

SEQUENCE LISTING

<110> Crucell Holland B.V.
 <120> INFLUENZA VIRUS VACCINES AND USES THEREOF
 <130> 0240 WO 00 ORD
 <150> EP14176451.4
 <151> 2014-07-10
 <160> 158
 <170> PatentIn version 3.5

<210> 1
 <211> 565
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> H1 Full length (A/Brisbane/59/2007)

<400> 1

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asn Ser His Asn Gly Lys Leu Cys Leu Leu Lys Gly Ile
 50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly
 65 70 75 80

Asn Pro Glu Cys Glu Leu Leu Ile Ser Lys Glu Ser Trp Ser Tyr Ile
 85 90 95

Val Glu Lys Pro Asn Pro Glu Asn Gly Thr Cys Tyr Pro Gly His Phe
 100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Val Thr Gly Val Ser Ala Ser Cys Ser His Asn Gly Glu Ser Ser Phe
145 150 155 160

Tyr Arg Asn Leu Leu Trp Leu Thr Gly Lys Asn Gly Leu Tyr Pro Asn
165 170 175

Leu Ser Lys Ser Tyr Ala Asn Asn Lys Glu Lys Glu Val Leu Val Leu
180 185 190

Trp Gly Val His His Pro Pro Asn Ile Gly Asp Gln Lys Ala Leu Tyr
195 200 205

His Thr Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Ser Arg
210 215 220

Lys Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln Glu
225 230 235 240

Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile
245 250 255

Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Arg Tyr Ala Phe Ala
260 265 270

Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Asn Ser Asn Ala Pro Met
275 280 285

Asp Lys Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser
290 295 300

Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys Pro
305 310 315 320

Lys Tyr Val Arg Ser Ala Lys Leu Arg Met Val Thr Gly Leu Arg Asn

325

330

335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Val Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
 405 410 415

Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Ile
 420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
 435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
 450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
 465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asn Asp Glu Cys Met Glu Ser Val Lys
 485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
 500 505 510

Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln
 515 520 525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
 530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
 545 550 555 560

Cys Arg Ile Cys Ile
 565

<210> 2
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> H1-mini2-cluster1+5+6-GCN4

<400> 2

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Ile Pro Ser Ile Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ser Thr Ala

130

135

140

Thr Gly Lys Glu Gly Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp
 145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
 165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
 195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
 210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 3

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> foldon

<400> 3

Gly Tyr Ile Pro Glu Ala Pro Arg Asp Gly Gln Ala Tyr Val Arg Lys
 1 5 10 15

Asp Gly Glu Trp Val Leu Leu Ser Thr Phe Leu
 20 25

<210> 4
 <211> 54
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> FLAG-thrombin-foldon-HIS

<400> 4

Ser Gly Arg Asp Tyr Lys Asp Asp Asp Asp Lys Leu Val Pro Arg Gly
 1 5 10 15

Ser Pro Gly Ser Gly Tyr Ile Pro Glu Ala Pro Arg Asp Gly Gln Ala
 20 25 30

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

His His His His His His
 50

<210> 5
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Trimerization domain

<400> 5

Met Lys Gln Ile Glu Asp Lys Ile Glu Glu Ile Glu Ser Lys Gln
 1 5 10 15

<210> 6
 <211> 292
 <212> PRT
 <213> Artificial Sequence

<220>

<223> H1-mini2-cluster1+5+6-GCN4 without leader sequence and with
FLAG-thrombin-foldon-HIS

<400> 6

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Ile Pro Ser Ile Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ser Thr Ala Thr
115 120 125

Gly Lys Glu Gly Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Ser Gly
225 230 235 240

Arg Asp Tyr Lys Asp Asp Asp Asp Lys Leu Val Pro Arg Gly Ser Pro
245 250 255

Gly Ser Gly Tyr Ile Pro Glu Ala Pro Arg Asp Gly Gln Ala Tyr Val
260 265 270

Arg Lys Asp Gly Glu Trp Val Leu Leu Ser Thr Phe Leu Gly His His
275 280 285

His His His His
290

<210> 7
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> H1 HA2 amino acid sequence connecting the C-terminal residue of
helix A and the N-terminal residue of helix CD

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> X=H OR K

<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> X= K OR R

<400> 7

Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Xaa Leu Glu
1 5 10 15

Xaa

<210> 8
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> H1 HA2 amino acid sequence connecting the C-terminal residue of
helix A and the N-terminal residue of helix CD

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> X= M, E, K, V, R, T

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> X= F, I, N, T, H, L, Y

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> X= V, A, G, I, R, F, S

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> X= F, I, N, S, T, Y, E, K, M, V

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> X= F, I, N, S, T, Y, E, K, M, V

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> X= H or K

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> X= L, H, I, N, R

<220>
<221> MISC_FEATURE

<222> (17)..(17)

<223> X= K or R

<220>

<221> misc_feature

<222> (18)..(18)

<223> Xaa can be any naturally occurring amino acid

<400> 8

Xaa	Asn	Thr	Gln	Xaa	Thr	Ala	Xaa	Gly	Lys	Glu	Xaa	Asn	Xaa	Xaa	Leu
1				5					10					15	

Glu Xaa

<210> 9

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> CR6261 VH

<400> 9

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	Gly	Pro	Phe	Arg	Ser	Tyr
			20					25					30		

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

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

Gln	Gly	Arg	Val	Thr	Ile	Thr	Ala	Asp	Asp	Phe	Ala	Gly	Thr	Val	Tyr
65					70					75					80

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

Ala	Lys	His	Met	Gly	Tyr	Gln	Val	Arg	Glu	Thr	Met	Asp	Val	Trp	Gly
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100

105

110

Lys Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 10

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> CR6261 VL PROTEIN

<400> 10

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

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

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

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

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

Thr Gly Asp Glu Ala Asn Tyr Tyr Cys Ala Thr Trp Asp Arg Arg Pro
 85 90 95

Thr Ala Tyr Val Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105 110

<210> 11

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> SC09-114 VH PROTEIN

<400> 11

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

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

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

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

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

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

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

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 12

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> SC09-114 VL PROTEIN

<400> 12

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

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

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

35

40

45

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

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

Ser Glu Asp Glu Ala Glu Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu
 85 90 95

Lys Gly Ala Val Phe Gly Gly Gly Thr Gln Leu Thr Val Leu
 100 105 110

<210> 13

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> SC08-057 VH PROTEIN

<400> 13

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

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

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

Ser Ile Ile Tyr Ile Asp Asp Ser Thr Tyr Tyr Ala Asp Ser Val Lys
 50 55 60

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

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

Thr Glu Ser Gly Asp Phe Gly Asp Gln Thr Gly Pro Tyr His Tyr Tyr
100 105 110

Ala Met Asp Val
115

<210> 14
<211> 100
<212> PRT
<213> Artificial Sequence

<220>
<223> SC08-057 VL PROTEIN

<400> 14

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

Ser Ile Thr Ile Ser Cys Thr Gly Ser Ser Gly Asp Ile Gly Gly Tyr
20 25 30

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

Met Ile Tyr Glu Val Thr Ser Arg Pro Ser Gly Val Ser Asp Arg Phe
50 55 60

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

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

Asn Ile Leu Ile
100

<210> 15
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Histag

<400> 15

His His His His His His
1 5

<210> 16

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Histag

<400> 16

Met His His His His His His His
1 5

<210> 17

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> SC08-020 VH

<400> 17

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

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

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

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

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

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

Ala Arg Glu Pro Pro Leu Phe Tyr Ser Ser Trp Ser Leu Asp Asn
100 105 110

<210> 18
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> SC08-020 VL

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa can be any naturally occurring amino acid

<400> 18

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

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

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

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

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

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

Arg Thr

<210> 19

<400> 19

000

<210> 20
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> GCN4 derived sequence

<400> 20

Arg Met Lys Gln Ile Glu Asp Lys Ile Glu Glu Ile Glu Ser Lys
1 5 10 15

<210> 21
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> GCN4 derived sequence

<400> 21

Arg Met Lys Gln Ile Glu Asp Lys Ile Glu Glu Ile Glu Ser Lys Gln
1 5 10 15

Lys

<210> 22
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> FLAG tag

<400> 22

Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 23
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> thrombin proteolytic site

<400> 23

Arg Ser Leu Val Pro Arg
1 5

<210> 24
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Factor X proteolytic site

<400> 24

Ile Glu Gly Arg
1

<210> 25
<211> 565
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Solomon ISlands/6/2003

<400> 25

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Leu Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Leu Leu Ile Ser Arg Glu Ser Trp Ser Tyr Ile
85 90 95

Val Glu Lys Pro Asn Pro Glu Asn Gly Thr Cys Tyr Pro Gly His Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Thr Thr Gly Val Ser Ala Ser Cys Ser His Asn Gly Glu Ser Ser Phe
145 150 155 160

Tyr Lys Asn Leu Leu Trp Leu Thr Gly Lys Asn Gly Leu Tyr Pro Asn
165 170 175

Leu Ser Lys Ser Tyr Ala Asn Asn Lys Glu Lys Glu Val Leu Val Leu
180 185 190

Trp Gly Val His His Pro Pro Asn Ile Gly Asp Gln Arg Ala Leu Tyr
195 200 205

His Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Ser Arg
210 215 220

Lys Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln Glu
225 230 235 240

Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile
245 250 255

Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Arg Tyr Ala Phe Ala
260 265 270

Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Asn Ser Asn Ala Pro Met
275 280 285

Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser

290

295

300

Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys Pro
 305 310 315 320

Lys Tyr Val Arg Ser Ala Lys Leu Arg Met Val Thr Gly Leu Arg Asn
 325 330 335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Val Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
 405 410 415

Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Ile
 420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
 435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
 450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
 465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asn Asp Glu Cys Met Glu Ser Val Lys
 485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
 500 505 510

Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln
515 520 525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
545 550 555 560

Cys Arg Ile Cys Ile
565

<210> 26
<211> 564
<212> PRT
<213> Artificial Sequence

<220>
<223> A/New Caledonia/20/1999

<400> 26

Lys Ala Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr Ala
1 5 10 15

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
20 25 30

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
35 40 45

Leu Glu Asp Ser His Asn Gly Lys Leu Cys Leu Leu Lys Gly Ile Ala
50 55 60

Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly Asn
65 70 75 80

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

Glu Thr Pro Asn Pro Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe Ala

100

105

110

Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe Glu
 115 120 125

Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr Val
 130 135 140

Thr Gly Val Ser Ala Ser Cys Ser His Asn Gly Lys Ser Ser Phe Tyr
 145 150 155 160

Arg Asn Leu Leu Trp Leu Thr Gly Lys Asn Gly Leu Tyr Pro Asn Leu
 165 170 175

Ser Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val Leu Trp
 180 185 190

Gly Val His His Pro Pro Asn Ile Gly Asn Gln Arg Ala Leu Tyr His
 195 200 205

Thr Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Ser Arg Arg
 210 215 220

Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln Glu Gly
 225 230 235 240

Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile Ile
 245 250 255

Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe Ala Leu
 260 265 270

Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Pro Met Asp
 275 280 285

Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser Ser
 290 295 300

Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys Pro Lys
 305 310 315 320

Tyr Val Arg Ser Ala Lys Leu Arg Met Val Thr Gly Leu Arg Asn Ile
325 330 335

Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile
340 345 350

Glu Gly Gly Trp Thr Gly Met Val Asp Gly Trp Tyr Gly Tyr His His
355 360 365

Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr Gln
370 375 380

Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu Lys
385 390 395 400

Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu Glu
405 410 415

Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Leu Asp
420 425 430

Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu Arg
435 440 445

Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys Val
450 455 460

Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys Phe
465 470 475 480

Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val Lys Asn
485 490 495

Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn Arg
500 505 510

Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln Ile
515 520 525

Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val Ser
530 535 540

Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln Cys
545 550 555 560

Arg Ile Cys Ile

<210> 27
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/California/07/2009

