arg Tyr Ile
 20 25 30

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

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

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

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

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

<210> 48

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 48

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

Glu Lys Val Ala Leu Asn Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

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

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60

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

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

Tyr Tyr Ser Tyr Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 49

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 49

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

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

Tyr Trp Tyr Gln Gln Lys Pro Arg Ser Ser Pro Lys Pro Trp Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Gly Asp Pro Pro Thr
85 90 95

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

<210> 50

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 50

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

Gln Arg Ala Thr Ile Ser Cys Arg Pro Ser Glu Ser Val Asp Ser Tyr
20 25 30

Gly Asn Ser Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
50 55 60

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

Pro Val Glu Ala Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asn Asn
85 90 95

Glu Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys
100 105

<210> 51

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 51

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

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Ile
20 25 30

His Trp Phe Gln Gln Lys Pro Gly Ser Ser Pro Lys Phe Trp Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asp Ser Pro Thr
85 90 95

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

<210> 52
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 52
Gln Ile Val Leu Ser Gln Ser Pro Ala Ile Leu Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Asn Tyr Met
20 25 30

His Trp His Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Arg Ile Tyr
35 40 45

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

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

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Pro Thr
85 90 95

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

<210> 53
<211> 111
<212> PRT
<213> Artificial Sequence

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

<400> 53
Asp Ile Val Leu Thr Gln Ser Pro Pro Ser Leu Ala Val Ser Leu Gly

50

55

60

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

Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser Asn
85 90 95

Glu Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 55

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 55

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

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

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

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

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

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

Ser Arg Gly Glu Asp Asp Gly Tyr Phe Pro Tyr Ser Met Asp Phe Trp

100

105

110

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

<210> 56

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 56

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

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

Gly Ser Tyr Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu
 35 40 45

Trp Met Gly Tyr Ile His Asn Ser Gly Ser Thr Thr Tyr Asn Pro Ser
 50 55 60

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

Phe Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ser Thr Gly Pro Pro Phe Thr Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ala
 115

<210> 57

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

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

<400> 57
Gln Val Gln Leu Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

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

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

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

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

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

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

Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 58
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 58

Gln Val Gln Leu Leu 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 Ser Phe Thr Asn Phe
20 25 30

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

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

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

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

Ala Arg Tyr Gly Ser Tyr Gly Asn Trp Tyr Phe Asp Val Trp Gly Ala
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 59

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 59

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

Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30

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

Gly Phe Ile Arg Asn Lys Ala Asn Gly Tyr Thr Thr Glu Ser Ser Ala
50 55 60

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

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

Tyr Cys Ala Ser Ser Lys Pro Gly Trp Pro Met Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 60

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 60

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

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

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

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

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

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

Ser Arg Gly Glu Asp Asp Gly Tyr Phe Pro Tyr Ser Met Asp Phe Trp
100 105 110

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

<210> 61

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 61

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

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

Tyr Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
35 40 45

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80

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

Ser Arg Glu Tyr Asp Phe Asp Gly Glu Phe Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 62

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 62

Gln Val Gln Leu Leu 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 Asn Phe
20 25 30

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

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

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

Ile Gln Leu Ser Ser Leu Pro Ser Asp Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Tyr Gly Thr Phe Gly Asn Trp Tyr Phe Asp Val Trp Gly Ala
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 63
<211> 121
<212> PRT
<213> Artificial Sequence

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

<400> 63
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 Asn His
20 25 30

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 64
<211> 107
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 64

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

Asp Ser Val Ser Leu Ser Cys Arg Ala Ser Gln Ser Ile Asn Asn Asn
20 25 30

Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro Arg Leu Leu Ile
35 40 45

Lys Tyr Val Ser Gln Ser Ile Ser Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Phe Gly Met Tyr Phe Cys Gln Gln Ser Asn Ser Trp Pro Leu
85 90 95

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

<210> 65

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 65

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

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Asp Asn Tyr
20 25 30

Gly Asn Ser Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro

35

40

45

Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
 50 55 60

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

Pro Val Glu Ala Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asn Asn
 85 90 95

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

<210> 66

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 66

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

Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
 20 25 30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Arg

85

90

95

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

<210> 67

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 67

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

Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
 20 25 30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His Phe Gly Asp Thr Pro Tyr
 85 90 95

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

<210> 68

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 68

Asp Leu Lys Met Thr Gln Ser Pro Ser Ser Met Tyr Ala Ser Leu Gly
1 5 10 15

Glu Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asn Ser Phe
20 25 30

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

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

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

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

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

<210> 69

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 69

Asp Ile Gln Met Thr Gln Thr Ser Ser Ser Phe Ser Val Ser Leu Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Glu Asp Ile Tyr Asn Arg
20 25 30

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

Ser Gly Ala Thr Ser Leu Glu Ala Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Trp Tyr Thr Pro Trp
85 90 95

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

<210> 70

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 70

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

Asp Ser Val Ser Leu Ser Cys Arg Ala Ser Gln Ser Ile Asn Asn Asn
20 25 30

Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro Arg Leu Leu Ile
35 40 45

Lys Tyr Val Ser Gln Ser Ile Ser Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Phe Gly Met Tyr Phe Cys Gln Gln Ser Asn Ser Trp Pro Leu
85 90 95

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

<210> 71
<211> 113
<212> PRT
<213> Artificial Sequence

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

<400> 71
Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe 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 Leu Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

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

Arg

<210> 72
<211> 108
<212> PRT
<213> Artificial Sequence

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

<400> 72
Asp Ile Lys Met Thr Gln Ser Pro Ser Ser Met Tyr Ala Ser Leu Gly
1 5 10 15

Glu Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asn Asn Phe
20 25 30

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

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

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

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

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

<210> 73
<211> 105
<212> PRT
<213> Artificial Sequence

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

<400> 73
Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Leu Gly

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

<210> 74
 <211> 121
 <212> PRT
 <213> Artificial Sequence

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

<400> 74
 Glu Glu Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Ile Phe Ser Ile Tyr
 20 25 30
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
 35 40 45
 Gly Gln Ile Arg Leu Lys Ser Asp Asn Tyr Ala Thr His Tyr Ala Glu

50

55

60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
65 70 75 80

Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
85 90 95

Tyr Cys Met Tyr Tyr Gly Ser Ser Tyr Glu Arg Phe Ala Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 75

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 75

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

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

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

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

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

Met Leu Leu Ser Ser Leu Thr Phe Glu Asp Ser Ala Ile Tyr Tyr Cys

85

90

95

Ala Arg Trp Gly Ser Asp Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Ser Val Thr Val Ser Ser
 115

<210> 76

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polypeptide

<400> 76

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 Ile Arg Asp Thr
 20 25 30

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

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

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

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

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

Val Ser Ser

<210> 77

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 77

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

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

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

Trp Met Gly Tyr Ile Ser Phe Ser Gly Ser Asn Lys Tyr Asn Pro Ser
 50 55 60

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

Phe Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Asn Leu Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
 100 105 110

Ser

<210> 78

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 78

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

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

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

Trp Met Gly Tyr Ile His Tyr Ser Gly Asn Thr Asp Tyr Asn Pro Ser
50 55 60

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

Phe Leu His Leu Asn Ser Val Pro Thr Glu Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ser Gly Ile Thr Thr Asp Trp Tyr Phe Asp Val Trp Gly
100 105 110

