

SEQUENCE LISTING

<110> Autolus Limited

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<170> PatentIn version 3.5

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Ser	Tyr	Trp	Met	Asn
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Gln	Ile	Trp	Pro	Gly	Asp	Gly	Asp	Thr	Asn	Tyr	Asn	Gly	Lys	Phe	Lys
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Arg Glu Thr Thr Thr Val Gly Arg Tyr Tyr Tyr Ala Met Asp Tyr

1 5 10 15

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<400> 4

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

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Asp Ala Ser Asn Leu Val Ser
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Gln Gln Ser Thr Glu Asp Pro Trp Thr
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<400> 7

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

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

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

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

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

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

Ala Arg Arg Glu Thr Thr Thr Val Gly Arg Tyr Tyr Tyr Ala Met Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

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

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

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

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

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

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

Ala Arg Arg Glu Thr Thr Thr Val Gly Arg Tyr Tyr Tyr Ala Met Asp
100 105 110

Tyr Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser
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<400> 9

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

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

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

Lys Leu Leu Ile Tyr Asp Ala Ser Asn Leu Val Ser Gly Ile Pro Pro
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 Lys Val Asp Ala Ala Thr Tyr His Cys Gln Gln Ser Thr
85 90 95

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

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

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

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

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

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

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

Glu Asp Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105 110

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

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

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

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 <400> 13

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

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

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
225 230 235

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<400> 14

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

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

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

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

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

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

Ala Arg Arg Glu Thr Thr Thr Val Gly Arg Tyr Tyr Tyr Ala Met Asp
100 105 110

Tyr Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser Asp Ile Gln Leu
115 120 125

Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr
130 135 140

Ile Asn Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp Ser Tyr
145 150 155 160

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Val Leu Ile
165 170 175

Tyr Asp Ala Ser Asn Leu Val Ser Gly Val Pro Asp Arg Phe Ser Gly
180 185 190

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala
195 200 205

Ala Asp Val Ala Val Tyr Tyr Cys Gln Gln Ser Thr Glu Asp Pro Trp
210 215 220

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
225 230 235

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Asn Tyr Trp Ile Asn
1 5

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<400> 16

Asn Ile Tyr Pro Ser Asp Ser Phe Thr Asn Tyr Asn Gln Lys Phe Lys
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Asp

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Asp Thr Gln Glu Arg Ser Trp Tyr Phe Asp Val
1 5 10

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<400> 18

Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

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<400> 19

Lys Val Ser Asn Arg Phe Ser
1 5

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<400> 20

Ser Gln Ser Thr His Val Pro Trp Thr
1 5

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<400> 21

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

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

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

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

Gly Thr Thr Val Thr Val Ser Ser
115 120

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<400> 22

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

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

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<400> 23

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 Leu Tyr Phe Cys Ser Gln Ser
 85 90 95

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

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<212> PRT

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<400> 24

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

Glu Arg Ala Thr Leu Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

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

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

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

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

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

<210> 25

<211> 232
<212> PRT
<213> Artificial

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<400> 25

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

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

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

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

Gly Thr Thr Val Thr Val Ser Ser Asp Val Val Met Thr Gln Thr Pro
115 120 125

Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg
130 135 140

Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His Trp
145 150 155 160

Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val
165 170 175

Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser

180

185

190

Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu
 195 200 205

Gly Leu Tyr Phe Cys Ser Gln Ser Thr His Val Pro Trp Thr Phe Gly
 210 215 220

Gly Gly Thr Lys Leu Glu Ile Lys
 225 230

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<400> 26

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

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

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

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

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

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

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

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

115

120

125

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

Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His Trp
 145 150 155 160

Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Lys Val
 165 170 175

Ser Asn Arg Phe Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser
 180 185 190

Gly Val Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe
 195 200 205

Ala Val Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Trp Thr Phe Gly
 210 215 220

Gln Gly Thr Arg Leu Glu Ile Lys
 225 230

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<400> 27

Met Gly Thr Ser Leu Leu Cys Trp Met Ala Leu Cys Leu Leu Gly Ala
 1 5 10 15

Asp His Ala Asp Gly
 20

<210> 28
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<400> 28

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

His Ala Ala Arg Pro
20

<210> 29

<211> 20

<212> PRT

<213> Artificial

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<400> 29

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

Asp Ala Arg Cys
20

<210> 30

<211> 7

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<400> 30

Gly Tyr Ala Phe Ser Ser Ser
1 5

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<400> 31

Tyr Pro Gly Asp Glu Asp
1 5

<210> 32
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<400> 32

Ser Leu Leu Tyr Gly Asp Tyr Leu Asp Tyr
1 5 10

<210> 33
<211> 10
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<400> 33

Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 34
<211> 7
<212> PRT
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<400> 34