<400> 27

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Lys His Asn Gly Lys Leu Cys Lys Leu Arg Gly Val
50 55 60

Ala Pro Leu His Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Ser Thr Ala Ser Ser Trp Ser Tyr Ile
85 90 95

Val Glu Thr Pro Ser Ser Asp Asn Gly Thr Cys Tyr Pro Gly Asp Phe
100 105 110

Ile Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Thr Ser Ser Trp Pro Asn His Asp
130 135 140

Ser Asn Lys Gly Val Thr Ala Ala Cys Pro His Ala Gly Ala Lys Ser
145 150 155 160

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

Lys Leu Ser Lys Ser Tyr Ile Asn Asp Lys Gly Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Ile His His Pro Ser Thr Ser Ala Asp Gln Gln Ser Leu
195 200 205

Tyr Gln Asn Ala Asp Ala Tyr Val Phe Val Gly Ser Ser Arg Tyr Ser
210 215 220

Lys Lys Phe Lys Pro Glu Ile Ala Ile Arg Pro Lys Val Arg Asp Gln
225 230 235 240

Glu Gly Arg Met Asn Tyr Tyr Trp Thr Leu Val Glu Pro Gly Asp Lys
245 250 255

Ile Thr Phe Glu Ala Thr Gly Asn Leu Val Val Pro Arg Tyr Ala Phe
260 265 270

Ala Met Glu Arg Asn Ala Gly Ser Gly Ile Ile Ile Ser Asp Thr Pro
275 280 285

Val His Asp Cys Asn Thr Thr Cys Gln Thr Pro Lys Gly Ala Ile Asn
290 295 300

Thr Ser Leu Pro Phe Gln Asn Ile His Pro Ile Thr Ile Gly Lys Cys
305 310 315 320

Pro Lys Tyr Val Lys Ser Thr Lys Leu Arg Leu Ala Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Val Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Leu Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asp Glu Ile Thr Asn Lys Val Asn Ser Val Ile
385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn His
405 410 415

Leu Glu Lys Arg Ile Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Glu Arg Thr Leu Asp Tyr His Asp Ser Asn Val Lys Asn Leu Tyr Glu
450 455 460

Lys Val Arg Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asp Asn Thr Cys Met Glu Ser Val
485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ala Lys Leu
500 505 510

Asn Arg Glu Glu Ile Asp Gly Val Lys Leu Glu Ser Thr Arg Ile Tyr
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Val
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
 545 550 555 560

Gln Cys Arg Ile Cys Ile
 565

<210> 28
 <211> 566
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/swine/Hubei/S1/2009

<400> 28

Met Glu Ala Lys Leu Phe Val Leu Phe Cys Ala Phe Thr Ala Leu Lys
 1 5 10 15

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

Val Asp Thr Ile Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asn Ser His Asn Gly Lys Leu Cys Ser Leu Asn Gly Lys
 50 55 60

Ile Pro Leu Gln Leu Gly Asn Cys Asn Val Ala Gly Trp Ile Leu Gly
 65 70 75 80

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

Ile Glu Thr Ser Lys Ser Lys Asn Gly Ala Cys Tyr Pro Gly Glu Phe
 100 105 110

Ala Asp Tyr Glu Glu Leu Lys Glu Gln Leu Ser Thr Val Ser Ser Phe
 115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Ala Ile Ser Trp Pro Asp His Asp
 130 135 140

Ala Thr Arg Gly Thr Thr Val Ala Cys Ser His Ser Gly Val Asn Ser
 145 150 155 160

Phe Tyr Arg Asn Leu Leu Ser Thr Val Lys Lys Gly Asn Ser Tyr Pro
 165 170 175

Lys Leu Ser Lys Ser Tyr Thr Asn Asn Lys Gly Lys Glu Val Leu Val
 180 185 190

Ile Trp Gly Val His His Pro Pro Thr Asp Ser Val Gln Gln Thr Leu
 195 200 205

Tyr Gln Asn Lys His Thr Tyr Val Ser Val Gly Ser Ser Lys Tyr Tyr
 210 215 220

Lys Arg Phe Thr Pro Glu Ile Val Ala Arg Pro Lys Val Arg Gly Gln
 225 230 235 240

Ala Gly Arg Met Asn Tyr Tyr Trp Thr Leu Phe Asp Gln Gly Asp Thr
 245 250 255

Ile Thr Phe Glu Ala Thr Gly Asn Leu Ile Ala Pro Trp His Ala Phe
 260 265 270

Ala Leu Lys Lys Gly Ser Ser Ser Gly Ile Met Leu Ser Asp Ala Gln
 275 280 285

Val His Asn Cys Thr Thr Lys Cys Gln Thr Pro His Gly Ala Leu Lys
 290 295 300

Asn Asn Leu Pro Leu Gln Asn Val His Leu Phe Thr Ile Gly Glu Cys
 305 310 315 320

Pro Lys Tyr Val Lys Ser Thr Gln Leu Arg Met Ala Thr Gly Leu Arg
 325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
 340 345 350

Phe Ile Glu Gly Gly Arg Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Ile Ala Ile Asp Gly Ile Asn Asn Lys Ala Asn Ser Val Ile
385 390 395 400

Gly Lys Met Asn Ile Gln Leu Thr Ser Val Gly Lys Glu Phe Asn Ser
405 410 415

Leu Glu Lys Arg Lys Glu Asn Leu Asn Lys Thr Val Asp Asp Arg Phe
420 425 430

Leu Asp Val Trp Thr Phe Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Gln Arg Thr Leu Glu Phe His Asp Leu Asn Ile Lys Ser Leu Tyr Glu
450 455 460

Lys Val Lys Ser His Leu Arg Asn Asn Asp Lys Glu Ile Gly Asn Gly
465 470 475 480

Cys Phe Glu Phe Tyr His Lys Arg Asp Asn Glu Cys Leu Glu Cys Val
485 490 495

Lys Asn Gly Thr Tyr Asn Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Phe
500 505 510

Asn Arg Glu Glu Ile Val Gly Val Lys Leu Glu Ser Met Gly Ile His
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
545 550 555 560

Gln Cys Arg Val Cys Ile

<210> 29
 <211> 566
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/swine/Haseluenne/IDT2617/2003

<400> 29

Met Glu Ala Lys Leu Phe Val Leu Phe Cys Ala Phe Thr Ala Leu Lys
 1 5 10 15

Ala Asp Thr Ile Cys Val Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Ile Leu Glu Lys Asn Val Thr Val Thr His Ser Ile Asn
 35 40 45

Leu Leu Glu Asn Asn His Asn Gly Lys Leu Cys Ser Leu Asn Gly Lys
 50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Asn Val Ala Gly Trp Ile Leu Gly
 65 70 75 80

Asn Pro Glu Cys Asp Leu Leu Leu Thr Val Asp Ser Trp Ser Tyr Ile
 85 90 95

Ile Glu Thr Ser Asn Ser Lys Asn Gly Ala Cys Tyr Pro Gly Glu Phe
 100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Thr Val Ser Ser Phe
 115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Ala Thr Ser Trp Pro Asn His Asp
 130 135 140

Thr Thr Arg Gly Thr Thr Ile Ser Cys Ser His Ser Gly Ala Asn Ser
 145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Ile Val Lys Lys Gly Asn Ser Tyr Pro
165 170 175

Lys Leu Ser Lys Ser Tyr Thr Asn Asn Lys Gly Lys Glu Val Leu Val
180 185 190

Ile Trp Gly Val His His Pro Pro Thr Asp Ser Asp Gln Gln Thr Leu
195 200 205

Tyr Gln Asn Asn His Thr Tyr Val Ser Val Gly Ser Ser Lys Tyr Tyr
210 215 220

Gln Arg Phe Thr Pro Glu Ile Val Thr Arg Pro Lys Val Arg Gly Gln
225 230 235 240

Ala Gly Arg Met Asn Tyr Tyr Trp Thr Leu Leu Asp Gln Gly Asp Thr
245 250 255

Ile Thr Phe Glu Ala Thr Gly Asn Leu Ile Ala Pro Trp His Ala Phe
260 265 270

Ala Leu Asn Lys Gly Pro Ser Ser Gly Ile Met Ile Ser Asp Ala His
275 280 285

Val His Asn Cys Thr Thr Lys Cys Gln Thr Pro His Gly Ala Leu Lys
290 295 300

Ser Asn Leu Pro Phe Gln Asn Val His Pro Ser Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Lys Ser Thr Gln Leu Arg Met Ala Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser

370

375

380

Thr Gln Ile Ala Ile Asp Gly Ile Asn Asn Lys Val Asn Ser Ile Ile
 385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ser Val Gly Lys Glu Phe Asn Asp
 405 410 415

Leu Glu Lys Arg Ile Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
 420 425 430

Leu Asp Val Trp Thr Tyr Asn Ala Glu Leu Leu Ile Leu Leu Glu Asn
 435 440 445

Glu Arg Thr Leu Asp Phe His Asp Phe Asn Val Lys Asn Leu Tyr Glu
 450 455 460

Lys Val Lys Ser Gln Leu Arg Asn Asn Ala Lys Glu Ile Gly Asn Gly
 465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asp Asn Glu Cys Met Glu Ser Val
 485 490 495

Lys Asn Gly Thr Tyr Asn Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
 500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val His
 515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
 530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
 545 550 555 560

Gln Cys Arg Ile Cys Ile
 565

<210> 30

<211> 565

<212> PRT
<213> Artificial Sequence

<220>

<223> A/New York/8/2006

<400> 30

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Leu Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Leu Leu Ile Ser Lys Glu Ser Trp Ser Tyr Ile
85 90 95

Val Glu Thr Pro Asn Pro Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Val Thr Gly Val Ser Ala Ser Cys Ser His Asn Gly Lys Ser Ser Phe
145 150 155 160

Tyr Arg Asn Leu Leu Trp Leu Thr Gly Lys Asn Gly Leu Tyr Pro Asn
165 170 175

Leu Ser Lys Ser Tyr Ala Asn Asn Lys Glu Lys Glu Val Leu Val Leu

180

185

190

Trp Gly Val His His Pro Pro Asn Ile Gly Asp Gln Arg Ala Leu Tyr
 195 200 205

His Thr Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Ser Arg
 210 215 220

Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln Glu
 225 230 235 240

Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile
 245 250 255

Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Arg Phe Ala Phe Ala
 260 265 270

Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Pro Met
 275 280 285

Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser
 290 295 300

Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys Pro
 305 310 315 320

Lys Tyr Val Arg Ser Ala Lys Leu Arg Met Val Thr Gly Leu Arg Asn
 325 330 335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Val Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
405 410 415

Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Leu
420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asn Asp Glu Cys Met Glu Ser Val Lys
485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
500 505 510

Arg Glu Arg Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln
515 520 525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
545 550 555 560

Cys Arg Ile Cys Ile
565

<210> 31
<211> 565
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Solomon Islands/3/2006

<400> 31

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Leu Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Leu Leu Ile Ser Arg Glu Ser Trp Ser Tyr Ile
85 90 95

Val Glu Lys Pro Asn Pro Glu Asn Gly Thr Cys Tyr Pro Gly His Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Thr Thr Gly Val Ser Ala Ser Cys Ser His Asn Gly Glu Ser Ser Phe
145 150 155 160

