

SEQUENCE LISTING

<110> Eureka Therapeutics, Inc.

<120> CONSTRUCTS TARGETING PROSTATE-SPECIFIC
MEMBRANE ANTIGEN (PSMA) AND USES THEREOF

<130> 75004-20015.40

<140> Not Yet Assigned

<141> Concurrently Herewith

<160> 186

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 1

Gly Tyr Ser Phe Thr Ser Tyr Trp

1

5

<210> 2

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 2

Gly Tyr Asn Phe Ala Ser Tyr Trp

1

5

<210> 3

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 3

Ile Tyr Pro Gly Asp Ser Asp Thr
1 5

<210> 4

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 4

Ile Tyr Pro Asp Asp Ser Asp Thr
1 5

<210> 5

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 5

Ala Arg Ser Met Gly Ser Ser Leu Tyr Ala Ser Ser Asp Val
1 5 10

<210> 6

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 6

Ala Arg Asp Ser Tyr Tyr Gly Ile Asp Val
1 5 10

<210> 7

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 7

Ser Ser Asn Ile Gly Ala Gly Tyr Asp

1

5

<210> 8

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 8

Ser Ser Asn Ile Gly Ser Asn Thr

1

5

<210> 9

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 9

Gln Ser Tyr Asp Ser Ser Leu Ser Gly Tyr Val

1

5

10

<210> 10

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 10

Ala Ala Trp Asp Asp Ser Leu Asn Gly Tyr Val

1

5

10

<210> 11

<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> VARIANT
<222> 3
<223> Xaa = S or N

<220>
<221> VARIANT
<222> 5
<223> Xaa = T or A

<400> 11
Gly Tyr Xaa Phe Xaa Ser Tyr Trp
1 5

<210> 12
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> VARIANT
<222> 4
<223> Xaa = G or D

<400> 12
Ile Tyr Pro Xaa Asp Ser Asp Thr
1 5

<210> 13
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> VARIANT

<222> 3
<223> Xaa = S or absent

<220>
<221> VARIANT
<222> 4
<223> Xaa = M or absent

<220>
<221> VARIANT
<222> 5
<223> Xaa = G or absent

<220>
<221> VARIANT
<222> 6
<223> Xaa = S or absent

<220>
<221> VARIANT
<222> 7
<223> Xaa = S or D

<220>
<221> VARIANT
<222> 8
<223> Xaa = L or S

<220>
<221> VARIANT
<222> 10
<223> Xaa = A or Y

<220>
<221> VARIANT
<222> 11
<223> Xaa = S or G

<220>
<221> VARIANT
<222> 12
<223> Xaa = S or I

<400> 13
Ala Arg Xaa Xaa Xaa Xaa Xaa Xaa Tyr Xaa Xaa Xaa Asp Val
1 5 10

<210> 14
<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> VARIANT
<222> 6
<223> Xaa = A or S

<220>
<221> VARIANT
<222> 7
<223> Xaa = G or N

<220>
<221> VARIANT
<222> 8
<223> Xaa = Y or T

<220>
<221> VARIANT
<222> 9
<223> Xaa = D or absent

<400> 14
Ser Ser Asn Ile Gly Xaa Xaa Xaa Xaa
1 5

<210> 15
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> VARIANT
<222> 1
<223> Xaa = Q or A

<220>
<221> VARIANT
<222> 2
<223> Xaa = S or A

<220>

<221> VARIANT
<222> 3
<223> Xaa = Y or W

<220>
<221> VARIANT
<222> 5
<223> Xaa = S or D

<220>
<221> VARIANT
<222> 8
<223> Xaa = S or N

<400> 15
Xaa Xaa Xaa Asp Xaa Ser Leu Xaa Gly Tyr Val
1 5 10

<210> 16
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 16
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
1 5 10 15
Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30
Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met
35 40 45
Gly Ile Ile Tyr Pro Gly Asp Ser Asp Thr Arg Tyr Ser Pro Ser Phe
50 55 60
Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Ala Tyr
65 70 75 80
Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95
Ala Arg Ser Met Gly Ser Ser Leu Tyr Ala Ser Ser Asp Val Trp Gly
100 105 110
Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 17
<211> 117
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 17