Asp Thr Ser Lys Leu Ala Ser
1 5

<210> 35
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<212> PRT
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<400> 35

Gln Gln Trp Asn Ile Asn Pro Leu Thr
1 5

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<212> PRT

<213> Artificial

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<400> 36

Gln 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 Ala Phe Ser Ser Ser
20 25 30

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

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

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

Thr Thr Leu Thr Val Ser Ser
115

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<211> 107

<212> PRT

<213> Artificial

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<400> 37

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 Tyr Met
20 25 30

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

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

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

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

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

<210> 38

<211> 241

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<400> 38

Gln 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 Ala Phe Ser Ser Ser
20 25 30

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

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

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

Thr Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
115 120 125

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

Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser
145 150 155 160

Ser Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Thr Ser
165 170 175

Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro
180 185 190

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Phe Leu Thr Ile
195 200 205

Asn Asn Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp
210 215 220

Asn Ile Asn Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
225 230 235 240

Arg

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<400> 39

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

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

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

Ala Arg Ile Arg Ser Lys Ser Ser Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60

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

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

Tyr Cys Val Val Asp Tyr Leu Tyr Ala Met Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Ser Val Thr Val Ser Ser
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<400> 40

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

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

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

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

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

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

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

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<400> 41

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

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

Gly Thr Leu Val Thr Val Ser Ala
115 120

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

Thr Val Thr Leu Thr Cys Arg Ser Ser Ala Gly Ala Val Thr Thr Ser
20 25 30

Asn Tyr Ala Asn Trp Val Gln Glu Lys Pro Asp His Leu Phe Thr Gly
35 40 45

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

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

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

His Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105

<210> 43
<211> 119
<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 43

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Met 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

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

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

Thr Thr Leu Thr Val Ser Ser
115

<210> 44

<211> 111

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 44

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 Tyr 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

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

<210> 45

<211> 120

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 45

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

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

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

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

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

Lys Met Asn Ser Leu Gln Thr Asp Asp Thr Ala Met Tyr Tyr Cys Ala

85

90

95

Arg His Ala Asp Asp Tyr Gly Phe Ala Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ala
 115 120

<210> 46

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 46

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

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

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

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

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

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

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

<210> 47

<211> 121

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 47

Glu Phe 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 Asp Tyr
20 25 30

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

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

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

Thr Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 48

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 48

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

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

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

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

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

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

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

<210> 49
<211> 118
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 49

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

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

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

Gly Val Ile Asp Pro Ser Asp Asn Phe Thr Tyr 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 Gly Tyr Gly Ser Ser Tyr Val Gly Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Leu Thr Val Ser Ser
115

<210> 50
<211> 113
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 50

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

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

Lys

<210> 51
<211> 124
<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 51

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

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

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

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

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

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

Cys Ala Arg Ser Pro Trp Ile Tyr Tyr Gly His Tyr Trp Cys Phe Asp
100 105 110

Val Trp Gly Thr Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 52

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 52

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 Pro Phe
 85 90 95

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

<210> 53
 <211> 123
 <212> PRT
 <213> Artificial

<220>
 <223> Artificial Sequence

<400> 53

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

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

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

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

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

Met Glu Leu Ser Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys

85

90

95

Ala Arg His Gly Asp Gly Tyr Tyr Leu Pro Pro Tyr Tyr Phe Asp Tyr
 100 105 110

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

<210> 54

<211> 106

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 54

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 Tyr Met
 20 25 30

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

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

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

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

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

<210> 55

<211> 121

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 55

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

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

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

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

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

Gln Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 56

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 56

Asp Ile Val Leu Thr 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 Ser Thr Asn
20 25 30

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

Lys Tyr Ala Ser Gln Ser Val 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 Ile Phe Phe Cys Gln Gln Ser Tyr Ser Trp Pro Tyr
85 90 95

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

<210> 57
<211> 120
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 57

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Met 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

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

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

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

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

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

Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 58
<211> 112
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 58