Tyr Lys Asn Leu Leu Trp Leu Thr Gly Lys Asn Gly Leu Tyr Pro Asn
165 170 175

Leu Ser Lys Ser Tyr Ala Asn Asn Lys Glu Lys Glu Val Leu Val Leu
180 185 190

Trp Gly Val His His Pro Pro Asn Ile Gly Asp Gln Arg Ala Leu Tyr
195 200 205

His Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Ser Arg
210 215 220

Lys Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln Glu
225 230 235 240

Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile
245 250 255

Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Arg Tyr Ala Phe Ala
260 265 270

Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Asn Ser Asn Ala Pro Met
275 280 285

Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser
290 295 300

Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys Pro
305 310 315 320

Lys Tyr Val Arg Ser Ala Lys Leu Arg Met Val Thr Gly Leu Arg Asn
325 330 335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Val Asp Gly Trp Tyr Gly Tyr His
355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
405 410 415

Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Ile
420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asn Asp Glu Cys Met Glu Ser Val Lys
485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
500 505 510

Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln
515 520 525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
545 550 555 560

Cys Arg Ile Cys Ile
565

<210> 32
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/New York/146/2000

<400> 32

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Thr
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Glu Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Pro Lys Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Asp Ser Ser Trp Pro Asn His Thr
130 135 140

Val Thr Lys Gly Val Thr Ala Ser Cys Ser His Asn Gly Lys Ser Ser
145 150 155 160

Phe Tyr Lys Asn Leu Leu Trp Leu Thr Glu Lys Asn Gly Leu Tyr Pro
165 170 175

Asn Leu Ser Lys Ser Tyr Val Asn Lys Lys Gly Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Met Gly Asp Gln Arg Ala Ile
195 200 205

Tyr His Lys Glu Asn Ala Tyr Val Ser Val Leu Ser Ser His Tyr Ser
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln
 225 230 235 240

Glu Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
 245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
 260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Ile Ser Asn Ala Ser
 275 280 285

Met Gly Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
 290 295 300

Ser Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys
 305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
 325 330 335

Asn Val Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
 340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
 355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
 370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Ile Ile
 385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
 405 410 415

Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
 420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Glu Arg Thr Leu Asp Phe His Asp Leu Asn Val Lys Asn Leu Tyr Glu
450 455 460

Lys Val Lys Asn Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Lys Glu Ser Lys Leu
500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
545 550 555 560

Gln Cys Arg Ile Cys Ile
565

<210> 33
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/New York/653/1996

<400> 33

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Thr
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Glu Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Pro Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Val Thr Lys Gly Val Thr Ala Ser Cys Ser His Asn Gly Lys Ser Ser
145 150 155 160

Phe Tyr Lys Asn Leu Leu Trp Leu Thr Glu Lys Asn Gly Leu Tyr Pro
165 170 175

Asn Leu Ser Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Gly Asp Gln Arg Ala Ile
195 200 205

Tyr His Thr Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Ser
210 215 220

Arg Arg Phe Thr Pro Glu Ile Thr Lys Arg Pro Lys Val Arg Asp Gln
225 230 235 240

Glu Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met Gly Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asp Gly Ile Thr Asn Lys Val Asn Ser Val Ile
385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
405 410 415

Leu Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu

450

455

460

Lys Val Lys Thr Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
 465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
 485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
 500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
 515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
 530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
 545 550 555 560

Gln Cys Arg Ile Cys Ile
 565

<210> 34

<211> 565

<212> PRT

<213> Artificial Sequence

<220>

<223> A/Beijing/262/1995

<400> 34

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Leu Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Ile Ser Lys Glu Ser Trp Ser Tyr Ile
85 90 95

Val Glu Thr Pro Asn Pro Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Val Thr Gly Val Thr Ala Ser Cys Ser His Asn Gly Lys Ser Ser Phe
145 150 155 160

Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asn Gly Leu Tyr Pro Asn
165 170 175

Leu Ser Asn Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val Leu
180 185 190

Trp Gly Val His His Pro Ser Asn Ile Arg Asp Gln Arg Ala Ile Tyr
195 200 205

His Thr Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Ser Arg
210 215 220

Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Gly Gln Glu
225 230 235 240

Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile
245 250 255

Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe Ala

260

265

270

Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Pro Met
 275 280 285

Asn Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser
 290 295 300

Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys Pro
 305 310 315 320

Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg Asn
 325 330 335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Met Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
 405 410 415

Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Leu
 420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
 435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
 450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
 465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val Lys
485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
500 505 510

Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln
515 520 525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
545 550 555 560

Cys Arg Ile Cys Ile
565

<210> 35
<211> 600
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Texas/36/1991

<400> 35

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Val Ala Gly Trp Ile Leu Gly

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

Met Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
405 410 415

Leu Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Gly Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
450 455 460

Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
465 470 475 480

Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Leu Asp Ile Trp
485 490 495

Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu Arg Thr Leu
500 505 510

Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser
515 520 525

Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe
530 535 540

Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val Lys Asn Gly Thr
545 550 555 560

Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn Arg Gly Lys
565 570 575

Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala
580 585 590

Ile Tyr Ser Thr Val Ala Ser Ser
595 600

<210> 36
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Singapore/6/1986

<400> 36

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Phe Thr Ala Thr Asp
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Lys Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Val Thr Lys Gly Val Thr Ala Ser Cys Ser His Lys Gly Arg Ser Ser
145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Lys Lys Asn Gly Ser Tyr Pro
165 170 175

Asn Leu Ser Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Gly Asp Gln Arg Ala Ile
195 200 205

Tyr His Thr Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln
225 230 235 240

Glu Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
405 410 415

Leu Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
450 455 460

Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
545 550 555 560

Gln Cys Arg Ile Cys Ile
565

<210> 37
<211> 506
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Chile/1/1983

<400> 37

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Leu Ser Ala Thr Asp
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Asn His Asn Gly Lys Leu Cys Lys Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Ser Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Lys Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Ser Tyr Val Asn Asn Lys Glu Lys
115 120 125

Glu Val Leu Val Leu Trp Gly Val His His Pro Ser Asn Ile Glu Asp
130 135 140

Gln Lys Thr Ile Tyr Arg Lys Glu Asn Ala Tyr Val Ser Val Val Ser
145 150 155 160

Ser His Tyr Asn Arg Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys
165 170 175

Val Arg Asn Gln Glu Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu
180 185 190

Pro Gly Asp Thr Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro
195 200 205

Trp Tyr Ala Phe Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr
210 215 220

Ser Asn Ala Ser Met Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln
225 230 235 240

Gly Ala Ile Asn Ser Ser Leu Pro Phe Gln Asn Val His Pro Val Thr
245 250 255

Ile Gly Glu Cys Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val
260 265 270

Thr Gly Leu Arg Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly
275 280 285

Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly
290 295 300

Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala
305 310 315 320

Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val
325 330 335

Asn Ser Ile Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys
340 345 350

Glu Phe Asn Lys Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val
355 360 365

Asp Asp Gly Phe Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val
370 375 380

Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys
385 390 395 400

Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu
405 410 415

Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys
420 425 430

Met Glu Ser Val Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu
435 440 445

Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser
450 455 460

Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser
465 470 475 480

Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser
485 490 495

Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile

500

505

<210> 38
 <211> 566
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/Baylor/11515/1982

<400> 38

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Leu Ser Ala Thr Asp
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
 50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Ser Ile Ala Gly Trp Ile Leu Gly
 65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Lys Ser Trp Ser Tyr Ile
 85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
 100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
 115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Lys His Ser
 130 135 140

Val Thr Arg Gly Val Thr Ala Ser Cys Ser His Lys Gly Lys Ser Ser
 145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asn Gly Ser Tyr Pro
165 170 175

Asn Leu Ser Lys Ser Tyr Val Asn Asp Lys Glu Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Glu Asp Gln Lys Thr Ile
195 200 205

Tyr Arg Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln
225 230 235 240

Glu Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Val Ser
275 280 285

Met Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser

370

375

380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
 385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
 405 410 415

Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
 420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
 435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
 450 455 460

Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
 465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
 485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
 500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
 515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
 530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
 545 550 555 560

Gln Cys Arg Ile Cys Ile
 565

<210> 39

<211> 505

<212> PRT
<213> Artificial Sequence

<220>

<223> A/Brazil/11/1978

<400> 39

Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Leu Ser Ala Thr Asp Ala
1 5 10 15

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
20 25 30

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
35 40 45

Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile Ala
50 55 60

Pro Leu Gln Leu Gly Lys Cys Ser Ile Ala Gly Trp Ile Leu Gly Asn
65 70 75 80

Pro Glu Cys Glu Ser Leu Phe Ser Lys Lys Ser Trp Ser Tyr Ile Ala
85 90 95

Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe Ala
100 105 110

Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe Glu
115 120 125

Arg Phe Glu Ile Phe Pro Lys Glu Arg Ser Trp Pro Lys His Asn Ile
130 135 140

Thr Arg Gly Val Thr Ala Ser Cys Ser His Lys Gly Lys Ser Ser Phe
145 150 155 160

Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asn Gly Ser Tyr Pro Asn
165 170 175

Leu Ser Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val Leu

180

185

190

Trp Gly Val His His Pro Ser Asn Ile Glu Asp Gln Lys Thr Ile Tyr
 195 200 205

Arg Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn Arg
 210 215 220

Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Gly Gln Glu
 225 230 235 240

Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile
 245 250 255

Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe Ala
 260 265 270

Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser Met
 275 280 285

Asp Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser
 290 295 300

Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys Pro
 305 310 315 320

Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg Asn
 325 330 335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
405 410 415

Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Leu
420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Leu
465 470 475 480

Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn
485 490 495

Gly Ser Leu Gln Cys Arg Ile Cys Ile
500 505

<210> 40
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/USSR/90/1977

<400> 40

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Leu Ser Ala Thr Asp
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile

50

55

60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Lys Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Arg Ser Trp Pro Lys His Asn
130 135 140

Val Thr Arg Gly Val Thr Ala Ser Cys Ser His Lys Gly Lys Ser Ser
145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asn Gly Ser Tyr Pro
165 170 175

Asn Leu Ser Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Glu Asp Gln Lys Thr Ile
195 200 205

Tyr Arg Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Gly Gln
225 230 235 240

Ala Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp His Ala Phe
260 265 270

Ala Leu Asn Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met Asp Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
405 410 415

Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
450 455 460

Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
545 550 555 560

Gln Cys Arg Ile Cys Ile
565

<210> 41
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/New Jersey/8/1976

<400> 41

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Phe Thr Ala Thr Asp
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Ser Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Lys Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Val Thr Lys Gly Val Thr Ala Ser Cys Ser His Lys Gly Arg Ser Ser
145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Lys Lys Asn Gly Ser Tyr Pro
165 170 175

Asn Leu Ser Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Gly Asp Gln Arg Ala Ile
195 200 205

Tyr His Thr Glu Asn Ala Tyr Val Ser Val Val Ser Ser His Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln
225 230 235 240

Glu Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met Asp Glu Cys Asp Ala Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
 290 295 300

Ser Ser Leu Pro Phe Gln Asn Val His Pro Val Thr Ile Gly Glu Cys
 305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
 325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
 340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
 355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
 370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
 385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
 405 410 415

Leu Glu Arg Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
 420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
 435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
 450 455 460

Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
 465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
 485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
545 550 555 560

Gln Cys Arg Ile Cys Ile
565

<210> 42
<211> 565
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Denver/1957

<400> 42

Met Lys Ala Lys Leu Leu Ile Leu Leu Cys Ala Leu Ser Ala Thr Asp
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Lys
50 55 60