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

<210> 18

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 18

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

<210> 19

<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 19
Gln Ala Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Thr Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45
Met Tyr Ser Asn Asn Gln Arg Pro Ser Gly 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 Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu
85 90 95
Asn Gly Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

<210> 20
<211> 254
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 20
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ala Gly
20 25 30
Tyr Asp Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
35 40 45
Leu Ile Tyr Gly Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
65 70 75 80
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser
85 90 95
Leu Ser Gly Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110
Ser Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
115 120 125
Ser Leu Glu Met Ala Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val
130 135 140

Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr
145					150					155					160
Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys
				165					170						175
Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg
			180					185					190		
Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser
		195				200						205			
Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr
	210					215					220				
Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser
225					230					235					240
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser		
				245					250						

<210> 21
 <211> 249
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 21

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

		195					200				205						
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala		
	210					215					220						
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly		
225					230					235					240		
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser									
				245													

<210> 22
 <211> 222
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 22

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

<210> 23
 <211> 225

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 23

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

Arg
225

<210> 24
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 24

Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly
1				5					10					15	

Ser Leu Glu Met Ala
20

<210> 25

<211> 510

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 25

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

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

<210> 26

<211> 504

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 26

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

Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly
			100					105					110		
Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly
		115					120					125			
Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val
		130				135					140				
Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr
145					150					155					160
Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys
				165					170					175	
Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg
			180					185					190		
Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser
		195				200						205			
Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr
		210				215					220				
Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser
225					230					235					240
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Thr	Ser
				245					250					255	
Gly	Gly	Gly	Gly	Ser	Asp	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val
			260					265					270		
Lys	Lys	Pro	Gly	Ala	Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr
		275				280						285			
Thr	Phe	Thr	Arg	Tyr	Thr	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln
		290				295					300				
Gly	Leu	Glu	Trp	Ile	Gly	Tyr	Ile	Asn	Pro	Ser	Arg	Gly	Tyr	Thr	Asn
305					310					315					320
Tyr	Ala	Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Thr	Thr	Asp	Lys	Ser
				325					330					335	
Thr	Ser	Thr	Ala	Tyr	Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr
			340					345					350		
Ala	Thr	Tyr	Tyr	Cys	Ala	Arg	Tyr	Tyr	Asp	Asp	His	Tyr	Cys	Leu	Asp
		355				360						365			
Tyr	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser	Gly	Glu	Gly	Thr
		370				375					380				
Ser	Thr	Gly	Ser	Gly	Gly	Ser	Gly	Gly	Ser	Gly	Gly	Ala	Asp	Asp	Ile
385					390				395						400
Val	Leu	Thr	Gln	Ser	Pro	Ala	Thr	Leu	Ser	Leu	Ser	Pro	Gly	Glu	Arg
				405					410					415	
Ala	Thr	Leu	Ser	Cys	Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Met	Asn	Trp
		420				425						430			
Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ala	Pro	Lys	Arg	Trp	Ile	Tyr	Asp	Thr
		435				440						445			
Ser	Lys	Val	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser	Gly	Ser
		450													

Gly Gly Thr Lys Val Glu Ile Lys
500

<210> 27

<211> 505

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 27

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

290		295		300
Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser Val				
305		310		315
Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala Tyr				
		325		330
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr Cys				
		340		345
Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly				
		355		360
Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser Thr Gly Ser Gly				
		370		375
Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val Leu Thr Gln Ser				
385		390		395
Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys				
		405		410
Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro				
		420		425
Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala Ser				
		435		440
Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser				
		450		455
Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys				
465		470		475
Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Val				
		485		490
Glu Ile Lys His His His His His His				
		500		505