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

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

<210> 59
<211> 119
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 59

Glu Phe 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 Asp Tyr
20 25 30

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

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

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

Thr Thr Val Thr Val Ser Ser
115

<210> 60

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 60

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

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

Leu Ser Trp Leu Gln Gln Lys Pro Asp Gly Thr Ile Lys Arg Leu Ile

35

40

45

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

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

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

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

<210> 61

<211> 121

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 61

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

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

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

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

Gln Gly Arg Val Thr Met Thr Ala Asp Thr Ser Thr Ser Thr Val Tyr
 65 70 75 80

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

Thr Arg Glu Gly Tyr Gly Asn Tyr Gly Ala Trp Phe Ala Tyr Trp Gly

100

105

110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 62

<211> 113

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 62

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

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

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

Pro Gln Leu Leu Ile Tyr Gly Ile 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 Thr Ile
 65 70 75 80

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

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

Arg

<210> 63

<211> 127

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 63

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

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

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

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

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

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

Ala Arg Gln Arg Asn Tyr Tyr Asp Gly Ser Tyr Asp Tyr Glu Gly Tyr
100 105 110

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

<210> 64

<211> 107

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 64

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

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

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

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

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

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

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

<210> 65
<211> 234
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 65

Ala Glu Pro Lys Ser Pro Asp Lys Thr His Thr Cys Pro Pro Cys Pro
1 5 10 15

Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

Lys Asp Thr Leu Met Ile Ala Arg Thr Pro Glu Val Thr Cys Val Val
35 40 45

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
50 55 60

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
65 70 75 80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
85 90 95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
100 105 110