Ala Pro Leu Gln Leu Gly Asn Cys Asn Ile Ala Gly Trp Val Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Leu Ser Asn Arg Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Asp Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Arg Ser Trp Pro Asn His Thr
130 135 140

Thr Arg Gly Val Thr Ala Ala Cys Pro His Ala Arg Lys Ser Ser Phe
145 150 155 160

Tyr Lys Asn Leu Val Trp Leu Thr Glu Ala Asn Gly Ser Tyr Pro Asn
165 170 175

Leu Ser Arg Ser Tyr Val Asn Asn Gln Glu Lys Glu Val Leu Val Leu
180 185 190

Trp Gly Val His His Pro Ser Asn Ile Glu Glu Gln Arg Ala Leu Tyr
195 200 205

Arg Lys Asp Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn Arg
210 215 220

Arg Phe Thr Pro Glu Ile Ala Lys Arg Pro Lys Val Arg Asp Gln Ser
225 230 235 240

Gly Arg Met Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile
245 250 255

Ile Phe Glu Ala Thr Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe Ala
260 265 270

Leu Ser Arg Gly Pro Gly Ser Gly Ile Ile Thr Ser Asn Ala Pro Leu
275 280 285

Asp Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser
290 295 300

Ser Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys Pro
 305 310 315 320

Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg Asn
 325 330 335

Ile Pro Ser Val Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Met Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
 405 410 415

Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Met
 420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
 435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
 450 455 460

Val Lys Asn Gln Leu Arg Asn Asn Ala Lys Glu Leu Gly Asn Gly Cys
 465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asp Asn Glu Cys Met Glu Ser Val Lys
 485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
 500 505 510

Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Arg

515

520

525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
 530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
 545 550 555 560

Cys Arg Ile Cys Ile
 565

<210> 43

<211> 566

<212> PRT

<213> Artificial Sequence

<220>

<223> A/Albany/4835/1948

<400> 43

Met Lys Ala Lys Leu Leu Val Leu Leu Cys Ala Leu Ser Ala Thr Asp
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
 50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
 65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Phe Ser Lys Lys Ser Trp Ser Tyr Ile
 85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Tyr Phe
 100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Arg Ser Trp Pro Lys His Asn
130 135 140

Ile Thr Arg Gly Val Thr Ala Ala Cys Ser His Lys Gly Lys Ser Ser
145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asn Gly Ser Tyr Pro
165 170 175

Asn Leu Asn Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Glu Asp Gln Lys Thr Leu
195 200 205

Tyr Arg Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Gly Gln
225 230 235 240

Ala Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp His Ala Phe
260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met Asp Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg

325

330

335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
 340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
 355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
 370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
 385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
 405 410 415

Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
 420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
 435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
 450 455 460

Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
 465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
 485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
 500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
 515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
 530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
 545 550 555 560

Gln Cys Arg Ile Cys Ile
 565

<210> 44
 <211> 566
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/FortMonmouth/1/1947

<400> 44

Met Lys Ala Lys Leu Leu Ile Leu Leu Cys Ala Leu Thr Ala Thr Asp
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
 50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
 65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Leu Ser Lys Arg Ser Trp Ser Tyr Ile
 85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Ala Cys Tyr Pro Gly Asp Phe
 100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
 115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Arg Ser Trp Pro Lys His Asn

130

135

140

Ile Thr Arg Gly Val Thr Ala Ala Cys Ser His Ala Gly Lys Ser Ser
 145 150 155 160

Phe Tyr Lys Asn Leu Leu Trp Leu Thr Glu Thr Asp Gly Ser Tyr Pro
 165 170 175

Lys Leu Ser Lys Ser Tyr Val Asn Asn Lys Glu Lys Glu Val Leu Val
 180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Glu Asp Gln Lys Thr Leu
 195 200 205

Tyr Arg Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn
 210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Gly Gln
 225 230 235 240

Ala Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
 245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
 260 265 270

Ala Leu Ser Arg Asp Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
 275 280 285

Met Asp Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
 290 295 300

Ser Ser Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys
 305 310 315 320

Pro Lys Tyr Val Lys Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
 325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
 340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asn Trp Ile Thr Asn Lys Val Asn Ser Val Ile
385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
405 410 415

Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
450 455 460

Lys Val Lys Asn Gln Leu Arg Asn Asn Ala Lys Glu Ile Gly Asn Gly
465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
545 550 555 560

Gln Cys Arg Ile Cys Ile
565

<210> 45
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Cameron/1946

<400> 45

Met Lys Ala Lys Leu Leu Ile Leu Leu Cys Ala Leu Ser Ala Thr Asp
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Leu Ser Lys Arg Ser Trp Ser Tyr Ile
85 90 95

Ala Glu Thr Pro Asn Ser Glu Asn Gly Ala Cys Tyr Pro Gly Asp Phe
100 105 110

Ala Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Gly Arg Ser Trp Pro Glu His Asn
130 135 140

Ile Asp Ile Gly Val Thr Ala Ala Cys Ser His Ala Gly Lys Ser Ser
145 150 155 160

Phe Tyr Lys Asn Leu Leu Trp Leu Thr Glu Lys Asp Gly Ser Tyr Pro
165 170 175

Asn Leu Asn Lys Ser Tyr Val Asn Lys Lys Glu Lys Glu Val Leu Ile
180 185 190

Leu Trp Gly Val His His Pro Pro Asn Ile Glu Asn Gln Lys Thr Leu
195 200 205

Tyr Arg Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Gly Gln
225 230 235 240

Ala Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Asn Arg Gly Ile Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met Asp Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Ile His Pro Phe Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Asp Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
 370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
 385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys
 405 410 415

Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
 420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
 435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
 450 455 460

Lys Val Lys Asn Gln Leu Arg Asn Asn Ala Lys Glu Ile Gly Asn Gly
 465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
 485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Phe Ser Glu Glu Ser Lys Leu
 500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
 515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
 530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
 545 550 555 560

Gln Cys Arg Ile Cys Ile
 565

<210> 46
 <211> 566
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/Weiss/1943

<400> 46

Met Lys Ala Arg Leu Leu Val Leu Leu Cys Ala Leu Ala Ala Thr Asp
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Ile Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
 50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
 65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Leu Ser Glu Arg Ser Trp Ser Tyr Ile
 85 90 95

Val Glu Ile Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Asp Phe
 100 105 110

Thr Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
 115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Lys His Asn
 130 135 140

Thr Ala Arg Gly Val Thr Ala Ala Cys Ser His Ala Gly Lys Ser Ser
 145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asp Gly Ser Tyr Pro
 165 170 175

Asn Leu Lys Asn Ser Tyr Val Asn Lys Lys Gly Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Ser Ile Lys Glu Gln Gln Thr Leu
195 200 205

Tyr Gln Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Asp Gln
225 230 235 240

Ala Gly Arg Met Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met His Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile
 385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Asn
 405 410 415

Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
 420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Ile Leu Leu Glu Asn
 435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu
 450 455 460

Lys Val Lys Ser Gln Leu Arg Asn Asn Ala Lys Glu Ile Gly Asn Gly
 465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val
 485 490 495

Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
 500 505 510

Asn Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
 515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
 530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
 545 550 555 560

Gln Cys Arg Ile Cys Ile Met Lys Ala Arg Leu Leu Val Leu Leu Cys
 565 1 5

Ala Leu Ala Ala Thr Asp Ala Asp Thr Ile Cys Ile Gly Tyr His Ala
 15 20 25

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

30

35

40

Val Thr His Ser Val Asn Leu Leu Glu Asp Ser His Asn Gly Lys Leu
 45 50 55

Cys Arg Leu Lys Gly Ile Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile
 60 65 70

Ala Gly Trp Ile Leu Gly Asn Pro Glu Cys Glu Ser Leu Leu Ser Glu
 75 80 85 90

Arg Ser Trp Ser Tyr Ile Val Glu Ile Pro Asn Ser Glu Asn Gly Thr
 95 100 105

Cys Tyr Pro Gly Asp Phe Thr Asp Tyr Glu Glu Leu Arg Glu Gln Leu
 110 115 120

Ser Ser Val Ser Ser Phe Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser
 125 130 135

Ser Trp Pro Lys His Asn Thr Ala Arg Gly Val Thr Ala Ala Cys Ser
 140 145 150

His Ala Gly Lys Ser Ser Phe Tyr Arg Asn Leu Leu Trp Leu Thr Glu
 155 160 165 170

Lys Asp Gly Ser Tyr Pro Asn Leu Lys Asn Ser Tyr Val Asn Lys Lys
 175 180 185

Gly Lys Glu Val Leu Val Leu Trp Gly Val His His Pro Ser Ser Ile
 190 195 200

Lys Glu Gln Gln Thr Leu Tyr Gln Lys Glu Asn Ala Tyr Val Ser Val
 205 210 215

Val Ser Ser Asn Tyr Asn Arg Arg Phe Thr Pro Glu Ile Ala Glu Arg
 220 225 230

Pro Lys Val Arg Asp Gln Ala Gly Arg Met Asn Tyr Tyr Trp Thr Leu
 235 240 245 250

Leu Glu Pro Gly Asp Thr Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile
255 260 265

Ala Pro Trp Tyr Ala Phe Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile
270 275 280

Ile Thr Ser Asn Ala Ser Met His Glu Cys Asp Thr Lys Cys Gln Thr
285 290 295

Pro Gln Gly Ala Ile Asn Ser Ser Leu Pro Phe Gln Asn Ile His Pro
300 305 310

Val Thr Ile Gly Glu Cys Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg
315 320 325 330

Met Val Thr Gly Leu Arg Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu
335 340 345

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Ile
350 355 360

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
365 370 375

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
380 385 390

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val
395 400 405 410

Gly Lys Glu Phe Asn Asn Leu Glu Lys Arg Met Glu Asn Leu Asn Lys
415 420 425

Lys Val Asp Asp Gly Phe Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu
430 435 440

Leu Ile Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
445 450 455

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Arg Asn Asn Ala
 460 465 470

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asn
 475 480 485 490

Glu Cys Met Glu Ser Val Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr
 495 500 505

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 510 515 520

Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala
 525 530 535

Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp Met
 540 545 550

Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 555 560 565

<210> 47
 <211> 565
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/Iowa/1943

<400> 47

Met Lys Ala Arg Leu Leu Val Leu Leu Cys Ala Leu Ala Ala Thr Asp
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
 50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Leu Ser Glu Arg Ser Trp Ser Tyr Ile
85 90 95

Val Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Asp Phe
100 105 110

Ile Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Ser Lys Glu Ser Ser Trp Pro Lys His Thr
130 135 140

Thr Gly Gly Val Thr Ala Ala Cys Ser His Ala Gly Lys Ser Ser Phe
145 150 155 160

Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asp Gly Ser Tyr Pro Asn
165 170 175

Leu Asn Asn Ser Tyr Val Asn Lys Lys Gly Lys Glu Val Leu Val Leu
180 185 190

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

Gln Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn Arg
210 215 220

Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Gly Gln Ala
225 230 235 240

Gly Arg Ile Asn Tyr Tyr Trp Thr Leu Leu Lys Pro Gly Asp Thr Ile
245 250 255

Met Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe Ala
260 265 270

Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser Met
275 280 285

His Glu Cys Asp Thr Lys Cys Gln Thr Pro Gln Gly Ala Ile Asn Ser
290 295 300

Ser Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys Pro
305 310 315 320

Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg Asn
325 330 335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr His
355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Asn Leu
405 410 415

Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Leu
420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
435 440 445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
450 455 460

Val Lys Asn Gln Leu Arg Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asn Asn Glu Cys Met Glu Ser Val Lys
485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
500 505 510

Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln
515 520 525

Ile Leu Ala Ile Tyr Ser Thr Ala Ala Ser Ser Leu Val Leu Leu Val
530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
545 550 555 560

Cys Arg Ile Cys Ile
565

<210> 48
<211> 446
<212> PRT
<213> Artificial Sequence

<220>
<223> A/Bellamy/1942

<400> 48

Met Lys Ala Arg Leu Leu Val Leu Leu Cys Ala Ile Ala Ala Thr Asp
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Ile Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Ile Leu Gly
65 70 75 80

Asn Pro Glu Cys Glu Ser Leu Leu Ser Glu Arg Ser Trp Ser Tyr Ile
85 90 95

Val Glu Thr Pro Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Asp Phe
100 105 110

Ile Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Thr Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Thr Ser Trp Pro Lys His Asn
130 135 140

Thr Thr Lys Gly Val Thr Ala Ala Cys Ser His Ala Gly Lys Cys Ser
145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Asp Gly Ser Tyr Pro
165 170 175

Asn Leu Asn Asn Ser Tyr Val Asn Lys Lys Gly Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Ser Asn Ile Lys Asp Gln Gln Thr Leu
195 200 205

Tyr Gln Lys Glu Asn Ala Tyr Val Ser Val Val Ser Ser Asn Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Gly Gln
225 230 235 240

Ala Gly Arg Met Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Ser Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser
275 280 285

Met His Glu Cys Asn Thr Lys Cys Gln Thr Pro Gln Met Ile Asp Gly
 290 295 300

Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala
 305 310 315 320

Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val
 325 330 335

Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys
 340 345 350

Glu Phe Asn Asn Leu Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val
 355 360 365

Asp Asp Gly Phe Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val
 370 375 380

Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys
 385 390 395 400

Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Arg Asn Asn Ala Lys Glu
 405 410 415

Ile Gly Asn Gly Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe
 420 425 430

Trp Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 435 440 445

<210> 49
 <211> 565
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/Puerto Rico/8/1934

<400> 49

Met Lys Ala Asn Leu Leu Val Leu Leu Cys Ala Leu Ala Ala Ala Asp
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Arg Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Leu Leu Gly
65 70 75 80

Asn Pro Glu Cys Asp Pro Leu Leu Pro Val Arg Ser Trp Ser Tyr Ile
85 90 95

Val Glu Thr Pro Asn Ser Glu Asn Gly Ile Cys Tyr Pro Gly Asp Phe
100 105 110

Ile Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Asn
130 135 140

Thr Asn Gly Val Thr Ala Ala Cys Ser His Glu Gly Lys Ser Ser Phe
145 150 155 160

Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys Glu Gly Ser Tyr Pro Lys
165 170 175

Leu Lys Asn Ser Tyr Val Asn Lys Lys Gly Lys Glu Val Leu Val Leu
180 185 190

Trp Gly Ile His His Pro Pro Asn Ser Lys Glu Gln Gln Asn Leu Tyr
195 200 205

Gln Asn Glu Asn Ala Tyr Val Ser Val Val Thr Ser Asn Tyr Asn Arg
210 215 220

Arg Phe Thr Pro Glu Ile Ala Glu Arg Pro Lys Val Arg Asp Gln Ala
 225 230 235 240

Gly Arg Met Asn Tyr Tyr Trp Thr Leu Leu Lys Pro Gly Asp Thr Ile
 245 250 255

Ile Phe Glu Ala Asn Gly Asn Leu Ile Ala Pro Met Tyr Ala Phe Ala
 260 265 270

Leu Arg Arg Gly Phe Gly Ser Gly Ile Ile Thr Ser Asn Ala Ser Met
 275 280 285

His Glu Cys Asn Thr Lys Cys Gln Thr Pro Leu Gly Ala Ile Asn Ser
 290 295 300

Ser Leu Pro Tyr Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys Pro
 305 310 315 320

Lys Tyr Val Arg Ser Ala Lys Leu Arg Met Val Thr Gly Leu Arg Asn
 325 330 335

Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Ile Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Lys Leu
 405 410 415

Glu Lys Arg Met Glu Asn Leu Asn Asn Lys Val Asp Asp Gly Phe Leu
 420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu

435

440

445

Arg Thr Leu Asp Phe His Asp Ser Asn Val Lys Asn Leu Tyr Glu Lys
 450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
 465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asp Asn Glu Cys Met Glu Ser Val Arg
 485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
 500 505 510

Arg Glu Lys Val Asp Gly Val Lys Leu Glu Ser Met Gly Ile Tyr Gln
 515 520 525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
 530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
 545 550 555 560

Cys Arg Ile Cys Ile
 565

<210> 50
 <211> 565
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> A/WSN/1933

<400> 50

Met Lys Ala Lys Leu Leu Val Leu Leu Tyr Ala Phe Val Ala Thr Asp
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Ile Phe Glu Lys Asn Val Ala Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Arg His Asn Gly Lys Leu Cys Lys Leu Lys Gly Ile
50 55 60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Thr Gly Trp Leu Leu Gly
65 70 75 80

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

Val Glu Thr Pro Asn Ser Glu Asn Gly Ala Cys Tyr Pro Gly Asp Phe
100 105 110

Ile Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Leu
115 120 125

Glu Arg Phe Glu Ile Phe Pro Lys Glu Ser Ser Trp Pro Asn His Thr
130 135 140

Phe Asn Gly Val Thr Val Ser Cys Ser His Arg Gly Lys Ser Ser Phe
145 150 155 160

Tyr Arg Asn Leu Leu Trp Leu Thr Lys Lys Gly Asp Ser Tyr Pro Lys
165 170 175

Leu Thr Asn Ser Tyr Val Asn Asn Lys Gly Lys Glu Val Leu Val Leu
180 185 190

Trp Gly Val His His Pro Ser Ser Ser Asp Glu Gln Gln Ser Leu Tyr
195 200 205

Ser Asn Gly Asn Ala Tyr Val Ser Val Ala Ser Ser Asn Tyr Asn Arg
210 215 220

Arg Phe Thr Pro Glu Ile Ala Ala Arg Pro Lys Val Lys Asp Gln His
225 230 235 240

Gly Arg Met Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr Ile

245

250

255

Ile Phe Glu Ala Thr Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe Ala
 260 265 270

Leu Ser Arg Gly Phe Glu Ser Gly Ile Ile Thr Ser Asn Ala Ser Met
 275 280 285

His Glu Cys Asn Thr Lys Cys Gln Thr Pro Gln Gly Ser Ile Asn Ser
 290 295 300

Asn Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys Pro
 305 310 315 320

Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Val Thr Gly Leu Arg Asn
 325 330 335

Ile Pro Ser Ile Gln Tyr Arg Gly Leu Phe Gly Ala Ile Ala Gly Phe
 340 345 350

Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr His
 355 360 365

His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser Thr
 370 375 380

Gln Asn Ala Ile Asn Gly Ile Thr Asn Lys Val Asn Ser Val Ile Glu
 385 390 395 400

Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Asn Leu
 405 410 415

Glu Lys Arg Met Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe Leu
 420 425 430

Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn Glu
 435 440 445

Arg Thr Leu Asp Phe His Asp Leu Asn Val Lys Asn Leu Tyr Glu Lys
 450 455 460

Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly Cys
465 470 475 480

Phe Glu Phe Tyr His Lys Cys Asp Asn Glu Cys Met Glu Ser Val Arg
485 490 495

Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu Asn
500 505 510

Arg Glu Lys Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr Gln
515 520 525

Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu Val
530 535 540

Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu Gln
545 550 555 560

Cys Arg Ile Cys Ile
565

<210> 51
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> A/South Carolina/1/1918

<400> 51

Met Glu Ala Arg Leu Leu Val Leu Leu Cys Ala Phe Ala Ala Thr Asn
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Ser His Asn Gly Lys Leu Cys Lys Leu Lys Gly Ile

50

55

60

Ala Pro Leu Gln Leu Gly Lys Cys Asn Ile Ala Gly Trp Leu Leu Gly
65 70 75 80

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

Val Glu Thr Ser Asn Ser Glu Asn Gly Thr Cys Tyr Pro Gly Asp Phe
100 105 110

Ile Asp Tyr Glu Glu Leu Arg Glu Gln Leu Ser Ser Val Ser Ser Phe
115 120 125

Glu Lys Phe Glu Ile Phe Pro Lys Thr Ser Ser Trp Pro Asn His Glu
130 135 140

Thr Thr Lys Gly Val Thr Ala Ala Cys Ser Tyr Ala Gly Ala Ser Ser
145 150 155 160

Phe Tyr Arg Asn Leu Leu Trp Leu Thr Lys Lys Gly Ser Ser Tyr Pro
165 170 175

Lys Leu Ser Lys Ser Tyr Val Asn Asn Lys Gly Lys Glu Val Leu Val
180 185 190

Leu Trp Gly Val His His Pro Pro Thr Gly Thr Asp Gln Gln Ser Leu
195 200 205

Tyr Gln Asn Ala Asp Ala Tyr Val Ser Val Gly Ser Ser Lys Tyr Asn
210 215 220

Arg Arg Phe Thr Pro Glu Ile Ala Ala Arg Pro Lys Val Arg Asp Gln
225 230 235 240

Ala Gly Arg Met Asn Tyr Tyr Trp Thr Leu Leu Glu Pro Gly Asp Thr
245 250 255

Ile Thr Phe Glu Ala Thr Gly Asn Leu Ile Ala Pro Trp Tyr Ala Phe
260 265 270

Ala Leu Asn Arg Gly Ser Gly Ser Gly Ile Ile Thr Ser Asp Ala Pro
275 280 285

Val His Asp Cys Asn Thr Lys Cys Gln Thr Pro His Gly Ala Ile Asn
290 295 300

Ser Ser Leu Pro Phe Gln Asn Ile His Pro Val Thr Ile Gly Glu Cys
305 310 315 320

Pro Lys Tyr Val Arg Ser Thr Lys Leu Arg Met Ala Thr Gly Leu Arg
325 330 335

Asn Ile Pro Ser Ile Gln Ser Arg Gly Leu Phe Gly Ala Ile Ala Gly
340 345 350

Phe Ile Glu Gly Gly Trp Thr Gly Met Ile Asp Gly Trp Tyr Gly Tyr
355 360 365

His His Gln Asn Glu Gln Gly Ser Gly Tyr Ala Ala Asp Gln Lys Ser
370 375 380

Thr Gln Asn Ala Ile Asp Gly Ile Thr Asn Lys Val Asn Ser Val Ile
385 390 395 400

Glu Lys Met Asn Thr Gln Phe Thr Ala Val Gly Lys Glu Phe Asn Asn
405 410 415

Leu Glu Arg Arg Ile Glu Asn Leu Asn Lys Lys Val Asp Asp Gly Phe
420 425 430

Leu Asp Ile Trp Thr Tyr Asn Ala Glu Leu Leu Val Leu Leu Glu Asn
435 440 445

Glu Arg Thr Leu Asp Phe His Asp Ser Asn Val Arg Asn Leu Tyr Glu
450 455 460

Lys Val Lys Ser Gln Leu Lys Asn Asn Ala Lys Glu Ile Gly Asn Gly
465 470 475 480

Cys Phe Glu Phe Tyr His Lys Cys Asp Asp Ala Cys Met Glu Ser Val
485 490 495

Arg Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr Ser Glu Glu Ser Lys Leu
500 505 510

Asn Arg Glu Glu Ile Asp Gly Val Lys Leu Glu Ser Met Gly Val Tyr
515 520 525

Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala Ser Ser Leu Val Leu Leu
530 535 540