<210> 28

<211> 499

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 28

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

Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser	100	105	110
Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	115	120	125
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	130	135	140
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	145	150	155
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	165	170	175
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	180	185	190
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	195	200	205
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	210	215	220
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	225	230	235
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Thr	Ser	Gly	Gly	Gly	Gly	Ser	245	250	255
Asp	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala	260	265	270
Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Arg	Tyr	275	280	285
Thr	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile	290	295	300
Gly	Tyr	Ile	Asn	Pro	Ser	Arg	Gly	Tyr	Thr	Asn	Tyr	Ala	Asp	Ser	Val	305	310	315
Lys	Gly	Arg	Phe	Thr	Ile	Thr	Thr	Asp	Lys	Ser	Thr	Ser	Thr	Ala	Tyr	325	330	335
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Thr	Tyr	Tyr	Cys	340	345	350
Ala	Arg	Tyr	Tyr	Asp	Asp	His	Tyr	Cys	Leu	Asp	Tyr	Trp	Gly	Gln	Gly	355	360	365
Thr	Thr	Val	Thr	Val	Ser	Ser	Gly	Glu	Gly	Thr	Ser	Thr	Gly	Ser	Gly	370	375	380
Gly	Ser	Gly	Gly	Ser	Gly	Gly	Ala	Asp	Asp	Ile	Val	Leu	Thr	Gln	Ser	385	390	395
Pro	Ala	Thr	Leu	Ser	Leu	Ser	Pro	Gly	Glu	Arg	Ala	Thr	Leu	Ser	Cys	405	410	415
Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Met	Asn	Trp	Tyr	Gln	Gln	Lys	Pro	420	425	430
Gly	Lys	Ala	Pro	Lys	Arg	Trp	Ile	Tyr	Asp	Thr	Ser	Lys	Val	Ala	Ser	435	440	445
Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Tyr	Ser	450	455	460
Leu	Thr	Ile	Asn	Ser	Leu	Glu	Ala	Glu	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	465	470	475
Gln	Gln	Trp	Ser	Ser	Asn	Pro	Leu	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val	485	490	495

Glu Ile Lys

<210> 29

<211> 486

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Clone A-CAR

<400> 29

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

290		295		300
Lys Pro Phe Trp Val	Leu Val Val Val Gly Gly	Val Leu Ala Cys Tyr		
305	310	315	320	
Ser Leu Leu Val Thr	Val Ala Phe Ile Ile Phe	Trp Val Arg Ser Lys		
	325	330	335	
Arg Ser Arg Leu Leu	His Ser Asp Tyr Met	Asn Met Thr Pro Arg Arg		
	340	345	350	
Pro Gly Pro Thr Arg	Lys His Tyr Gln Pro	Tyr Ala Pro Pro Arg Asp		
	355	360	365	
Phe Ala Ala Tyr Arg	Ser Arg Val Lys Phe	Ser Arg Ser Ala Asp Ala		
	370	375	380	
Pro Ala Tyr Gln Gln	Gly Gln Asn Gln Leu	Tyr Asn Glu Leu Asn Leu		
385	390	395	400	
Gly Arg Arg Glu Glu	Tyr Asp Val Leu Asp	Lys Arg Arg Gly Arg Asp		
	405	410	415	
Pro Glu Met Gly Gly	Lys Pro Arg Arg Lys	Asn Pro Gln Glu Gly Leu		
	420	425	430	
Tyr Asn Glu Leu Gln	Lys Asp Lys Met Ala	Glu Ala Tyr Ser Glu Ile		
	435	440	445	
Gly Met Lys Gly Glu	Arg Arg Arg Gly Lys	Gly His Asp Gly Leu Tyr		
	450	455	460	
Gln Gly Leu Ser Thr	Ala Thr Lys Asp Thr	Tyr Asp Ala Leu His Met		
465	470	475	480	
Gln Ala Leu Pro Pro	Arg			
	485			