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
115 120 125

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
130 135 140

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
180 185 190

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
210 215 220

Ser Leu Ser Leu Ser Pro Gly Lys Lys Asp
225 230

<210> 66
<211> 46
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 66

Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala
1 5 10 15

Ser Gln Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly
20 25 30

Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile
35 40 45

<210> 67
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 67

Ala Glu Pro Lys Ser Pro Asp Lys Thr His Thr Cys Pro Pro Cys Pro
1 5 10 15

Lys Asp Pro Lys
20

<210> 68
<211> 185
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 68

Lys Glu Ile Thr Asn Ala Leu Glu Thr Trp Gly Ala Leu Gly Gln Asp
1 5 10 15

Ile Asn Leu Asp Ile Pro Ser Phe Gln Met Ser Asp Asp Ile Asp Asp
20 25 30

Ile Lys Trp Glu Lys Thr Ser Asp Lys Lys Lys Ile Ala Gln Phe Arg
35 40 45

Lys Glu Lys Glu Thr Phe Lys Glu Lys Asp Thr Tyr Lys Leu Phe Lys
50 55 60

Asn Gly Thr Leu Lys Ile Lys His Leu Lys Thr Asp Asp Gln Asp Ile
65 70 75 80

Tyr Lys Val Ser Ile Tyr Asp Thr Lys Gly Lys Asn Val Leu Glu Lys

85

90

95

Ile Phe Asp Leu Lys Ile Gln Glu Arg Val Ser Lys Pro Lys Ile Ser
 100 105 110

Trp Thr Cys Ile Asn Thr Thr Leu Thr Cys Glu Val Met Asn Gly Thr
 115 120 125

Asp Pro Glu Leu Asn Leu Tyr Gln Asp Gly Lys His Leu Lys Leu Ser
 130 135 140

Gln Arg Val Ile Thr His Lys Trp Thr Thr Ser Leu Ser Ala Lys Phe
 145 150 155 160

Lys Cys Thr Ala Gly Asn Lys Val Ser Lys Glu Ser Ser Val Glu Pro
 165 170 175

Val Ser Cys Pro Glu Lys Gly Leu Asp
 180 185

<210> 69
 <211> 259
 <212> PRT
 <213> Artificial

<220>
 <223> Artificial Sequence

<400> 69

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

Thr Phe Ser Asn Val Ser Thr Asn Val Ser Tyr Gln Glu Thr Thr Thr
 20 25 30

Pro Ser Thr Leu Gly Ser Thr Ser Leu His Pro Val Ser Gln His Gly
 35 40 45

Asn Glu Ala Thr Thr Asn Ile Thr Glu Thr Thr Val Lys Phe Thr Ser
 50 55 60

Thr Ser Val Ile Thr Ser Val Tyr Gly Asn Thr Asn Ser Ser Val Gln

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

<210> 70
 <211> 57
 <212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 70

Met His Ala Ala Leu Ser Thr Glu Val Val His Leu Arg Gln Arg Thr
1 5 10 15

Glu Glu Leu Leu Arg Cys Asn Glu Gln Gln Ala Ala Glu Leu Glu Thr
20 25 30

Cys Lys Glu Gln Leu Phe Gln Ser Asn Met Glu Arg Lys Glu Leu His
35 40 45

Asn Thr Val Met Asp Leu Arg Gly Asn
50 55

<210> 71

<211> 50

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 71

Gly Arg Glu Asp Ile Leu Glu Gln Trp Val Ser Gly Arg Lys Lys Leu
1 5 10 15

Glu Glu Leu Glu Arg Asp Leu Arg Lys Leu Lys Lys Lys Ile Lys Lys
20 25 30

Leu Glu Glu Asp Asn Pro Trp Leu Gly Asn Ile Lys Gly Ile Ile Gly
35 40 45

Lys Tyr
50

<210> 72

<211> 61

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 72

Arg Tyr Val Val Ala Leu Val Lys Ala Leu Glu Glu Ile Asp Glu Ser
1 5 10 15

Ile Asn Met Leu Asn Glu Lys Leu Glu Asp Ile Arg Ala Val Lys Glu
20 25 30

Ser Glu Ile Thr Glu Lys Phe Glu Lys Lys Ile Arg Glu Leu Arg Glu
35 40 45

Leu Arg Arg Asp Val Glu Arg Glu Ile Glu Glu Val Met
50 55 60

<210> 73

<211> 31

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 73

Ala Ile Glu Val Lys Leu Ala Asn Met Glu Ala Glu Ile Asn Thr Leu
1 5 10 15

Lys Ser Lys Leu Glu Leu Thr Asn Lys Leu His Ala Phe Ser Met
20 25 30

<210> 74

<211> 29

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 74

Glu Trp Glu Ala Leu Glu Lys Lys Leu Ala Ala Leu Glu Ser Lys Leu
1 5 10 15

Gln Ala Leu Glu Lys Lys Leu Glu Ala Leu Glu His Gly

20

25

<210> 75
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 75

Ile Asn Pro Val Asn Asn Arg Ile Gln Asp Leu Thr Glu Arg Ser Asp
1 5 10 15

Val Leu Arg Gly Tyr Leu Asp Tyr
20

<210> 76
<211> 51
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 76

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

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

Glu Ala Val Ala Glu Leu Asp Ala Leu Glu Glu Lys Leu Ala Gln Leu
35 40 45

Glu Phe Arg
50

<210> 77
<211> 51
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 77

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

Glu Leu His Asp Met Phe Met Asp Met Ala Met Leu Val Glu Ser Gln
20 25 30

Gly Glu Met Ile Asp Arg Ile Glu Tyr Asn Val Glu His Ala Val Asp
35 40 45

Tyr Val Glu
50

<210> 78

<211> 67

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 78

Ala Leu Ser Glu Ile Glu Thr Arg His Ser Glu Ile Ile Lys Leu Glu
1 5 10 15

Asn Ser Ile Arg Glu Leu His Asp Met Phe Met Asp Met Ala Met Leu
20 25 30

Val Glu Ser Gln Gly Glu Met Ile Asp Arg Ile Glu Tyr Asn Val Glu
35 40 45

His Ala Val Asp Tyr Val Glu Arg Ala Val Ser Asp Thr Lys Lys Ala
50 55 60

Val Lys Tyr
65

<210> 79

<211> 69

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 79