Val Ser Leu Gly Ala Ile Ser Phe Trp Met Cys Ser Asn Gly Ser Leu
545 550 555 560

Gln Cys Arg Ile Cys Ile
565

<210> 52
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> H1-mini2-cluster1+5+6-GCN4t2

<400> 52

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Ile Pro Ser Ile Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ser Thr Ala
130 135 140

Thr Gly Lys Glu Gly Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 53
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> H1-mini2-cluster1+5+6-GCN4t3

<400> 53

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Ile Pro Ser Ile Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ser Thr Ala
 130 135 140

Thr Gly Lys Glu Gly Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys
 145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 54

<400> 54
000

<210> 55

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 127H1

<400> 55

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Tyr Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn

210

215

220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 56

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 86B4

<400> 56

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn Lys Ile Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile

290

295

300

<210> 57

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 74H9

<400> 57

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
 130 135 140

Phe Gly Lys Glu Met Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp
 145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 58
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 6E12

<400> 58

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala
130 135 140

Phe Gly Lys Glu Val Asn Lys Leu Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 59
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 55G7

<400> 59

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn Lys Leu Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 60

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 115A1

<400> 60

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala
130 135 140

Val Gly Lys Glu Tyr Asn Lys Ile Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 61
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 71H2

<400> 61

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala
130 135 140

Ile Gly Lys Glu Val Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 62

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 181H9

<400> 62

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Val Gly Lys Glu Phe Asn Lys Asn Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 63
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 220C9

<400> 63

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr

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

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 64
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 113E7

<400> 64

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met

85

90

95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
 130 135 140

Thr Gly Lys Glu Ile Asn Lys His Glu Arg Met Lys Gln Ile Glu Asp
 145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
 165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
 195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
 210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 65
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s74H9

<400> 65

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Phe
115 120 125

Gly Lys Glu Met Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn

165

170

175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 66
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s127H1

<400> 66

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
115 120 125

Gly Lys Glu Tyr Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 67
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s86B4

<400> 67

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Ile
 115 120 125

Gly Lys Glu Met Asn Lys Ile Glu Arg Met Lys Gln Ile Glu Asp Lys
 130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 68
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s55G7

<400> 68

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
 115 120 125

Gly Lys Glu Met Asn Lys Leu Glu Arg Met Lys Gln Ile Glu Asp Lys
 130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 69
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s6E12

<400> 69

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala Phe
115 120 125

Gly Lys Glu Val Asn Lys Leu Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 70
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s115A1

<400> 70

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala Val
115 120 125

Gly Lys Glu Tyr Asn Lys Ile Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 71
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s71H2

<400> 71

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr

85

90

95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

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

Gly Lys Glu Val Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp Lys
 130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 72

<211> 250

<212> PRT

<213> Artificial Sequence

<220>

<223> s74H9-long

<400> 72

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Phe
115 120 125

Gly Lys Glu Met Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

Glu Cys Met Glu Ser Val Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr

210

215

220

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 73

<211> 250

<212> PRT

<213> Artificial Sequence

<220>

<223> s127H1-long

<400> 73

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
 115 120 125

Gly Lys Glu Tyr Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp Lys
 130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 74
 <211> 250
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s86B4-long

<400> 74

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Ile
115 120 125

Gly Lys Glu Met Asn Lys Ile Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 75
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s55G7-long

<400> 75

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
115 120 125

Gly Lys Glu Met Asn Lys Leu Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 76
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s181H9

<400> 76

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val
115 120 125

Gly Lys Glu Phe Asn Lys Asn Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 77
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s220C9

<400> 77

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 78
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s113E7

<400> 78

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Thr
 115 120 125

Gly Lys Glu Ile Asn Lys His Glu Arg Met Lys Gln Ile Glu Asp Lys

130

135

140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 79
 <211> 250
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s115A1ong

<400> 79

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala Val
115 120 125

Gly Lys Glu Tyr Asn Lys Ile Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 80

<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s71H2long

<400> 80

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

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

Gly Lys Glu Val Asn Lys Ser Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 81
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 127H1-t2

<400> 81

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Tyr Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 82
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 86B4-t2

<400> 82

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn Lys Ile Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 83
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 74H9-t2

<400> 83

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Phe Gly Lys Glu Met Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 84
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 6E12-t2

<400> 84

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala
130 135 140

Phe Gly Lys Glu Val Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 85
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 55G7-t2

<400> 85

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
 210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 86
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 115A1-t2

<400> 86

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly

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

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 87
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 71H2-t2

<400> 87

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala
 130 135 140

Ile Gly Lys Glu Val Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu

145		150		155		160									
Asp	Lys	Ile	Glu	Glu	Ile	Glu	Ser	Lys	Ile	Trp	Cys	Tyr	Asn	Ala	Glu
			165						170					175	
Leu	Leu	Val	Leu	Leu	Glu	Asn	Glu	Arg	Thr	Leu	Asp	Phe	His	Asp	Ser
			180					185					190		
Asn	Val	Lys	Asn	Leu	Tyr	Glu	Lys	Val	Lys	Ser	Gln	Leu	Lys	Asn	Asn
		195					200					205			
Ala	Lys	Glu	Ile	Gly	Asn	Gly	Cys	Phe	Glu	Phe	Tyr	His	Lys	Cys	Asn
	210					215					220				
Asp	Glu	Cys	Met	Glu	Ser	Val	Lys	Asn	Gly	Thr	Tyr	Asp	Tyr	Pro	Lys
225					230					235					240
Tyr	Ser	Glu	Glu	Ser	Lys	Leu	Asn	Arg	Glu	Lys	Ile	Asp	Gly	Val	Lys
				245					250					255	
Leu	Glu	Ser	Met	Gly	Val	Tyr	Gln	Ile	Leu	Ala	Ile	Tyr	Ser	Thr	Val
			260					265					270		
Ala	Ser	Ser	Leu	Val	Leu	Leu	Val	Ser	Leu	Gly	Ala	Ile	Ser	Phe	Trp
		275					280					285			
Met	Cys	Ser	Asn	Gly	Ser	Leu	Gln	Cys	Arg	Ile	Cys	Ile			
	290					295					300				

<210> 88
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 181H9-t2

<400> 88

Met	Lys	Val	Lys	Leu	Leu	Val	Leu	Leu	Cys	Thr	Phe	Thr	Ala	Thr	Tyr
1				5					10					15	

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Val Gly Lys Glu Phe Asn Lys Asn Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

Asp Glu Cys Met Glu Ser Val Lys Asn Gly Thr Tyr Asp Tyr Pro Lys

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Thr Gly Lys Glu Tyr Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 90

<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 113E7-t2

<400> 90

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Thr Gly Lys Glu Ile Asn Lys His Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 91
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s127H1-t2

<400> 91

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
115 120 125

Gly Lys Glu Tyr Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 92
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s86B4-t2

<400> 92

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Ile
 115 120 125

Gly Lys Glu Met Asn Lys Ile Glu Arg Arg Met Lys Gln Ile Glu Asp
 130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 93
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s74H9-t2

<400> 93

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Phe
115 120 125

Gly Lys Glu Met Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 94
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s6E12-t2

<400> 94

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 95
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s55G7-t2

<400> 95

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
115 120 125

Gly Lys Glu Met Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu Asp

130

135

140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 96

<211> 253

<212> PRT

<213> Artificial Sequence

<220>

<223> s115A1-t2

<400> 96

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala Val
115 120 125

Gly Lys Glu Tyr Asn Lys Ile Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 97

<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s71H2-t2

<400> 97

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

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

Gly Lys Glu Val Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 98
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s181H9-t2

<400> 98

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val
115 120 125

Gly Lys Glu Phe Asn Lys Asn Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 99
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s220C9-t2

<400> 99

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Thr Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Thr
115 120 125

Gly Lys Glu Tyr Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 100
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s113E7-t2

<400> 100

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Thr
 115 120 125

Gly Lys Glu Ile Asn Lys His Glu Arg Arg Met Lys Gln Ile Glu Asp
 130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 101
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s127H1-t2long

<400> 101

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu

50

55

60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
115 120 125

Gly Lys Glu Tyr Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 102

<211> 250

<212> PRT
<213> Artificial Sequence

<220>
<223> s86B4-t2long

<400> 102

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Ile
115 120 125

Gly Lys Glu Met Asn Lys Ile Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala

180

185

190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 103
 <211> 250
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s74H9-t2long

<400> 103

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Phe
115 120 125

Gly Lys Glu Met Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 104
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s6E12-t2long

<400> 104

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala Phe
115 120 125

Gly Lys Glu Val Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 105
 <211> 250
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s55G7-t2long

<400> 105

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
 115 120 125

Gly Lys Glu Met Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu Asp
 130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 106
 <211> 250
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s115A1-t2long

<400> 106

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala Val
115 120 125

Gly Lys Glu Tyr Asn Lys Ile Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 107

<211> 250

<212> PRT

<213> Artificial Sequence

<220>

<223> s71H2-t2long

<400> 107

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

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

Gly Lys Glu Val Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 108
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s181H9-t2long

<400> 108

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn

100

105

110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val
 115 120 125

Gly Lys Glu Phe Asn Lys Asn Glu Arg Arg Met Lys Gln Ile Glu Asp
 130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 109
 <211> 250
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s220C9-t2long

<400> 109

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Thr Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Thr
115 120 125

Gly Lys Glu Tyr Asn Lys Leu Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 111
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 127H1-t3

<400> 111

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Tyr Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 112

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 86B4-t3

<400> 112

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn Lys Ile Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 113
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 74H9-t3

<400> 113

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Phe Gly Lys Glu Met Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 114
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 6E12-t3

<400> 114

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala
130 135 140

Phe Gly Lys Glu Val Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 115
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 55G7-t3

<400> 115

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 116
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 115A1-t3

<400> 116

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn

35

40

45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala
 130 135 140

Val Gly Lys Glu Tyr Asn Lys Ile Arg Met Lys Gln Ile Glu Asp Lys
 145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
 165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
 195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
 210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 117
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> 71H2-t3

<400> 117

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr

115

120

125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala
 130 135 140

Ile Gly Lys Glu Val Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys
 145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
 165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
 195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
 210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 118

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 181H9-t3

<400> 118

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Val Gly Lys Glu Phe Asn Lys Asn Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn

195

200

205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
 210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 119
 <211> 301
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 220C9-t3

<400> 119

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Thr Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Thr Gly Lys Glu Tyr Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp

275

280

285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

<210> 120

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> 113E7-t3

<400> 120

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
 130 135 140

Thr Gly Lys Glu Ile Asn Lys His Arg Met Lys Gln Ile Glu Asp Lys
145 150 155 160

Ile Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

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

Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 121
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s127H1-t3

<400> 121

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
115 120 125

Gly Lys Glu Tyr Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 122
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s86B4-t3

<400> 122

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Ile
 115 120 125

Gly Lys Glu Met Asn Lys Ile Arg Met Lys Gln Ile Glu Asp Lys Ile
 130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 123
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s74H9-t3

<400> 123

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Phe
115 120 125

Gly Lys Glu Met Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 124

<211> 253

<212> PRT

<213> Artificial Sequence

<220>

<223> s6E12-t3

<400> 124

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala Phe
115 120 125

Gly Lys Glu Val Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 125
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s55G7-t3

<400> 125

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn

100

105

110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
 115 120 125

Gly Lys Glu Met Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys Ile
 130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 126
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s115A1-t3

<400> 126

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala Val
115 120 125

Gly Lys Glu Tyr Asn Lys Ile Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
 225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
 245 250

<210> 128
 <211> 253
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> s181H9-t3