Ala Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 79

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 79

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

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

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

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

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

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

Ala Arg Tyr Arg Asp Tyr Ala Val Asp Tyr Trp Gly Gln Gly Trp Gly
100 105 110

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 80

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 80

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

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

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

Ala Tyr Ile Arg Asp Gly Gly Gly Gly Thr Tyr Tyr Pro Asp Thr Val
50 55 60

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

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

Ala Arg His Pro Pro Met Asn Asp Trp Phe Leu Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ala
115

<210> 81

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 81

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

Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Pro
85 90 95

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

<210> 82
<211> 108
<212> PRT
<213> Artificial Sequence

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

<400> 82
Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15

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

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

Ile Tyr Gly 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 Val Glu
65 70 75 80

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

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

<210> 83
<211> 108
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 83

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

Glu Arg Val Ser Phe Ser Cys Arg Ala Ser Gln Asn Ile Gly Thr Ile
20 25 30

Ile His Trp Tyr Gln Gln Arg Ala Asn Gly Ser Pro Arg Leu Leu Ile
35 40 45

Lys Tyr Ala Ser Glu Ser Ile Ser Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Ile Ala Asp Tyr Tyr Cys Gln Gln Ser Asn Ser Trp Pro Tyr
85 90 95

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

<210> 84

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 84

Asp Ile Gln Met Thr Gln Arg Thr Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Asp Ile Thr Asn Tyr

20

25

30

Leu His Trp Phe Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
 35 40 45

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

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

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

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

<210> 85

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 85

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

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Asn Tyr Met
 20 25 30

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

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

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Lys Val Glu Ala Glu

65		70		75		80									
Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Trp	Ser	Ser	His	Gln	Pro	Thr
				85					90					95	

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

<210> 86
 <211> 107
 <212> PRT
 <213> Artificial Sequence

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

<400> 86															
Asp	Ile	Arg	Met	Thr	Gln	Ser	Pro	Ser	Ser	Met	Tyr	Ala	Ser	Leu	Gly
1				5				10						15	

Glu	Arg	Val	Thr	Ile	Thr	Cys	Lys	Ala	Ser	Gln	Asp	Ile	Asn	Thr	Tyr
			20					25					30		

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

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

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

Glu	Asp	Met	Gly	Ile	Tyr	Tyr	Cys	Leu	Gln	Tyr	Asp	Glu	Phe	Pro	Leu
				85					90					95	

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

<210> 87

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

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

<400> 87
Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Val Ser Val Gly
1 5 10 15

Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser His
20 25 30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His Phe Trp Gly Thr Pro Tyr
85 90 95

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

<210> 88
<211> 2208
<212> DNA
<213> Artificial Sequence

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

<400> 88
atgtccgtgc ctaccaggt gctgggcctg ctgctgctgt ggctgaccga cgccagatgc 60
caagtgcagc tgcagcagag cggcgctgag ctggtgagac ccggcgcttc cgtgacactg 120

agctgcaagg ccagcggcta caccttcacc gactacgagg tgtactgggt gaagcagacc	180
cccgtgcacg gactggagtg gatcggcgcc atcgaccccg agaccggaag aaccgcctac	240
aaccagaagt tcaagggcaa ggccattctg accacagaca agtccagctc caccgcctac	300
atggctctga gatctctgac cagcgaagac agcgccgtgt attactgtgc cagactgaag	360
tccggaagat actacggaga tctgtttgcc tactggggcc aaggcacact ggtgaccgtg	420
agctccgcta gcaccaaggg cccatcgggtc ttccccctgg caccctcctc caagagcacc	480
tctgggggca cagcggccct gggctgcctg gtcaaggact acttccccga accggtgacg	540
gtgtcgtgga actcaggcgc cctgaccagc ggcgtgcaca cttcccggc tgtcctacag	600
tcctcaggac tctactccct cagcagcgtg gtgaccgtgc cctccagcag cttgggcacc	660
cagacctaca tctgcaacgt gaatcacaag cccagcaaca ccaagggtgga caagaaagtt	720
gagcccaa at cttgtgacaa aactcacaca tgcccaccgt gcccagcacc tgaactcctg	780
gggggaccgt cagtcttcct cttcccccca aaaccaagg acaccctcat gatctcccgg	840
accctgagg tcacatgcgt ggtggtggac gtgagccacg aagaccctga ggtcaagttc	900
aactggtacg tggacggcgt ggaggtgcat aatgccaaga caaagccgcg ggaggagcag	960
tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagga ctggctgaat	1020
ggcaaggagt acaagtgcaa ggtctccaac aaagccctcc cagcccccat cgagaaaacc	1080
atctccaaag ccaaagggca gccccgagaa ccacagggtgt acaccctgcc cccatcccgg	1140
gaggagatga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatcccagc	1200
gacatcgccg tggagtggga gagcaatggg cagccggaga acaactacaa gaccacgcct	1260
cccgtgctgg actccgacgg ctcttcttc ctctacagca agctcaccgt ggacaagagc	1320
aggtggcagc aggggaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac	1380
tacacgcaga agagcctctc cctgtctccg ggtaaaggcg gaggcggatc cggaggcgga	1440
ggctccggag gcggcggcag cggcggcggc ggaagccagg ttcaactgca gcagtctggg	1500
gctgagttgg tgaggcctgg ggcttcagtg acgctgtcct gcaaggcttc gggctacaca	1560
tttactgact atgaagtgta ctgggtgaaa cagacacctg tgcattggcct ggaatggatt	1620

ggagctattg atcctgaaac tggctgtact gcctacaatc agaagttcaa gggcaaggcc 1680
 atactgacta cagacaaatc ctccagcaca gcctacatgg cgctccgcag tctgacatct 1740
 gaggactctg ccgtctatta ctgtgcaaga ttgaaatccg gtcgctatta tggtgacctc 1800
 tttgcttact ggggccaagg gactctgggtc actgtctcga gcggaggagg aggctccggc 1860
 ggaggaggaa gcggcggcgg cggaagccag atcgtgctga cccagtctcc tgccctgatg 1920
 agcgcttctc ctggagaaaa ggtgaccatg acctgcagcg cctctagctc tgtgtcctac 1980
 atgtactggg accagcagaa acctagaagc agccccaagc cttggatcta cttcaccagc 2040
 aacctggcca gcggcgtgcc cgccagattc agcggcagcg gatctggaac aagctacagc 2100
 ctgaccatca gcagcatgga agctgaagat gccgctacat actactgcca gcagtgggtcc 2160
 tctaatacctc tgaccttcgg cgccggcaca aagctggaac tgaagtga 2208

<210> 89

<211> 735

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 89

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

Asp Ala Arg Cys Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val
 20 25 30

Arg Pro Gly Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr
 35 40 45

Phe Thr Asp Tyr Glu Val Tyr Trp Val Lys Gln Thr Pro Val His Gly
 50 55 60

Leu Glu Trp Ile Gly Ala Ile Asp Pro Glu Thr Gly Arg Thr Ala Tyr
 65 70 75 80

Asn Gln Lys Phe Lys Gly Lys Ala Ile Leu Thr Thr Asp Lys Ser Ser
85 90 95

Ser Thr Ala Tyr Met Ala Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala
100 105 110