Glu Leu Glu Glu Met Gln Arg Arg Ala Asp Gln Leu Ala Asp Glu Ser
1 5 10 15

Leu Glu Ser Thr Arg Arg Met Leu Gln Leu Val Glu Glu Ser Lys Asp
20 25 30

Ala Gly Ile Arg Thr Leu Val Met Leu Asp Glu Gln Gly Glu Gln Leu
35 40 45

Glu Arg Ile Glu Glu Gly Met Asp Gln Ile Asn Lys Asp Met Lys Glu
50 55 60

Ala Glu Lys Asn Leu
65

<210> 80

<211> 51

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 80

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

Glu Leu His Asp Met Phe Met Asp Met Ala Met Leu Val Glu Ser Gln
20 25 30

Gly Glu Met Ile Asp Arg Ile Glu Tyr Asn Val Glu His Ala Val Asp
35 40 45

Tyr Val Glu
50

<210> 81

<211> 20

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 81

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

Ser Arg Leu Glu
20

<210> 82

<211> 136

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 82

Ser Gly Gln Arg Trp Glu Leu Ala Leu Gly Arg Phe Trp Asp Tyr Leu
1 5 10 15

Arg Trp Val Gln Thr Leu Ser Glu Gln Val Gln Glu Glu Leu Leu Ser
20 25 30

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

Glu Leu Lys Ala Tyr Lys Ser Glu Leu Glu Glu Gln Leu Thr Ala Arg
50 55 60

Leu Ser Lys Glu Leu Gln Ala Ala Gln Ala Arg Leu Gly Ala Asp Met
65 70 75 80

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

Met Leu Gly Gln Ser Thr Glu Glu Leu Arg Val Arg Leu Ala Ser His
100 105 110

Leu Arg Lys Leu Arg Lys Arg Leu Leu Arg Asp Ala Asp Asp Leu Gln

115

120

125

Lys Arg Leu Ala Val Tyr Gln Ala
130 135

<210> 83
<211> 45
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 83

Asp Leu Gly Pro Gln Met Leu Arg Glu Leu Gln Glu Thr Asn Ala Ala
1 5 10 15

Leu Gln Asp Val Arg Glu Leu Leu Arg Gln Gln Val Arg Glu Ile Thr
20 25 30

Phe Leu Lys Asn Thr Val Met Glu Cys Asp Ala Cys Gly
35 40 45

<210> 84
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 84

Gln Gln Val Arg Glu Ile Thr Phe Leu Lys Asn Thr Val Met Glu Cys
1 5 10 15

Asp Ala Cys Gly
20

<210> 85
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 85

Ile Ile Ala Ile Ala Val Val Gly Ala Leu Leu Leu Val Ala Leu Ile
1 5 10 15

Phe Gly Thr Ala Ser Tyr Leu Ile
20

<210> 86

<211> 140

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 86

Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu
1 5 10 15

Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Arg Val Lys Phe
20 25 30

Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu
35 40 45

Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp
50 55 60

Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys
65 70 75 80

Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala
85 90 95

Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys
100 105 110

Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr
115 120 125

Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg

130

135

140

<210> 87

<211> 180

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 87

Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu
 1 5 10 15

Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser
 20 25 30

Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly
 35 40 45

Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala
 50 55 60

Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala
 65 70 75 80

Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg
 85 90 95

Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu
 100 105 110

Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn
 115 120 125

Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met
 130 135 140

Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly
 145 150 155 160

Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala

165

170

175

Leu Pro Pro Arg
180

<210> 88

<211> 216

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 88

Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu
1 5 10 15

Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser
20 25 30

Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly
35 40 45

Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala
50 55 60

Ala Tyr Arg Ser Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys Pro
65 70 75 80

Pro Gly Gly Gly Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln Ala Asp
85 90 95

Ala His Ser Thr Leu Ala Lys Ile Arg Val Lys Phe Ser Arg Ser Ala
100 105 110

Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu
115 120 125

Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly
130 135 140

Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu

Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys Pro Pro Gly Gly Gly
1 5 10 15

Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln Ala Asp Ala His Ser Thr
20 25 30

Leu Ala Lys Ile
35

<210> 91
<211> 42
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 91

Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe Lys Gln Pro Phe Met
1 5 10 15

Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly Cys Ser Cys Arg Phe
20 25 30