<400> 128

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val
115 120 125

Gly Lys Glu Phe Asn Lys Asn Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 129
<211> 253
<212> PRT
<213> Artificial Sequence

<220>

<223> s220C9-t3

<400> 129

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Thr Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Thr
115 120 125

Gly Lys Glu Tyr Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 130
<211> 253
<212> PRT
<213> Artificial Sequence

<220>
<223> s113E7-t3

<400> 130

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Thr
115 120 125

Gly Lys Glu Ile Asn Lys His Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Arg Ser Leu
225 230 235 240

Val Pro Arg Gly Ser Pro Gly His His His His His His
245 250

<210> 131
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s127H1-t3long

<400> 131

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu

20

25

30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
 115 120 125

Gly Lys Glu Tyr Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys Ile
 130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 132
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s86B4-t3long

<400> 132

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Ile
115 120 125

Gly Lys Glu Met Asn Lys Ile Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu

145		150		155		160
Leu Val Leu Leu	Glu Asn Glu Arg Thr	Leu Asp Phe His Asp Ser Asn				
	165	170			175	
Val Lys Asn Leu Tyr Glu Lys Val	Lys Ser Gln Leu Lys Asn Asn Ala					
	180	185			190	
Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp						
	195	200			205	
Glu Cys Met Glu Ser Val Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr						
	210	215			220	
Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu						
	225	230			235	240
Glu Ser Met Gly Val Tyr Gln Ile Glu Gly						
	245	250				
<210> 133						
<211> 250						
<212> PRT						
<213> Artificial Sequence						
<220>						
<223> s74H9-t3long						
<400> 133						
Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val						
1	5	10			15	
Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu						
	20	25			30	
Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg						
	35	40			45	
Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu						
	50	55			60	

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Phe
115 120 125

Gly Lys Glu Met Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 134
<211> 250
<212> PRT
<213> Artificial Sequence

<220>

<223> s6E12-t3long

<400> 134

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala Phe
115 120 125

Gly Lys Glu Val Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 135
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s55G7-t3long

<400> 135

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Ile
115 120 125

Gly Lys Glu Met Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 136
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s115A1-t3long

<400> 136

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Tyr Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala Val
115 120 125

Gly Lys Glu Tyr Asn Lys Ile Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 137
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s71H2-t3long

<400> 137

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Lys Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

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

Gly Lys Glu Val Asn Lys Ser Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 138
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s181H9-t3long

<400> 138

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val

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

<210> 139
 <211> 250
 <212> PRT
 <213> Artificial Sequence

<220>

<223> s220C9-t3long

<400> 139

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Thr Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Thr
115 120 125

Gly Lys Glu Tyr Asn Lys Leu Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp

195

200

205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 140

<211> 250

<212> PRT

<213> Artificial Sequence

<220>

<223> s113E7-t3long

<400> 140

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
 50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
 100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Thr
115 120 125

Gly Lys Glu Ile Asn Lys His Arg Met Lys Gln Ile Glu Asp Lys Ile
130 135 140

Glu Glu Ile Glu Ser Lys Gln Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 141
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s181H9long

<400> 141

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Val Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Val
115 120 125

Gly Lys Glu Phe Asn Lys Asn Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 142
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s220C9long

<400> 142

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Thr Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala Thr
115 120 125

Gly Lys Glu Tyr Asn Lys Leu Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 143
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s113E7long

<400> 143

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala Thr
115 120 125

Gly Lys Glu Ile Asn Lys His Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
245 250

<210> 144
<211> 250
<212> PRT
<213> Artificial Sequence

<220>
<223> s6E12-long

<400> 144

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Glu Pro Ser Asn Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Leu Thr Ala Phe
115 120 125

Gly Lys Glu Val Asn Lys Leu Glu Arg Met Lys Gln Ile Glu Asp Lys
130 135 140

Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 145
 <211> 292
 <212> PRT
 <213> Artificial Sequence

<220>
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<220>
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 <222> (56)..(56)
 <223> X1= E, I, K, V, A, or T

<220>
 <221> MISC_FEATURE
 <222> (59)..(59)
 <223> X2= I, K, R, T, F, N, S, or Y

<220>
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 <222> (71)..(71)
 <223> X3= I, D, F, V, Y, A, I, N, S, T

<220>
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 <222> (72)..(72)
 <223> X4= I, K, R, T, E, G, V

<220>
 <221> MISC_FEATURE
 <222> (121)..(121)
 <223> X5= M, E, K, V, R, T

<220>
 <221> MISC_FEATURE
 <222> (125)..(125)
 <223> X6= F, I, N, S, T, Y, H, L

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<220>
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<222> (128)..(128)
<223> X7= A, G, I, R, T, V, F, S

<220>
<221> MISC_FEATURE
<222> (132)..(132)
<223> X8= F, I, N, S, T, Y, G, E, K, M, V

<220>
<221> MISC_FEATURE
<222> (135)..(135)
<223> X9= H, I, L, N, R, S

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<400> 145

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Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1           5           10           15

```

```

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
          20           25           30

```

```

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
          35           40           45

```

```

Met Val Thr Gly Leu Arg Asn Xaa Pro Ser Xaa Gln Ser Gln Gly Leu
          50           55           60

```

```

Phe Gly Ala Ile Ala Gly Xaa Xaa Glu Gly Gly Trp Thr Gly Met Val
65           70           75           80

```

```

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
          85           90           95

```

```

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
          100          105          110

```

```

Lys Val Asn Ser Val Ile Glu Lys Xaa Asn Thr Gln Xaa Thr Ala Xaa
          115          120          125

```

```

Gly Lys Glu Xaa Asn Lys Xaa Glu Arg Arg Met Lys Gln Ile Glu Asp
          130          135          140

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Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Ser Gly
 225 230 235 240

Arg Asp Tyr Lys Asp Asp Asp Asp Lys Leu Val Pro Arg Gly Ser Pro
 245 250 255

Gly Ser Gly Tyr Ile Pro Glu Ala Pro Arg Asp Gly Gln Ala Tyr Val
 260 265 270

Arg Lys Asp Gly Glu Trp Val Leu Leu Ser Thr Phe Leu Gly His His
 275 280 285

His His His His
 290

<210> 146
 <211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> SYNTHETIC

<220>
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 <222> (56)..(56)
 <223> X1= E, I, K, V, A, or T

<220>
 <221> MISC_FEATURE
 <222> (59)..(59)
 <223> X2= I, K, R, T, F, N, S, or Y

<220>
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 <222> (71)..(71)
 <223> X3= I, D, F, V, Y, A, I, N, S, T

<220>
 <221> MISC_FEATURE
 <222> (72)..(72)
 <223> X4= I, K, R, T, E, G, V

<220>
 <221> MISC_FEATURE
 <222> (121)..(121)
 <223> X5= M, E, K, V, R, T

<220>
 <221> MISC_FEATURE
 <222> (125)..(125)
 <223> X6= F, I, N, S, T, Y, H, L

<220>
 <221> MISC_FEATURE
 <222> (128)..(128)
 <223> X7= A, G, I, R, T, V, F, S

<220>
 <221> MISC_FEATURE
 <222> (132)..(132)
 <223> X8= F, I, N, S, T, Y, G, E, K, M, V

<220>
 <221> MISC_FEATURE
 <222> (135)..(135)
 <223> X9= H, I, L, N, R, S

<400> 146

Asp	Thr	Ile	Cys	Ile	Gly	Tyr	His	Ala	Asn	Asn	Ser	Thr	Asp	Thr	Val
1				5					10					15	

Asp	Thr	Val	Leu	Glu	Lys	Asn	Val	Thr	Val	Thr	His	Ser	Val	Asn	Leu
			20					25					30		

Leu	Glu	Asn	Gly	Gly	Gly	Gly	Lys	Tyr	Val	Cys	Ser	Ala	Lys	Leu	Arg
		35					40					45			

Met Val Thr Gly Leu Arg Asn Xaa Pro Ser Xaa Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Xaa Xaa Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Xaa Asn Thr Gln Xaa Thr Ala Xaa
115 120 125

Gly Lys Glu Xaa Asn Lys Xaa Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly
225 230 235

<210> 147

<211> 250

<212> PRT

<213> Artificial Sequence

<220>

<223> SYNTHETIC

<220>

<221> MISC_FEATURE

<222> (56)..(56)

<223> X1= E, I, K, V, A, or T

<220>

<221> MISC_FEATURE

<222> (59)..(59)

<223> X2= I, K, R, T, F, N, S, or Y

<220>

<221> MISC_FEATURE

<222> (71)..(71)

<223> X3= I, D, F, V, Y, A, I, N, S, T

<220>

<221> MISC_FEATURE

<222> (72)..(72)

<223> X4= I, K, R, T, E, G, V

<220>

<221> MISC_FEATURE

<222> (121)..(121)

<223> X5= M, E, K, V, R, T

<220>

<221> MISC_FEATURE

<222> (125)..(125)

<223> X6= F, I, N, S, T, Y, H, L

<220>

<221> MISC_FEATURE

<222> (128)..(128)

<223> X7= A, G, I, R, T, V, F, S

<220>

<221> MISC_FEATURE

<222> (132)..(132)

<223> X8= F, I, N, S, T, Y, G, E, K, M, V

<220>

<221> MISC_FEATURE

<222> (135)..(135)

<223> X9= H, I, L, N, R, S

<400> 147

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Xaa Pro Ser Xaa Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Xaa Xaa Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Xaa Asn Thr Gln Xaa Thr Ala Xaa
115 120 125

Gly Lys Glu Xaa Asn Lys Xaa Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

Glu Cys Met Glu Ser Val Lys Asn Gly Thr Tyr Asp Tyr Pro Lys Tyr

210

215

220

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
 225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Glu Gly
 245 250

<210> 148
 <211> 284
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> SYNTHETIC

<220>
 <221> MISC_FEATURE
 <222> (56)..(56)
 <223> X1= E, I, K, V, A, or T

<220>
 <221> MISC_FEATURE
 <222> (58)..(58)
 <223> X2= I, K, R, T, F, N, S, or Y

<220>
 <221> misc_feature
 <222> (59)..(59)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> MISC_FEATURE
 <222> (71)..(71)
 <223> X3= I, D, F, V, Y, A, I, N, S, T

<220>
 <221> MISC_FEATURE
 <222> (72)..(72)
 <223> X4= I, K, R, T, E, G, V

<220>
 <221> MISC_FEATURE
 <222> (121)..(121)
 <223> X5= M, E, K, V, R, T

<220>
 <221> MISC_FEATURE
 <222> (125)..(125)

<223> X6= F, I, N, S, T, Y, H, L

<220>

<221> MISC_FEATURE

<222> (128)..(128)

<223> X7= A, G, I, R, T, V, F, S

<220>

<221> MISC_FEATURE

<222> (132)..(132)

<223> X8= F, I, N, S, T, Y, G, E, K, M, V

<220>

<221> MISC_FEATURE

<222> (135)..(135)

<223> X9= H, I, L, N, R, S

<400> 148

Asp	Thr	Ile	Cys	Ile	Gly	Tyr	His	Ala	Asn	Asn	Ser	Thr	Asp	Thr	Val
1				5					10					15	

Asp	Thr	Val	Leu	Glu	Lys	Asn	Val	Thr	Val	Thr	His	Ser	Val	Asn	Leu
			20					25					30		

Leu	Glu	Asn	Gly	Gly	Gly	Gly	Lys	Tyr	Val	Cys	Ser	Ala	Lys	Leu	Arg
		35					40					45			

Met	Val	Thr	Gly	Leu	Arg	Asn	Xaa	Pro	Ser	Xaa	Gln	Ser	Gln	Gly	Leu
	50					55					60				