<210> 30

<211> 481

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Clone B-CAR

<400> 30

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

Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
		115					120					125			
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys
		130					135					140			
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn
145					150					155					160
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly
				165					170					175	
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr
			180					185					190		
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
		195					200					205			
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
		210				215					220				
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu
				245					250					255	
Glu	Asp	Leu	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu
			260					265					270		
Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His
		275					280					285			
Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val
		290				295					300				
Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr
305					310					315					320
Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu
				325					330					335	
His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg
			340					345					350		
Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg
		355					360					365			
Ser	Arg	Val	Lys	Phe	Ser	Arg	Ser	Ala	Asp	Ala	Pro	Ala	Tyr	Gln	Gln
		370				375					380				
Gly	Gln	Asn	Gln	Leu	Tyr	Asn	Glu	Leu	Asn	Leu	Gly	Arg	Arg	Glu	Glu
385					390					395					400
Tyr	Asp	Val	Leu	Asp	Lys	Arg	Arg	Gly	Arg	Asp	Pro	Glu	Met	Gly	Gly
				405					410					415	
Lys	Pro	Arg	Arg	Lys	Asn	Pro	Gln	Glu	Gly	Leu	Tyr	Asn	Glu	Leu	Gln
			420					425					430		
Lys	Asp	Lys	Met	Ala	Glu	Ala	Tyr	Ser	Glu	Ile	Gly	Met	Lys	Gly	Glu
		435					440					445			
Arg	Arg	Arg	Gly	Lys	Gly	His	Asp	Gly	Leu	Tyr	Gln	Gly	Leu	Ser	Thr
		450				455					460				
Ala	Thr	Lys	Asp	Thr	Tyr										

<210> 31
 <211> 292
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 31
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Glu
 1 5 10 15
 Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
 20 25 30
 Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45
 Gly Ile Ile Tyr Pro Gly Asp Ser Asp Thr Arg Tyr Ser Pro Ser Phe
 50 55 60
 Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
 85 90 95
 Ala Arg Ser Met Gly Ser Ser Leu Tyr Ala Ser Ser Asp Val Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 115 120 125
 Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
 130 135 140
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 145 150 155 160
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 165 170 175
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 180 185 190
 Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 195 200 205
 Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
 210 215 220
 Glu Val Lys Thr Asp Ser Thr Asp His Val Lys Pro Lys Glu Thr Glu
 225 230 235 240
 Asn Thr Lys Gln Pro Ser Lys Ser Cys His Lys Pro Lys Ala Ile Val
 245 250 255
 His Thr Glu Lys Val Asn Met Met Ser Leu Thr Val Leu Gly Leu Arg
 260 265 270
 Met Leu Phe Ala Lys Thr Val Ala Val Asn Phe Leu Leu Thr Ala Lys
 275 280 285
 Leu Phe Phe Leu
 290

<210> 32

<211> 284
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 32

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

<210> 33
<211> 648
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct: Anti-PSMA caTCR #1 (a.k.a. Anti-PSMA Clone A caTCR, "Ax1-caTCR", or "Clone A-caTCR")

<400> 33

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

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

<210> 35

<211> 283

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 35

Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	
1				5					10					15		
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	
			20					25					30			

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

<210> 36

<211> 643

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Anti-PSMA caTCR #2 (a.k.a.
 Anti-PSMA Clone B caTCR, "Bx1-caTCR", or "Clone B-caTCR")

<400> 36

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

Phe 50	Ala	Ser	Tyr	Trp	Val	Gly 55	Trp	Val	Arg	Gln	Met 60	Pro	Gly	Lys	Gly
Leu 65	Glu	Trp	Met	Gly	Thr 70	Ile	Tyr	Pro	Asp	Asp 75	Ser	Asp	Thr	Arg	Tyr 80
Gly	Pro	Ala	Phe	Gln	Gly 85	Gln	Val	Thr	Ile 90	Ser	Ala	Asp	Lys	Ser 95	Ile
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser 105	Leu	Lys	Ala	Ser	Asp	Thr 110	Ala
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr 120	Tyr	Gly	Ile	Asp	Val	Trp	Gly
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser
Val 145	Phe	Pro	Leu	Ala	Pro 150	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala 160
Ala	Leu	Gly	Cys	Leu	Val 165	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val
Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser 185	Gly	Val	His	Thr	Phe	Pro	Ala
Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr 200	Ser	Leu	Ser	Ser	Val	Val	Thr	Val
Pro	Ser	Ser	Ser	Leu	Gly	Thr 215	Gln	Thr	Tyr	Ile	Cys 220	Asn	Val	Asn	His
Lys 225	Pro	Ser	Asn	Thr	Lys 230	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys 240
Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu
Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys 265	His	Lys	Pro	Lys	Ala	Ile	Val
His	Thr	Glu	Lys	Val	Asn	Met	Met 280	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg
Met	Leu	Phe	Ala	Lys	Thr	Val 295	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys
Leu 305	Phe	Phe	Leu	Arg	Ala 310	Lys	Arg	Ser	Gly	Ser	Gly	Ala	Pro	Val	Lys 320
Gln	Thr	Leu	Asn	Phe	Asp 325	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser
Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr 345	Leu	Leu	Leu	Trp	Val	Leu	Leu
Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly 360	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro
Ser	Ala	Ser	Gly	Thr	Pro	Gly 375	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly
Ser 385	Ser	Ser	Asn	Ile	Gly 390	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu 400
Pro	Gly	Thr	Ala	Pro	Lys 405	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly 425	Ser	Lys	Ser	Gly	Thr	Ser	Ala
Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr

Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly
450						455					460				
Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr
465					470					475					480
Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu
				485					490					495	
Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp
		500						505					510		
Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro
		515					520					525			
Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu
		530				535					540				
Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr
545					550					555					560
His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser
				565					570					575	
Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser
			580					585					590		
Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala
		595					600					605			
Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	
	610					615				620					
Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly
625					630					635					640
Glu	Lys	Ser													

<210> 37

<211> 364

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 37

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

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

<210> 38

<211> 359

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 38

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

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

<210> 39

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 39

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

<210> 41
 <211> 447
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 41

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

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

<210> 42

<211> 216

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 42

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

Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys
		195					200					205			
Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser								
		210				215									

<210> 43
 <211> 750
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 43

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

		275					280				285				
Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr	Asp	Ala	Gln	Lys
	290					295					300				
Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	Asp	Ser	Ser	Trp	Arg
305					310					315					320
Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro	Gly	Phe	Thr	Gly	Asn
				325					330					335	
Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His	Ser	Thr	Asn	Glu	Val
			340					345					350		
Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro
		355					360					365			
Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly
	370					375					380				
Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val	His	Glu	Ile	Val	Arg
385					390					395					400
Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg	Pro	Arg	Arg	Thr	Ile
				405					410					415	
Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Ser	Thr
			420					425					430		
Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln	Glu	Arg	Gly	Val	Ala
		435					440					445			
Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn	Tyr	Thr	Leu	Arg	Val
	450					455					460				
Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His	Asn	Leu	Thr	Lys	Glu
465					470					475					480
Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys	Ser	Leu	Tyr	Glu	Ser
				485					490					495	
Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser	Gly	Met	Pro	Arg	Ile
			500					505					510		
Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val	Phe	Phe	Gln	Arg	Leu
		515					520					525			
Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys	Asn	Trp	Glu	Thr	Asn
	530					535					540				
Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val	Tyr	Glu	Thr	Tyr	Glu
545					550					555					560
Leu	Val	Glu	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys	Tyr	His	Leu	Thr	Val
				565					570					575	
Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Phe	Glu	Leu	Ala	Asn	Ser	Ile	Val
			580					585					590		
Leu	Pro	Phe	Asp	Cys	Arg	Asp	Tyr	Ala	Val	Val	Leu	Arg	Lys	Tyr	Ala
		595					600					605			
Asp	Lys	Ile	Tyr	Ser	Ile	Ser	Met	Lys	His	Pro	Gln	Glu	Met	Lys	Thr
	610					615					620				
Tyr	Ser	Val	Ser	Phe	Asp	Ser	Leu	Phe	Ser	Ala	Val	Lys	Asn	Phe	Thr
625					630										

		675					680				685					
His	Val	Ile	Tyr	Ala	Pro	Ser	Ser	His	Asn	Lys	Tyr	Ala	Gly	Glu	Ser	
	690					695					700					
Phe	Pro	Gly	Ile	Tyr	Asp	Ala	Leu	Phe	Asp	Ile	Glu	Ser	Lys	Val	Asp	
705					710					715					720	
Pro	Ser	Lys	Ala	Trp	Gly	Glu	Val	Lys	Arg	Gln	Ile	Tyr	Val	Ala	Ala	
			725						730					735		
Phe	Thr	Val	Gln	Ala	Ala	Ala	Glu	Thr	Leu	Ser	Glu	Val	Ala			
		740					745						750			