Pro Glu Glu Glu Glu Gly Gly Cys Glu Leu
35 40

<210> 92
<211> 112
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 92

Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly
1 5 10 15

Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr
20 25 30

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

Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys

50

55

60

Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg
 65 70 75 80

Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala
 85 90 95

Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
 100 105 110

<210> 93

<211> 20

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 93

Arg Ala Glu Gly Arg Gly Ser Leu Leu Thr Cys Gly Asp Val Glu Glu
 1 5 10 15

Asn Pro Gly Pro
 20

<210> 94

<211> 214

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 94

Met Val Arg Trp Phe His Arg Asp Leu Ser Gly Leu Asp Ala Glu Thr
 1 5 10 15

Leu Leu Lys Gly Arg Gly Val His Gly Ser Phe Leu Ala Arg Pro Ser
 20 25 30

Arg Lys Asn Gln Gly Asp Phe Ser Leu Ser Val Arg Val Gly Asp Gln
 35 40 45

Val Thr His Ile Arg Ile Gln Asn Ser Gly Asp Phe Tyr Asp Leu Tyr
50 55 60

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

Gln Gln Gln Gly Val Leu Gln Asp Arg Asp Gly Thr Ile Ile His Leu
85 90 95

Lys Tyr Pro Leu Asn Cys Ser Asp Pro Thr Ser Glu Arg Trp Tyr His
100 105 110

Gly His Met Ser Gly Gly Gln Ala Glu Thr Leu Leu Gln Ala Lys Gly
115 120 125

Glu Pro Trp Thr Phe Leu Val Arg Glu Ser Leu Ser Gln Pro Gly Asp
130 135 140

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

Pro Leu Arg Val Thr His Ile Lys Val Met Cys Glu Gly Gly Arg Tyr
165 170 175

Thr Val Gly Gly Leu Glu Thr Phe Asp Ser Leu Thr Asp Leu Val Glu
180 185 190

His Phe Lys Lys Thr Gly Ile Glu Glu Ala Ser Gly Ala Phe Val Tyr
195 200 205

Leu Arg Gln Pro Tyr Tyr
210

<210> 95

<211> 97

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 95

Trp Phe His Arg Asp Leu Ser Gly Leu Asp Ala Glu Thr Leu Leu Lys
1 5 10 15

Gly Arg Gly Val His Gly Ser Phe Leu Ala Arg Pro Ser Arg Lys Asn
20 25 30

Gln Gly Asp Phe Ser Leu Ser Val Arg Val Gly Asp Gln Val Thr His
35 40 45

Ile Arg Ile Gln Asn Ser Gly Asp Phe Tyr Asp Leu Tyr Gly Gly Glu
50 55 60

Lys Phe Ala Thr Leu Thr Glu Leu Val Glu Tyr Tyr Thr Gln Gln Gln
65 70 75 80

Gly Val Leu Gln Asp Arg Asp Gly Thr Ile Ile His Leu Lys Tyr Pro
85 90 95

Leu

<210> 96

<211> 104

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 96

Trp Tyr His Gly His Met Ser Gly Gly Gln Ala Glu Thr Leu Leu Gln
1 5 10 15

Ala Lys Gly Glu Pro Trp Thr Phe Leu Val Arg Glu Ser Leu Ser Gln
20 25 30

Pro Gly Asp Phe Val Leu Ser Val Leu Ser Asp Gln Pro Lys Ala Gly
35 40 45

Pro Gly Ser Pro Leu Arg Val Thr His Ile Lys Val Met Cys Glu Gly
50 55 60

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

Leu Val Glu His Phe Lys Lys Thr Gly Ile Glu Glu Ala Ser Gly Ala
85 90 95

Phe Val Tyr Leu Arg Gln Pro Tyr
100

<210> 97
<211> 97
<212> PRT
<213> Artificial

<220>
<223> Artificial Sequence

<400> 97

Trp Phe His Pro Asn Ile Thr Gly Val Glu Ala Glu Asn Leu Leu Leu
1 5 10 15

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

Pro Gly Asp Phe Thr Leu Ser Val Arg Arg Asn Gly Ala Val Thr His
35 40 45

Ile Lys Ile Gln Asn Thr Gly Asp Tyr Tyr Asp Leu Tyr Gly Gly Glu
50 55 60

Lys Phe Ala Thr Leu Ala Glu Leu Val Gln Tyr Tyr Met Glu His His
65 70 75 80

Gly Gln Leu Lys Glu Lys Asn Gly Asp Val Ile Glu Leu Lys Tyr Pro