Val Tyr Tyr Cys Ala Arg Leu Lys Ser Gly Arg Tyr Tyr Gly Asp Leu
115 120 125

Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
130 135 140

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
145 150 155 160

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
165 170 175

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
180 185 190

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
195 200 205

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
210 215 220

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
225 230 235 240

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
245 250 255

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
260 265 270

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

275

280

285

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 290 295 300

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 305 310 315 320

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 325 330 335

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 340 345 350

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 355 360 365

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 370 375 380

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
 385 390 395 400

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 405 410 415

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
 420 425 430

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 435 440 445

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 450 455 460

Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly
 465 470 475 480

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu
485 490 495

Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala Ser Val Thr Leu
500 505 510

Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Glu Val Tyr Trp
515 520 525

Val Lys Gln Thr Pro Val His Gly Leu Glu Trp Ile Gly Ala Ile Asp
530 535 540

Pro Glu Thr Gly Arg Thr Ala Tyr Asn Gln Lys Phe Lys Gly Lys Ala
545 550 555 560

Ile Leu Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr Met Ala Leu Arg
565 570 575

Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Leu Lys
580 585 590

Ser Gly Arg Tyr Tyr Gly Asp Leu Phe Ala Tyr Trp Gly Gln Gly Thr
595 600 605

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
610 615 620

Gly Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser Pro Ala Leu Met
625 630 635 640

Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser
645 650 655

Ser Val Ser Tyr Met Tyr Trp Tyr Gln Gln Lys Pro Arg Ser Ser Pro
660 665 670

Lys Pro Trp Ile Tyr Phe Thr Ser Asn Leu Ala Ser Gly Val Pro Ala

675

680

685

Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser
 690 695 700

Ser Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser
 705 710 715 720

Ser Asn Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 725 730 735

<210> 90

<211> 2268

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 polynucleotide

<400> 90

atgtccgtgc ctaccaggt gctgggcctg ctgctgctgt ggctgaccga cgccagatgc 60

caggttcaac tgcagcagtc tggggctgag ttggtgaggc ctggggcttc agtgacgctg 120

tcctgcaagg cttcgggcta cacatttact gactatgaag tgtactgggt gaaacagaca 180

cctgtgcatg gcctggaatg gattggagct attgatcctg aaactggtcg tactgcctac 240

aatcagaagt tcaaggga ggcatactg actacagaca aatcctccag cacagcctac 300

atggcgctcc gcagtctgac atctgaggac tctgccgtct attactgtgc aagattgaaa 360

tccggtcgct attatgggtga cctctttgct tactggggcc aagggactct ggtcactgtc 420

tcgagcggag gaggaggctc cggcggagga ggaagcggcg gcggcggaag ccaaattggt 480

ctcaccagct ctccagcact catgtctgca tctccagggg agaagggtcac catgacctgc 540

agtgccagct caagtgtgag ttacatgtac tgggtaccagc agaagccaag atcctcccc 600

aaaccctgga tttatttcac atccaacctg gcttctggag tccctgctcg cttcagtggc 660

agtgggtctg ggacctctta ctctctcaca atcagcagca tggaggctga agatgctgcc 720

acttattact gccagcagtg gagtagtaac ccgctcacgt tcggtgctgg gaccaagctg 780

gagctgaaag aacctaatac ttcagataaa acgcatactt gcccaccatg tccaccctgt	840
gcacctgaac tcctgggggg accgtcagtc ttcctcttcc ccccaaaacc caaggacacc	900
ctcatgatct cccggacccc tgaggtcaca tgcgtgggtg tggacgtgag ccacgaagac	960
cctgagggtca agttcaactg gtacgtggac ggcggtggagg tgcataatgc caagacaaag	1020
ccgcgggagg agcagtacaa cagcacgtac cgtgtgggtca gcgtcctcac cgtcctgcac	1080
caggactggc tgaatggcaa ggagtacaag tgcaagggtct ccaacaaagc cctcccagcc	1140
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ctgcccccat cccgggagga gatgaccaag aaccagggtca gcctgacctg cctgggtcaaa	1260
ggcttctatc ccagcgacat cgccgtggag tgggagagca atgggcagcc ggagaacaac	1320
tacaagacca cgctccccgt gctggactcc gacggctcct tcttcctcta cagcaagctc	1380
accgtggaca agagcagggtg gcagcagggg aacgtcttct catgctccgt gatgcatgag	1440
gctctgcaca accactacac gcagaagagc ctctccctgt ctccgggtaa aggaggagga	1500
ggctccggcg gaggaggaag cggcggcggc ggaagccagg ttcaactgca gcagtctggg	1560
gctgagttgg tgaggcctgg ggcttcagtg acgctgtcct gcaaggcttc gggctacaca	1620
tttactgact atgaagtgtg ctgggtgaaa cagacacctg tgcattggcct ggaatggatt	1680
ggagctattg atcctgaaac tggctgtact gcctacaatc agaagttcaa gggcaaggcc	1740
atactgacta cagacaaatc ctccagcaca gcctacatgg cgctccgcag tctgacatct	1800
gaggactctg ccgtctatta ctgtgcaaga ttgaaatccg gtcgctatta tggtagacctc	1860
tttgcttact ggggccaagg gactctggtc actgtctcga gcggaggagg aggctccggc	1920
ggaggaggaa gcggcgggcg cggaagccaa attgttctca ccagctctcc agcactcatg	1980
tctgcatctc caggggagaa ggtaaccatg acctgcagtg ccagctcaag tgtgagttac	2040
atgtactggg accagcagaa gccaagatcc tccccaaac cctggattta tttcacatcc	2100
aacctggctt ctggagtccc tgctcgcttc agtggcagtg ggtctgggac ctcttactct	2160
ctcacaatca gcagcatgga ggctgaagat gctgccactt attactgcca gcagtggagt	2220
agtaaccgcg tcacgttcgg tgctgggacc aagctggagc tgaaatga	2268

<210> 91
<211> 755
<212> PRT
<213> Artificial Sequence

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

<400> 91
Met Ser Val Pro Thr Gln Val Leu Gly Leu Leu Leu Leu Trp Leu Thr
1 5 10 15

Asp Ala Arg Cys Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val
20 25 30

Arg Pro Gly Ala Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr
35 40 45

Phe Thr Asp Tyr Glu Val Tyr Trp Val Lys Gln Thr Pro Val His Gly
50 55 60

Leu Glu Trp Ile Gly Ala Ile Asp Pro Glu Thr Gly Arg Thr Ala Tyr
65 70 75 80

Asn Gln Lys Phe Lys Gly Lys Ala Ile Leu Thr Thr Asp Lys Ser Ser
85 90 95

Ser Thr Ala Tyr Met Ala Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala
100 105 110

Val Tyr Tyr Cys Ala Arg Leu Lys Ser Gly Arg Tyr Tyr Gly Asp Leu
115 120 125

Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ile Val
145 150 155 160

Leu Thr Gln Ser Pro Ala Leu Met Ser Ala Ser Pro Gly Glu Lys Val
165 170 175

Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met Tyr Trp Tyr
180 185 190

Gln Gln Lys Pro Arg Ser Ser Pro Lys Pro Trp Ile Tyr Phe Thr Ser
195 200 205

Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly
210 215 220

Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu Asp Ala Ala
225 230 235 240

Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Ala
245 250 255

Gly Thr Lys Leu Glu Leu Lys Glu Pro Lys Ser Ser Asp Lys Thr His
260 265 270

Thr Cys Pro Pro Cys Pro Pro Cys Ala Pro Glu Leu Leu Gly Gly Pro
275 280 285

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

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
305 310 315 320

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
325 330 335

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

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
355 360 365

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
370 375 380

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
385 390 395 400

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
405 410 415

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
420 425 430

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

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
450 455 460

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
465 470 475 480

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
485 490 495

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
500 505 510

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
515 520 525

Ser Val Thr Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
530 535 540

Glu Val Tyr Trp Val Lys Gln Thr Pro Val His Gly Leu Glu Trp Ile
545 550 555 560

Gly Ala Ile Asp Pro Glu Thr Gly Arg Thr Ala Tyr Asn Gln Lys Phe
565 570 575

Lys Gly Lys Ala Ile Leu Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr
580 585 590

Met Ala Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
595 600 605

Ala Arg Leu Lys Ser Gly Arg Tyr Tyr Gly Asp Leu Phe Ala Tyr Trp
610 615 620

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
625 630 635 640

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser
645 650 655

Pro Ala Leu Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys
660 665 670

Ser Ala Ser Ser Ser Val Ser Tyr Met Tyr Trp Tyr Gln Gln Lys Pro
675 680 685

Arg Ser Ser Pro Lys Pro Trp Ile Tyr Phe Thr Ser Asn Leu Ala Ser
690 695 700

Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser
705 710 715 720

Leu Thr Ile Ser Ser Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys
725 730 735

Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu
740 745 750

Glu Leu Lys
755

<210> 92
<211> 2199
<212> DNA
<213> Artificial Sequence

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

<400> 92
atgtccgtgc ctaccaggt gctgggcctg ctgctgctgt ggctgaccga cgccagatgc 60
caagtgcagc tgcagcagag cggcgctgag ctggtgagac ccggcgcttc cgtgacactg 120
agctgcaagg ccagcggcta caccttcacc gactacgagg tgtactgggt gaagcagacc 180
cccgtgcacg gactggagtg gatcggcgcc atcgaccccg agaccggaag aaccgcctac 240
aaccagaagt tcaagggcaa ggccattctg accacagaca agtccagctc caccgcctac 300
atggctctga gatctctgac cagcgaagac agcgccgtgt attactgtgc cagactgaag 360
tccggaagat actacggaga tctgtttgcc tactggggcc aaggcacact ggtgaccgtg 420
agctccgcta gcaccaaggg cccatcggtc ttccccctgg cgccctgctc caggagcacc 480
tccgagagca cagccgccct gggctgcctg gtcaaggact acttccccga accggtgacg 540
gtgtcgtgga actcaggcgc cctgaccagc ggctgcaca cttcccggc tgcctacag 600
tcctcaggac tctactccct cagcagcgtg gtgaccgtgc cctccagcag cttgggcacg 660
aagacctaca cctgcaacgt agatcacaag cccagcaaca ccaagggtgga caagagagtt 720
gagtccaaat atggtcccc atgcccata tgcccagcac ctgagttcct ggggggacca 780
tcagtcttcc tgttcccccc aaaacccaag gacactctca tgatctccc gacccctgag 840
gtcacgtgcg tgggtggtgga cgtgagccag gaagaccccg aggtccagtt caactggtac 900
gtggatggcg tggaggtgca taatgccaag acaaagccgc gggaggagca gttcaacagc 960
acgtaccgtg tggtcagcgt cctcaccgtc ctgcaccagg actggctgaa cggcaaggag 1020
tacaagtgca aggtctccaa caaaggcctc ccgtcctcca tcgagaaaac catctccaaa 1080

gccaaagggc agccccgaga gccacaggtg tacaccctgc ccccatccca ggaggagatg	1140
accaagaacc aggtcagcct gacctgcctg gtcaaaggct tctaccccag cgacatcgcc	1200
gtggagtggg agagcaatgg gcagccggag aacaactaca agaccacgcc tcccgtgctg	1260
gactccgacg gctccttctt cctctacagc aggctaaccg tggacaagag caggtggcag	1320
gaggggaatg tcttctcatg ctccgtgatg catgaggctc tgcacaacca ctacacacag	1380
aagagcctct ccctgtctct gggtaaaggc ggaggcggat ccggaggcgg aggctccgga	1440
ggcggcggca gcggcggcgg cggaagccag gttcaactgc agcagtctgg ggctgagttg	1500
gtgaggcctg gggcttcagt gacgctgtcc tgcaaggctt cgggctacac atttactgac	1560
tatgaagtgt actgggtgaa acagacacct gtgcatggcc tggaatggat tggagctatt	1620
gatcctgaaa ctggtcgtac tgcctacaat cagaagttca agggcaaggc catactgact	1680
acagacaaat cctccagcac agcctacatg gcgctccgca gtctgacatc tgaggactct	1740
gccgtctatt actgtgcaag attgaaatcc ggtcgctatt atggtgacct ctttgcttac	1800
tggggccaag ggactctggt cactgtctcg agcggaggag gaggctccgg cggaggagga	1860
agcggcggcg gcggaagcca gatcgtgctg acccagtctc ctgccctgat gagcgcttct	1920
cctggagaaa aggtgaccat gacctgcagc gcctctagct ctgtgtccta catgtactgg	1980
taccagcaga aacctagaag cagccccaag ccttgatct acttcaccag caacctggcc	2040
agcggcgtgc ccgccagatt cagcggcagc ggatctggaa caagctacag cctgaccatc	2100
agcagcatgg aagctgaaga tgccgctaca tactactgcc agcagtgggtc ctctaatacct	2160
ctgaccttcg gcgccggcac aaagctggaa ctgaagtga	2199

<210> 93

<211> 732

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 93

Met Ser Val Pro Thr Gln Val Leu Gly Leu Leu Leu Leu Trp Leu Thr

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

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr
 210 215 220

Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val
 225 230 235 240

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe
 245 250 255

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 260 265 270

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 275 280 285

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 290 295 300

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 305 310 315 320

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 325 330 335

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
 340 345 350

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 355 360 365

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
 370 375 380

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 385 390 395 400

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr

405	410	415
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu		
420	425	430
Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser		
435	440	445
Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser		
450	455	460
Leu Ser Leu Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly		
465	470	475
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Gln Ser		
485	490	495
Gly Ala Glu Leu Val Arg Pro Gly Ala Ser Val Thr Leu Ser Cys Lys		
500	505	510
Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Glu Val Tyr Trp Val Lys Gln		
515	520	525
Thr Pro Val His Gly Leu Glu Trp Ile Gly Ala Ile Asp Pro Glu Thr		
530	535	540
Gly Arg Thr Ala Tyr Asn Gln Lys Phe Lys Gly Lys Ala Ile Leu Thr		
545	550	555
Thr Asp Lys Ser Ser Ser Thr Ala Tyr Met Ala Leu Arg Ser Leu Thr		
565	570	575
Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Leu Lys Ser Gly Arg		
580	585	590
Tyr Tyr Gly Asp Leu Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr		
595	600	605