Phe	Gly	Ala	Ile	Ala	Gly	Xaa	Xaa	Glu	Gly	Gly	Trp	Thr	Gly	Met	Val
65					70					75				80	

Asp	Gly	Trp	Tyr	Gly	Tyr	His	His	Gln	Asn	Glu	Gln	Gly	Ser	Gly	Tyr
				85					90					95	

Ala	Ala	Asp	Gln	Lys	Ser	Thr	Gln	Asn	Ala	Ile	Asn	Gly	Ile	Thr	Asn
			100					105					110		

Lys	Val	Asn	Ser	Val	Ile	Glu	Lys	Xaa	Asn	Thr	Gln	Xaa	Thr	Ala	Xaa
		115					120					125			

Gly	Lys	Glu	Xaa	Asn	Lys	Xaa	Glu	Arg	Arg	Met	Lys	Gln	Ile	Glu	Asp
	130					135					140				

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys Leu
225 230 235 240

Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val Ala
245 250 255

Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp Met
260 265 270

Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
275 280

<210> 149
<211> 270
<212> PRT
<213> Artificial Sequence

<220>
<223> smH1 Cali3964-55G7

<400> 149

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr

20

25

30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Gly Gly Gly Gly Lys Tyr Val Cys Ser Thr Lys Leu
50 55 60

Arg Leu Ala Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Leu Lys Ser Thr Gln Asn Ala Ile Asp Glu Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn His Leu Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Arg Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asp
210 215 220

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

Tyr Ser Glu Glu Ala Lys Leu Asn Arg Glu Glu Ile Asp Gly Arg Ser
245 250 255

Leu Val Pro Arg Gly Ser Pro Gly His His His His His His
260 265 270

<210> 150
<211> 270
<212> PRT
<213> Artificial Sequence

<220>
<223> smH1 Cali3964-86B4

<400> 150

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Gly Gly Gly Gly Lys Tyr Val Cys Ser Thr Lys Leu
50 55 60

Arg Leu Ala Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Leu Lys Ser Thr Gln Asn Ala Ile Asp Glu Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala

130

135

140

Ile Gly Lys Glu Met Asn His Ile Glu Arg Met Lys Gln Ile Glu Asp
 145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
 165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Arg Ser Gln Leu Lys Asn Asn
 195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asp
 210 215 220

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

Tyr Ser Glu Glu Ala Lys Leu Asn Arg Glu Glu Ile Asp Gly Arg Ser
 245 250 255

Leu Val Pro Arg Gly Ser Pro Gly His His His His His His
 260 265 270

<210> 151
 <211> 270
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> smH1 Cali3964-127H1

<400> 151

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Gly Gly Gly Gly Lys Tyr Val Cys Ser Thr Lys Leu
50 55 60

Arg Leu Ala Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Leu Lys Ser Thr Gln Asn Ala Ile Asp Glu Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Tyr Asn His Ser Glu Arg Met Lys Gln Ile Glu Asp
145 150 155 160

Lys Ile Glu Glu Ile Glu Ser Lys Gln Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Arg Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asp
210 215 220

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

Tyr Ser Glu Glu Ala Lys Leu Asn Arg Glu Glu Ile Asp Gly Arg Ser

245

250

255

Leu Val Pro Arg Gly Ser Pro Gly His His His His His His
 260 265 270

<210> 152

<211> 270

<212> PRT

<213> Artificial Sequence

<220>

<223> smH1 Cali3964-55G7-t2

<400> 152

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
 20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
 35 40 45

Leu Leu Glu Asp Gly Gly Gly Gly Lys Tyr Val Cys Ser Thr Lys Leu
 50 55 60

Arg Leu Ala Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
 65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Val Glu Gly Gly Trp Thr Gly Met
 85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
 100 105 110

Tyr Ala Ala Asp Leu Lys Ser Thr Gln Asn Ala Ile Asp Glu Ile Thr
 115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
 130 135 140

Ile Gly Lys Glu Met Asn His Leu Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Arg Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asp
210 215 220

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

Tyr Ser Glu Glu Ala Lys Leu Asn Arg Glu Glu Ile Asp Gly Arg Ser
245 250 255

Leu Val Pro Arg Gly Ser Pro Gly His His His His His His
260 265 270

<210> 153
<211> 270
<212> PRT
<213> Artificial Sequence

<220>
<223> smH1 Cali3964-86B4-t2

<400> 153

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Gly Gly Gly Gly Lys Tyr Val Cys Ser Thr Lys Leu
50 55 60

Arg Leu Ala Thr Gly Leu Arg Asn Lys Pro Ser Asn Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Leu Lys Ser Thr Gln Asn Ala Ile Asp Glu Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Phe Thr Ala
130 135 140

Ile Gly Lys Glu Met Asn His Ile Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Arg Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asp
210 215 220

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

Tyr Ser Glu Glu Ala Lys Leu Asn Arg Glu Glu Ile Asp Gly Arg Ser
245 250 255

Leu Val Pro Arg Gly Ser Pro Gly His His His His His His
260 265 270

<210> 154
<211> 270
<212> PRT
<213> Artificial Sequence

<220>
<223> smH1 Cali3964-127H1-t2

<400> 154

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Gly Gly Gly Gly Lys Tyr Val Cys Ser Thr Lys Leu
50 55 60

Arg Leu Ala Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Leu Lys Ser Thr Gln Asn Ala Ile Asp Glu Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Tyr Asn His Ser Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Arg Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asp
210 215 220

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

Tyr Ser Glu Glu Ala Lys Leu Asn Arg Glu Glu Ile Asp Gly Arg Ser
245 250 255

Leu Val Pro Arg Gly Ser Pro Gly His His His His His His
260 265 270

<210> 155
<211> 301
<212> PRT
<213> Artificial Sequence

<220>
<223> mH1 Cali3964-127H1-t2

<400> 155

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

Ala Asp Thr Leu Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

Leu Leu Glu Asp Gly Gly Gly Gly Lys Tyr Val Cys Ser Thr Lys Leu
50 55 60

Arg Leu Ala Thr Gly Leu Arg Asn Lys Pro Ser Lys Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Phe Thr Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Leu Lys Ser Thr Gln Asn Ala Ile Asp Glu Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Tyr Thr Ala
130 135 140

Ile Gly Lys Glu Tyr Asn His Ser Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Arg Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asp
210 215 220

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

Tyr Ser Glu Glu Ala Lys Leu Asn Arg Glu Glu Ile Asp Gly Val Lys
245 250 255

Leu Glu Ser Thr Arg Ile Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
260 265 270

Ala Ser Ser Leu Val Leu Val Val Ser Leu Gly Ala Ile Ser Phe Trp
275 280 285

Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
290 295 300

<210> 156

<211> 286

<212> PRT

<213> Artificial Sequence

<220>

<223> sH1-mini2-cluster1+5+6-GCN4t2 without leader sequence and with
FLAG-foldon-HIS

<400> 156

Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
1 5 10 15

Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
20 25 30

Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
35 40 45

Met Val Thr Gly Leu Arg Asn Ile Pro Ser Ile Gln Ser Gln Gly Leu
50 55 60

Phe Gly Ala Ile Ala Gly Phe Ile Glu Gly Gly Trp Thr Gly Met Val
65 70 75 80

Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ser Thr Ala Thr
115 120 125

Gly Lys Glu Gly Asn Lys Ser Glu Arg Arg Met Lys Gln Ile Glu Asp

130

135

140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
 145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
 165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
 180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
 195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Ser Gly
 225 230 235 240

Arg Asp Tyr Lys Asp Asp Asp Asp Lys Pro Gly Ser Gly Tyr Ile Pro
 245 250 255

Glu Ala Pro Arg Asp Gly Gln Ala Tyr Val Arg Lys Asp Gly Glu Trp
 260 265 270

Val Leu Leu Ser Thr Phe Leu Gly His His His His His His
 275 280 285

<210> 157

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> H1 mini-HA GW1.5E2

<400> 157

Met Lys Val Lys Leu Leu Val Leu Leu Cys Thr Phe Thr Ala Thr Tyr
 1 5 10 15

Ala Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr
20 25 30

Val Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn
35 40 45

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

Arg Met Val Thr Gly Leu Arg Asn Lys Pro Ser Ile Gln Ser Gln Gly
65 70 75 80

Leu Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met
85 90 95

Val Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly
100 105 110

Tyr Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr
115 120 125

Asn Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala
130 135 140

Thr Gly Lys Glu Thr Asn Lys Arg Glu Arg Arg Met Lys Gln Ile Glu
145 150 155 160

Asp Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu
165 170 175

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

Asn Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn
195 200 205

Ala Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn
210 215 220

Asp Glu Cys Met Glu Ser Val Lys Asn Gly Thr Tyr Asp Tyr Pro Lys

225 230 235 240
 Tyr Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Lys
 245 250 255
 Leu Glu Ser Met Gly Val Tyr Gln Ile Leu Ala Ile Tyr Ser Thr Val
 260 265 270
 Ala Ser Ser Leu Val Leu Leu Val Ser Leu Gly Ala Ile Ser Phe Trp
 275 280 285
 Met Cys Ser Asn Gly Ser Leu Gln Cys Arg Ile Cys Ile
 290 295 300

 <210> 158
 <211> 286
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> mini-HA GW1.5E2-FFH (#5145)

 <400> 158

 Asp Thr Ile Cys Ile Gly Tyr His Ala Asn Asn Ser Thr Asp Thr Val
 1 5 10 15

 Asp Thr Val Leu Glu Lys Asn Val Thr Val Thr His Ser Val Asn Leu
 20 25 30

 Leu Glu Asn Gly Gly Gly Gly Lys Tyr Val Cys Ser Ala Lys Leu Arg
 35 40 45

 Met Val Thr Gly Leu Arg Asn Lys Pro Ser Ile Gln Ser Gln Gly Leu
 50 55 60

 Phe Gly Ala Ile Ala Gly Tyr Lys Glu Gly Gly Trp Thr Gly Met Val
 65 70 75 80

 Asp Gly Trp Tyr Gly Tyr His His Gln Asn Glu Gln Gly Ser Gly Tyr
 85 90 95

Ala Ala Asp Gln Lys Ser Thr Gln Asn Ala Ile Asn Gly Ile Thr Asn
100 105 110

Lys Val Asn Ser Val Ile Glu Lys Met Asn Thr Gln Ile Thr Ala Thr
115 120 125

Gly Lys Glu Thr Asn Lys Arg Glu Arg Arg Met Lys Gln Ile Glu Asp
130 135 140

Lys Ile Glu Glu Ile Glu Ser Lys Ile Trp Cys Tyr Asn Ala Glu Leu
145 150 155 160

Leu Val Leu Leu Glu Asn Glu Arg Thr Leu Asp Phe His Asp Ser Asn
165 170 175

Val Lys Asn Leu Tyr Glu Lys Val Lys Ser Gln Leu Lys Asn Asn Ala
180 185 190

Lys Glu Ile Gly Asn Gly Cys Phe Glu Phe Tyr His Lys Cys Asn Asp
195 200 205

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

Ser Glu Glu Ser Lys Leu Asn Arg Glu Lys Ile Asp Gly Val Ser Gly
225 230 235 240

Arg Asp Tyr Lys Asp Asp Asp Asp Lys Pro Gly Ser Gly Tyr Ile Pro
245 250 255

Glu Ala Pro Arg Asp Gly Gln Ala Tyr Val Arg Lys Asp Gly Glu Trp
260 265 270

Val Leu Leu Ser Thr Phe Leu Gly His His His His His His
275 280 285