85 90 95

Leu

<210> 98
<211> 105
<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 98

Trp Phe His Gly His Leu Ser Gly Lys Glu Ala Glu Lys Leu Leu Thr
1 5 10 15

Glu Lys Gly Lys His Gly Ser Phe Leu Val Arg Glu Ser Gln Ser His
20 25 30

Pro Gly Asp Phe Val Leu Ser Val Arg Thr Gly Asp Asp Lys Gly Glu
35 40 45

Ser Asn Asp Gly Lys Ser Lys Val Thr His Val Met Ile Arg Cys Gln
50 55 60

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

Asp Leu Val Glu His Tyr Lys Lys Asn Pro Met Val Glu Thr Leu Gly
85 90 95

Thr Val Leu Gln Leu Lys Gln Pro Leu
100 105

<210> 99

<211> 211

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 99

Trp Phe His Pro Asn Ile Thr Gly Val Glu Ala Glu Asn Leu Leu Leu
1 5 10 15

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

Pro Gly Asp Phe Thr Leu Ser Val Arg Arg Asn Gly Ala Val Thr His

35

40

45

Ile Lys Ile Gln Asn Thr Gly Asp Tyr Tyr Asp Leu Tyr Gly Gly Glu
 50 55 60

Lys Phe Ala Thr Leu Ala Glu Leu Val Gln Tyr Tyr Met Glu His His
 65 70 75 80

Gly Gln Leu Lys Glu Lys Asn Gly Asp Val Ile Glu Leu Lys Tyr Pro
 85 90 95

Leu Asn Cys Ala Asp Pro Thr Ser Glu Arg Trp Phe His Gly His Leu
 100 105 110

Ser Gly Lys Glu Ala Glu Lys Leu Leu Thr Glu Lys Gly Lys His Gly
 115 120 125

Ser Phe Leu Val Arg Glu Ser Gln Ser His Pro Gly Asp Phe Val Leu
 130 135 140

Ser Val Arg Thr Gly Asp Asp Lys Gly Glu Ser Asn Asp Gly Lys Ser
 145 150 155 160

Lys Val Thr His Val Met Ile Arg Cys Gln Glu Leu Lys Tyr Asp Val
 165 170 175

Gly Gly Gly Glu Arg Phe Asp Ser Leu Thr Asp Leu Val Glu His Tyr
 180 185 190

Lys Lys Asn Pro Met Val Glu Thr Leu Gly Thr Val Leu Gln Leu Lys
 195 200 205

Gln Pro Leu
 210

<210> 100
 <211> 177
 <212> PRT
 <213> Artificial

<220>
 <223> Artificial Sequence

<400> 100

Thr Ile Pro Pro His Val Gln Lys Ser Val Asn Asn Asp Met Ile Val
1 5 10 15

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

Asp Val Arg Phe Ser Thr Cys Asp Asn Gln Lys Ser Cys Met Ser Asn
35 40 45

Cys Ser Ile Thr Ser Ile Cys Glu Lys Pro Gln Glu Val Cys Val Ala
50 55 60

Val Trp Arg Lys Asn Asp Glu Asn Ile Thr Leu Glu Thr Val Cys His
65 70 75 80

Asp Pro Lys Leu Pro Tyr His Asp Phe Ile Leu Glu Asp Ala Ala Ser
85 90 95

Pro Lys Cys Ile Met Lys Glu Lys Lys Lys Pro Gly Glu Thr Phe Phe
100 105 110

Met Cys Ser Cys Ser Ser Asp Glu Cys Asn Asp Asn Ile Ile Phe Ser
115 120 125

Glu Glu Tyr Asn Thr Ser Asn Pro Asp Leu Leu Leu Val Ile Phe Gln
130 135 140

Val Thr Gly Ile Ser Leu Leu Pro Pro Leu Gly Val Ala Ile Ser Val
145 150 155 160

Ile Ile Ile Phe Tyr Cys Tyr Arg Val Asn Arg Gln Gln Lys Leu Ser
165 170 175

Ser

<210> 101

<211> 5

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 101

Asn	Phe	Ala	Met	Ala
1				5

<210> 102

<211> 17

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 102

Ser	Ile	Ser	Thr	Gly	Gly	Gly	Asn	Thr	Tyr	Tyr	Arg	Asp	Ser	Val	Lys
1				5					10					15	

Gly

<210> 103

<211> 18

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 103

Gln	Arg	Asn	Tyr	Tyr	Asp	Gly	Ser	Tyr	Asp	Tyr	Glu	Gly	Tyr	Thr	Met
1				5					10					15	

Asp Ala

<210> 104

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 104

Arg Ser Ser Gln Asp Ile Gly Asn Tyr Leu Thr
1 5 10

<210> 105

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 105

Gly Ala Ile Lys Leu Glu Asp
1 5

<210> 106

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Artificial Sequence

<400> 106

Leu Gln Ser Ile Gln Tyr Pro
1 5