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
610 615 620

Gly Ser Gln Ile Val Leu Thr Gln Ser Pro Ala Leu Met Ser Ala Ser
625 630 635 640

Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser
645 650 655

Tyr Met Tyr Trp Tyr Gln Gln Lys Pro Arg Ser Ser Pro Lys Pro Trp
660 665 670

Ile Tyr Phe Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser
675 680 685

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu
690 695 700

Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro
705 710 715 720

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
725 730

<210> 94

<211> 2196

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 94

atgtccgtgc ctaccaggt gctgggcctg ctgctgctgt ggctgaccga cgccagatgc 60

cagggtccaac tgcagcagcc tggggctgag ctggtgaggc ctggagcttc agtgaagctg 120

tcctgcaagg cttctggcta caccttcacc agctactgga tgaactgggtt aaaacagagg 180

cctggacaag gccttgagtg gattggcatg attcatcctt ccgatagtga aacttggtta 240

aatcagaagt tcaaggacaa ggccacattg actatagaca aatcctccag cacagcctac	300
atgcaagtca gcagcccgc atctgaggac tctgcggtct attactgtgc caggagtggg	360
gactacgaag gggcttactg gggccaaggg actctgggtca ctgtctctgc agctagcacc	420
aaggggcccat cggctcttccc cctggcaccc tcctccaaga gcacctctgg gggcacagcg	480
gccctgggct gcctgggtcaa ggactacttc cccgaaccgg tgacgggtgc gtggaactca	540
ggcgccctga ccagcggcgt gcacaccttc ccggctgtcc tacagtcctc aggactctac	600
tccttcagca gcgtgggtgac cgtgccctcc agcagcttgg gcacccagac ctacatctgc	660
aacgtgaatc acaagcccag caacaccaag gtggacaaga aagttgagcc caaatcttgt	720
gacaaaaactc acacatgccc accgtgcccc gcacctgaac tcctggggggg accgtcagtc	780
ttcctcttcc ccccaaaacc caaggacacc ctcatgatct cccggacccc tgaggtcaca	840
tgctgtgggtg tggacgtgag ccacgaagac cctgagggtca agttcaactg gtacgtggac	900
ggcgtggagg tgcataatgc caagacaaaag ccgcgggagg agcagtacaa cagcacgtac	960
cgtgtgggtca gcgtcctcac cgtcctgcac caggactggc tgaatggcaa ggagtacaag	1020
tgcaagggtct ccaacaaagc cctcccagcc cccatcgaga aaaccatctc caaagccaaa	1080
gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga gatgaccaag	1140
aaccagggtca gcctgacctg cctgggtcaaa ggcttctatc ccagcgacat cgccgtggag	1200
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc	1260
gacggctcct tcttctctca cagcaagctc accgtggaca agagcagggtg gcagcagggg	1320
aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac gcagaagagc	1380
ctctccctgt ctccgggtaa aggcggaggc ggatccggag gcggaggctc cggaggcggc	1440
ggcagcggcg gcggcggaag ccaggttcag ctgcaacagc ctggcgccga acttggttaga	1500
cctggcgctt ctgtgaagct gagctgtaaa gccagcggct acaccttcac cagctactgg	1560
atgaactggc tgaagcagag gcctggacag ggcttcgagt ggatcggaat gattcacccc	1620
agcgacagcg agacatggct gaaccagaag ttcaaggaca aggccacact gaccatcgac	1680
aagagcagca gcaccgccta catgcaagtg tctagcccca ccagcgagga cagcgccgtg	1740

tactattgtg ccagaagcgg cgattacgag ggcgcctatt ggggacaggg aaccctggtt	1800
acagtgtccg ctggaggagg aggctccggc ggaggaggaa gcggcggcgg cggaagcgac	1860
gtggtcatga cacagacccc tctgacactg agcgtgacca ttggacagcc tgccagcatc	1920
agctgcaaga gcagtcagag cctgctggac tccgacggca agacctacct gaattggctg	1980
ctgcagaggc ccggacagag cccaagaga ctgatctacc tgggtgtcaa gctggacagc	2040
ggcgtgcccc atagattcac aggctctggc agcggcaccg acttcaccct gaagatctct	2100
agagtggaag ccgaggacct gggcgtgtac tactgttggc agggcgccca ctttccttgg	2160
acatttggcg gcggaacaaa gctcgagatc aagtga	2196

<210> 95

<211> 731

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 95

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

Asp	Ala	Arg	Cys	Gln	Val	Gln	Leu	Gln	Gln	Pro	Gly	Ala	Glu	Leu	Val
			20					25					30		

Arg	Pro	Gly	Ala	Ser	Val	Lys	Leu	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr
		35					40					45			

Phe	Thr	Ser	Tyr	Trp	Met	Asn	Trp	Leu	Lys	Gln	Arg	Pro	Gly	Gln	Gly
	50					55					60				

Leu	Glu	Trp	Ile	Gly	Met	Ile	His	Pro	Ser	Asp	Ser	Glu	Thr	Trp	Leu
65					70				75					80	

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

Ser Thr Ala Tyr Met Gln Val Ser Ser Pro Thr Ser Glu Asp Ser Ala
100 105 110

Val Tyr Tyr Cys Ala Arg Ser Gly Asp Tyr Glu Gly Ala Tyr Trp Gly
115 120 125

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

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
145 150 155 160

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
165 170 175

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
180 185 190

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
195 200 205

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
210 215 220

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
225 230 235 240

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
245 250 255

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
260 265 270

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
275 280 285

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 290 295 300

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 305 310 315 320

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 325 330 335

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 340 345 350

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 355 360 365

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 370 375 380

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 385 390 395 400

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 405 410 415

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 420 425 430

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 435 440 445

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 450 455 460

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
 465 470 475 480

Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Gln Pro Gly Ala
 485 490 495

Glu Leu Val Arg Pro Gly Ala Ser Val Lys Leu Ser Cys Lys Ala Ser
500 505 510

Gly Tyr Thr Phe Thr Ser Tyr Trp Met Asn Trp Leu Lys Gln Arg Pro
515 520 525

Gly Gln Gly Leu Glu Trp Ile Gly Met Ile His Pro Ser Asp Ser Glu
530 535 540

Thr Trp Leu Asn Gln Lys Phe Lys Asp Lys Ala Thr Leu Thr Ile Asp
545 550 555 560

Lys Ser Ser Ser Thr Ala Tyr Met Gln Val Ser Ser Pro Thr Ser Glu
565 570 575

Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ser Gly Asp Tyr Glu Gly Ala
580 585 590

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Gly Gly Gly Gly
595 600 605

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Val Val Met Thr
610 615 620

Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly Gln Pro Ala Ser Ile
625 630 635 640

Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr
645 650 655

Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser Pro Lys Arg Leu Ile
660 665 670

Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro Asp Arg Phe Thr Gly
675 680 685

Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala
690 695 700

Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly Ala His Phe Pro Trp
705 710 715 720

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
725 730

<210> 96
<211> 720
<212> DNA
<213> Artificial Sequence

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

<400> 96
atggaaaccg acaccctgct gctgtgggtg ctgctcctgt gggccccgg ctctacaggc 60
gatgttgtga tgaccagac tccactcact ttgtcggtta ccattggaca accagcctcc 120
atctcttgca agtcaagtca gagtctctta gatagtgatg gaaagacata tttgaattgg 180
ttattacaga ggccaggcca gtctccaaag cgcctaatct atctgggtgtc taaactggac 240
tctggagtcc ctgacagggt cactggcagt ggatcaggga cagatttcac actgaaaatc 300
agcagagtgg aggctgagga tttgggagtt tattattgct ggcaagggtgc acattttcct 360
tggacgttcg gtggaggcac caagctggaa atcaaacgga ccgtggccgc cccttctgtc 420
tttatcttcc cacctagcga cgagcagctg aaaagcggca ccgccagcgt ggtgtgcctg 480
ctgaacaact tctaccccag agaggccaag gtgcagtgga aggtcgacaa cgccctgcag 540
agcggcaaca gccaggagag cgtgaccgag caggatagca aggacagcac atatagcctg 600
agcagcacc tgacactgtc taaggccgac tacgagaagc acaagggtgta cgcctgtgaa 660
gtgaccacc agggcctgag cagccctgtg acaaagagct tcaaccgggg cgagtgtgta 720

<210> 97
<211> 239
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 97

Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15

Gly Ser Thr Gly Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser
20 25 30

Val Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser
35 40 45

Leu Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg
50 55 60

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

Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe
85 90 95

Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr
100 105 110

Cys Trp Gln Gly Ala His Phe Pro Trp Thr Phe Gly Gly Gly Thr Lys
115 120 125

Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
130 135 140

Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
145 150 155 160

Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
165 170 175

Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
180 185 190

Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
195 200 205

Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
210 215 220

Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

<210> 98

<211> 2274

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 98

atgtccgtgc ctacccaggt gctgggcctg ctgctgctgt ggctgaccga cgccagatgc	60
cagggtccaac tgcagcagcc tggggctgag ctggtgaggc ctggagcttc agtgaagctg	120
tcctgcaagg cttctggcta caccttcacc agctactgga tgaactgggtt aaaacagagg	180
cctggacaag gccttgagtg gattggcatg attcatcctt ccgatagtga aacttggtta	240
aatcagaagt tcaaggacaa ggccacattg actatagaca aatcctccag cacagcctac	300
atgcaagtca gcagcccgac atctgaggac tctgcggtct attactgtgc caggagtggg	360
gactacgaag gggcttactg gggccaaggg actctgggtca ctgtctctgc aggaggagga	420
ggctccggcg gaggaggaag cggcggcggc ggaagcgatg ttgtgatgac ccagactcca	480
ctcactttgt cggttaccat tggacaacca gcctccatct cttgcaagtc aagtcagagt	540
ctcttagata gtgatggaaa gacatatttg aattgggttat tacagaggcc aggccagtct	600
ccaaagcgcc taatctatct ggtgtctaaa ctggactctg gagtccctga caggttcact	660
ggcagtggat caggacaga tttcacactg aaaatcagca gagtggaggc tgaggatttg	720

ggagttttatt attgctggca aggtgcacat tttccttgga cgttcgggtgg aggcaccaag	780
ctggaaatca aagaacctaa atcttcagat aaaacgcata cttgcccacc atgtccaccc	840
tgtgcacctg aactcctggg gggaccgtca gtcttcctct tcccccaaa acccaaggac	900
accctcatga tctcccggac ccctgaggtc acatgcgtgg tgggtggacgt gagccacgaa	960
gaccctgagg tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca	1020
aagccgcggg aggagcagta caacagcacg taccgtgtgg tcagcgtcct caccgtcctg	1080
caccaggact ggctgaatgg caaggagtac aagtgaagg tctccaacaa agccctccca	1140
gccccatcg agaaaacat ctccaaagcc aaagggcagc ccgagaacc acaggtgtac	1200
accctgcccc catcccggga ggagatgacc aagaaccagg tcagcctgac ctgcctggtc	1260
aaaggcttct atcccagcga catcgccgtg gagtgggaga gcaatgggca gccggagaac	1320
aactacaaga ccacgcctcc cgtgctggac tccgacggct ctttcttcct ctacagcaag	1380
ctcaccgtgg acaagagcag gtggcagcag gggaacgtct tctcatgctc cgtgatgcat	1440
gaggctctgc acaaccacta cacgcagaag agcctctccc tgtctccggg taaaggagga	1500
ggaggctccg gcggaggagg aagcggcggc ggcggaagcc aggttcagct gcaacagcct	1560
ggcgccgaac ttgttagacc tggcgctct gtgaagctga gctgtaaagc cagcggctac	1620
accttcacca gctactggat gaactggctg aagcagaggc ctggacaggg cctcgagtgg	1680
atcggaatga ttcaccccag cgacagcgag acatggctga accagaagtt caaggacaag	1740
gccacactga ccatcgacaa gagcagcagc accgcctaca tgcaagtgtc tagccccacc	1800
agcgaggaca gcgccgtgta ctattgtgcc agaagcggcg attacgaggg cgcctattgg	1860
ggacagggaa ccctggttac agtgtccgt ggaggaggag gctccggcgg aggaggaagc	1920
ggcggcggcg gaagcgacgt ggtcatgaca cagaccctc tgacactgag cgtgaccatt	1980
ggacagcctg ccagcatcag ctgcaagagc agtcagagcc tgctggactc cgacggcaag	2040
acctacctga attggctgct gcagaggccc ggacagagcc ccaagagact gatctacctg	2100
gtgtccaagc tggacagcgg cgtgcccgat agattcacag gctctggcag cggcaccgac	2160
ttcacctga agatctctag agtgaagcc gaggacctgg gcgtgtacta ctgttggcag	2220

ggcgcccact ttccttggac atttggcggc ggaacaaagc tcgagatcaa gtga

2274

<210> 99

<211> 757

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 99

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

Asp Ala Arg Cys Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val
20 25 30

Arg Pro Gly Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr
35 40 45

Phe Thr Ser Tyr Trp Met Asn Trp Leu Lys Gln Arg Pro Gly Gln Gly
50 55 60

Leu Glu Trp Ile Gly Met Ile His Pro Ser Asp Ser Glu Thr Trp Leu
65 70 75 80

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

Ser Thr Ala Tyr Met Gln Val Ser Ser Pro Thr Ser Glu Asp Ser Ala
100 105 110

Val Tyr Tyr Cys Ala Arg Ser Gly Asp Tyr Glu Gly Ala Tyr Trp Gly
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ala Gly Gly Gly Gly Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Asp Val Val Met Thr Gln Thr Pro
 145 150 155 160

Leu Thr Leu Ser Val Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys
 165 170 175

Ser Ser Gln Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn Trp
 180 185 190

Leu Leu Gln Arg Pro Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val
 195 200 205

Ser Lys Leu Asp Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser
 210 215 220

Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu
 225 230 235 240

Gly Val Tyr Tyr Cys Trp Gln Gly Ala His Phe Pro Trp Thr Phe Gly
 245 250 255

Gly Gly Thr Lys Leu Glu Ile Lys Glu Pro Lys Ser Ser Asp Lys Thr
 260 265 270

His Thr Cys Pro Pro Cys Pro Pro Cys Ala Pro Glu Leu Leu Gly Gly
 275 280 285

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

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 305 310 315 320

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 325 330 335

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 340 345 350

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
355 360 365

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
370 375 380

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
385 390 395 400

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
405 410 415

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
420 425 430

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
435 440 445

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
450 455 460

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
465 470 475 480

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
485 490 495

Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
500 505 510

Ser Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Arg Pro Gly
515 520 525

Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser
530 535 540

Tyr Trp Met Asn Trp Leu Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp
545 550 555 560

Ile Gly Met Ile His Pro Ser Asp Ser Glu Thr Trp Leu Asn Gln Lys
565 570 575

Phe Lys Asp Lys Ala Thr Leu Thr Ile Asp Lys Ser Ser Ser Thr Ala
580 585 590

Tyr Met Gln Val Ser Ser Pro Thr Ser Glu Asp Ser Ala Val Tyr Tyr
595 600 605

Cys Ala Arg Ser Gly Asp Tyr Glu Gly Ala Tyr Trp Gly Gln Gly Thr
610 615 620

Leu Val Thr Val Ser Ala Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
625 630 635 640

Gly Gly Gly Gly Ser Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu
645 650 655

Ser Val Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln
660 665 670

Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln
675 680 685

Arg Pro Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu
690 695 700

Asp Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp
705 710 715 720

Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr
725 730 735

Tyr Cys Trp Gln Gly Ala His Phe Pro Trp Thr Phe Gly Gly Gly Thr
740 745 750

Lys Leu Glu Ile Lys
755

<210> 100
<211> 2187
<212> DNA
<213> Artificial Sequence

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

<400> 100
atgtccgtgc ctaccaggt gctgggcctg ctgctgctgt ggctgaccga cgccagatgc 60
gaggtccagc tgcaacaatc tggacctgag ctggtgaagc ctggggcttc agtgaagatg 120
tcctgtaagg cttctggata cacattcact gactactaca tgaactgggt gaagcagagc 180
catggaaaga gccttgagt gattggagat tttaatcctt acaacggtgg tactacctac 240
aaccagaagt tcaagggcaa ggccacattg actgtagaca aatcctccag cacagcctac 300
atgcagctca acagcctgac atctgaggac tctgcagtct attactgtgc aagatcggga 360
aggtacgact actttgacta ctggggccaa ggcatcactc tcacagtctc ctcagctagc 420
accaagggcc catcggcttt cccctggca ccctcctcca agagcacctc tgggggcaca 480
gcggccctgg gctgcctggt caaggactac ttccccgaac cggtgacggt gtcgtggaac 540
tcaggcgccc tgaccagcgg cgtgcacacc ttcccggtg tcctacagtc ctcaggactc 600
tactccctca gcagcgtggt gaccgtgccc tccagcagct tgggcaccca gacctacatc 660
tgcaacgtga atcacaagcc cagcaacacc aaggtggaca agaaaagtga gccc aaatct 720
tgtgacaaaa ctcacacatg cccaccgtgc ccagcacctg aactcctggg gggaccgtca 780
gtcttcctct tcccccaaa acccaaggac accctcatga tctccggac ccctgaggtc 840
acatgcgtgg tgggtggacgt gagccacgaa gaccctgagg tcaagttcaa ctggtacgtg 900
gacggcgtgg aggtgcataa tgccaagaca aagccgcggg aggagcagta caacagcacg 960
taccgtgtgg tcagcgtcct caccgtcctg caccaggact ggctgaatgg caaggagtac 1020

aagtgcaagg tctccaacaa agccctccca gcccccatcg agaaaacccat ctccaaagcc	1080
aaagggcagc cccgagaacc acaggtgtac accctgcccc catcccggga ggagatgacc	1140
aagaaccagg tcagcctgac ctgcctgggtc aaaggcttct atcccagcga catcgccgtg	1200
gagtgggaga gcaatgggca gccggagaac aactacaaga ccacgcctcc cgtgctggac	1260
tccgacggct ccttcttcct ctacagcaag ctcaccgtgg acaagagcag gtggcagcag	1320
gggaacgtct tctcatgctc cgtgatgcat gaggctctgc acaaccacta cacgcagaag	1380
agcctctccc tgtctccggg taaaggcgga ggcggtatccg gaggcggagg ctccggaggc	1440
ggcggcagcg gcggcggcgg aagcgagggtt cagctgcagc agtctggacc tgagctgggtt	1500
aagcctggcg cctccgtgaa gatgagctgt aaagccagcg gctacacctt caccgactac	1560
tacatgaact ggggtcaagca gagccacggc aagagcctgg aatggatcgg cgacttcaac	1620
ccctacaatg gcggcaccac ctacaaccag aagttcaagg gcaaagccac actgaccgtg	1680
gacaagagca gcagcacagc ctacatgcag ctcaacagcc tgaccagcga ggacagcgcc	1740
gtgtactact gtgccagaag cggcagatac gactacttcg actattgggg ccagggcatac	1800
accctgaccg ttagctcttg aggaggaggc tccggcggag gaggaagcgg cggcggcgga	1860
agcgacgtgc agatgaatca gagccctagc agcctgtctg ccagcctggg cgataccatac	1920
accatcacat gtcacgccag ccagaacatc aacgtgtggc tgagctggta tcagcagaag	1980
cccggcaaca tccccaaagct gctgatctac aagatcagca acctgcacac cggcgtgccc	2040
agcagatttt ctggctcttg aagcggcacc ggcttcaccc tgaccatcaa ttctctgcag	2100
cccgaggata tcgccaccta ctactgtcag cagggccaga tctaccctg gacatttggc	2160
ggcggaaacaa agctggaaat caagtga	2187

<210> 101

<211> 728

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 101

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

Asp Ala Arg Cys Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val
20 25 30

Lys Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr
35 40 45

Phe Thr Asp Tyr Tyr Met Asn Trp Val Lys Gln Ser His Gly Lys Ser
50 55 60

Leu Glu Trp Ile Gly Asp Phe Asn Pro Tyr Asn Gly Gly Thr Thr Tyr
65 70 75 80

Asn Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser
85 90 95

Ser Thr Ala Tyr Met Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala
100 105 110

Val Tyr Tyr Cys Ala Arg Ser Gly Arg Tyr Asp Tyr Phe Asp Tyr Trp
115 120 125

Gly Gln Gly Ile Thr Leu Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
130 135 140

Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr
145 150 155 160

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr
165 170 175

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
180 185 190

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr

195

200

205

Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn
 210 215 220

His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser
 225 230 235 240

Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
 245 250 255

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
 260 265 270

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
 275 280 285

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
 290 295 300

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
 305 310 315 320

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
 325 330 335

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
 340 345 350

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
 355 360 365

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
 370 375 380

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
 385 390 395 400

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
405 410 415

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
420 425 430

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
435 440 445

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
450 455 460

Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465 470 475 480

Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Gln Gln Ser Gly
485 490 495

Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala
500 505 510

Ser Gly Tyr Thr Phe Thr Asp Tyr Tyr Met Asn Trp Val Lys Gln Ser
515 520 525

His Gly Lys Ser Leu Glu Trp Ile Gly Asp Phe Asn Pro Tyr Asn Gly
530 535 540

Gly Thr Thr Tyr Asn Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val
545 550 555 560

Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Asn Ser Leu Thr Ser
565 570 575

Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ser Gly Arg Tyr Asp Tyr
580 585 590

Phe Asp Tyr Trp Gly Gln Gly Ile Thr Leu Thr Val Ser Ser Gly Gly

595

600

605

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Val Gln
610 615 620

Met Asn Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly Asp Thr Ile
625 630 635 640

Thr Ile Thr Cys His Ala Ser Gln Asn Ile Asn Val Trp Leu Ser Trp
645 650 655

Tyr Gln Gln Lys Pro Gly Asn Ile Pro Lys Leu Leu Ile Tyr Lys Ile
660 665 670

Ser Asn Leu His Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
675 680 685

Gly Thr Gly Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro Glu Asp Ile
690 695 700

Ala Thr Tyr Tyr Cys Gln Gln Gly Gln Ile Tyr Pro Trp Thr Phe Gly
705 710 715 720

Gly Gly Thr Lys Leu Glu Ile Lys
725

<210> 102

<211> 705

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 102

atggaaaccg acaccctgct gctgtgggtg ctgtcctgt ggggtccccgg ctctacaggc 60

gacgtccaga tgaaccagtc tccatccagt ctgtctgcat cccttggaga cacaattacc 120

atcacttgcc atgccagtca gaacattaat gtttggttaa gctggtacca gcagaaacca 180

ggaaatattc ctaaactatt gatctataag atttccaact tgcacacagg cgtcccatca 240
 aggttttagtg gcagtggatc tggaacaggt ttcacattaa ccatcaacag cctgcagcct 300
 gaagacattg ccacttacta ctgtcaacag ggtcaaattt atccgtggac gttcgggtgga 360
 ggcaccaagc tggaaatcaa acggaccgtg gccgcccctt ctgtctttat cttcccacct 420
 agcgacgagc agctgaaaag cggcaccgcc agcgtggtgt gcctgctgaa caacttctac 480
 cccagagagg ccaaggtgca gtggaagggtc gacaacgccc tgcagagcgg caacagccag 540
 gagagcgtga ccgagcagga tagcaaggac agcacatata gcctgagcag caccctgaca 600
 ctgtctaagg ccgactacga gaagcacaag gtgtacgcct gtgaagtgac ccaccagggc 660
 ctgagcagcc ctgtgacaaa gagcttcaac cggggcgagt gctga 705

<210> 103

<211> 234

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 103

Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15

Gly Ser Thr Gly Asp Val Gln Met Asn Gln Ser Pro Ser Ser Leu Ser
 20 25 30

Ala Ser Leu Gly Asp Thr Ile Thr Ile Thr Cys His Ala Ser Gln Asn
 35 40 45

Ile Asn Val Trp Leu Ser Trp Tyr Gln Gln Lys Pro Gly Asn Ile Pro
 50 55 60

Lys Leu Leu Ile Tyr Lys Ile Ser Asn Leu His Thr Gly Val Pro Ser
 65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Asn
85 90 95

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

Ile Tyr Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
130 135 140

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

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
165 170 175

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
195 200 205

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
210 215 220

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230

<210> 104

<211> 2250

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 104

atgtccgtgc ctacccaggt gctgggcctg ctgctgctgt ggctgaccga cgccagatgc	60
gagggtccagc tgcaacaatc tggacctgag ctggtgaagc ctggggcttc agtgaagatg	120
tcctgtaagg cttctggata cacattcact gactactaca tgaactgggt gaagcagagc	180
catggaaaga gccttgagtg gattggagat tttaatcctt acaacggtgg tactacctac	240
aaccagaagt tcaagggcaa ggccacattg actgtagaca aatcctccag cacagcctac	300
atgcagctca acagcctgac atctgaggac tctgcagtct attactgtgc aagatcggga	360
aggtagcact actttgacta ctggggccaa ggcatcactc tcacagtctc ctcaggagga	420
ggaggctccg gcggaggagg aagcggcggc ggcggaagcg acgtccagat gaaccagtct	480
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<211> 749

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

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Lys Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr
 35 40 45

Phe Thr Asp Tyr Tyr Met Asn Trp Val Lys Gln Ser His Gly Lys Ser

50

55

60

Leu Glu Trp Ile Gly Asp Phe Asn Pro Tyr Asn Gly Gly Thr Thr Tyr
 65 70 75 80

Asn Gln Lys Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser
 85 90 95

Ser Thr Ala Tyr Met Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala
 100 105 110

Val Tyr Tyr Cys Ala Arg Ser Gly Arg Tyr Asp Tyr Phe Asp Tyr Trp
 115 120 125

Gly Gln Gly Ile Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 130 135 140

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Val Gln Met Asn Gln Ser
 145 150 155 160

Pro Ser Ser Leu Ser Ala Ser Leu Gly Asp Thr Ile Thr Ile Thr Cys
 165 170 175

His Ala Ser Gln Asn Ile Asn Val Trp Leu Ser Trp Tyr Gln Gln Lys
 180 185 190

Pro Gly Asn Ile Pro Lys Leu Leu Ile Tyr Lys Ile Ser Asn Leu His
 195 200 205

Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe
 210 215 220

Thr Leu Thr Ile Asn Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr
 225 230 235 240

Cys Gln Gln Gly Gln Ile Tyr Pro Trp Thr Phe Gly Gly Gly Thr Lys
 245 250 255

Leu Glu Ile Lys Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
260 265 270

Pro Cys Pro Pro Cys Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe
275 280 285

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
290 295 300

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
305 310 315 320

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
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Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
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Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
355 360 365

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
370 375 380

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
385 390 395 400

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
405 410 415

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
420 425 430

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
435 440 445

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp

450

455

460

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 465 470 475 480

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly
 485 490 495

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln
 500 505 510

Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys
 515 520 525

Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Tyr Met Asn
 530 535 540

Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile Gly Asp Phe
 545 550 555 560

Asn Pro Tyr Asn Gly Gly Thr Thr Tyr Asn Gln Lys Phe Lys Gly Lys
 565 570 575

Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu
 580 585 590

Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Ser
 595 600 605

Gly Arg Tyr Asp Tyr Phe Asp Tyr Trp Gly Gln Gly Ile Thr Leu Thr
 610 615 620

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
 625 630 635 640

Gly Ser Asp Val Gln Met Asn Gln Ser Pro Ser Ser Leu Ser Ala Ser
 645 650 655

Leu Gly Asp Thr Ile Thr Ile Thr Cys His Ala Ser Gln Asn Ile Asn
660 665 670

Val Trp Leu Ser Trp Tyr Gln Gln Lys Pro Gly Asn Ile Pro Lys Leu
675 680 685

Leu Ile Tyr Lys Ile Ser Asn Leu His Thr Gly Val Pro Ser Arg Phe
690 695 700

Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Asn Ser Leu
705 710 715 720

Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Gly Gln Ile Tyr
725 730 735

Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
740 745