<210> 44
 <211> 707
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 44

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

Ala	Glu	Ala	Val	Gly	Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr			
				245					250					255				
Tyr	Asp	Ala	Gln	Lys	Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro			
			260					265					270					
Asp	Ser	Ser	Trp	Arg	Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro			
		275					280					285						
Gly	Phe	Thr	Gly	Asn	Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His			
	290					295					300							
Ser	Thr	Asn	Glu	Val	Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg			
305					310					315					320			
Gly	Ala	Val	Glu	Pro	Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp			
				325					330					335				
Ser	Trp	Val	Phe	Gly	Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val			
			340					345					350					
His	Glu	Ile	Val	Arg	Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg			
		355					360					365						
Pro	Arg	Arg	Thr	Ile	Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly			
	370					375					380							
Leu	Leu	Gly	Ser	Thr	Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln			
385					390					395					400			
Glu	Arg	Gly	Val	Ala	Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn			
				405					410					415				
Tyr	Thr	Leu	Arg	Val	Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His			
			420					425					430					
Asn	Leu	Thr	Lys	Glu	Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys			
		435					440					445						
Ser	Leu	Tyr	Glu	Ser	Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser			
	450					455					460							
Gly	Met	Pro	Arg	Ile	Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val			
465					470					475					480			
Phe	Phe	Gln	Arg	Leu	Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys			
				485					490					495				
Asn	Trp	Glu	Thr	Asn	Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val			
			500					505					510					
Tyr	Glu	Thr	Tyr	Glu	Leu	Val	Glu	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys			
	515						520					525						
Tyr	His	Leu	Thr	Val	Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Phe	Glu	Leu			
	530					535					540							
Ala	Asn	Ser	Ile	Val	Leu	Pro	Phe	Asp	Cys	Arg	Asp	Tyr	Ala	Val	Val			
545					550					555					560			
Leu	Arg	Lys	Tyr	Ala	Asp	Lys	Ile	Tyr	Ser	Ile	Ser	Met	Lys	His	Pro			
				565					570					575				
Gln	Glu	Met	Lys	Thr	Tyr	Ser	Val	Ser	Phe	Asp	Ser	Leu	Phe	Ser	Ala			
			580					585					590					
Val	Lys	Asn	Phe	Thr	Glu	Ile	Ala	Ser	Lys	Phe	Ser	Glu	Arg	Leu	Gln			
	595						600					605						
Asp	Phe	Asp	Lys	Ser	Asn	Pro	Ile	Val	Leu	Arg	Met	Met	Asn	Asp	Gln			
	610					615					620							
Leu	Met	Phe	Leu	Glu	Arg	Ala	Phe	Ile	Asp	Pro	Leu	Gly	Leu	Pro	Asp			
625					630					635					640			

Arg	Pro	Phe	Tyr	Arg	His	Val	Ile	Tyr	Ala	Pro	Ser	Ser	His	Asn	Lys
				645					650					655	
Tyr	Ala	Gly	Glu	Ser	Phe	Pro	Gly	Ile	Tyr	Asp	Ala	Leu	Phe	Asp	Ile
			660					665					670		
Glu	Ser	Lys	Val	Asp	Pro	Ser	Lys	Ala	Trp	Gly	Glu	Val	Lys	Arg	Gln
		675					680					685			
Ile	Tyr	Val	Ala	Ala	Phe	Thr	Val	Gln	Ala	Ala	Ala	Glu	Thr	Leu	Ser
	690					695					700				
Glu	Val	Ala													
705															

<210> 45

<211> 476

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Clone A-CAR

<400> 45

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

225					230					235				240
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala
				245					250					255
Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn	Glu	Lys
			260					265					270	
Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	Leu	Cys	Pro	Ser
		275					280				285			
Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val	Gly
	290					295				300				
Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile
305					310				315					320
Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr
			325					330					335	
Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln
		340					345					350		
Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser	Arg	Val	Lys
	355					360					365			
Ser	Arg	Ser	Ala	Asp	Ala	Pro	Ala	Tyr	Gln	Gln	Gly	Gln	Asn	Gln
	370				375				380					
Tyr	Asn	Glu	Leu	Asn	Leu	Gly	Arg	Arg	Glu	Glu	Tyr	Asp	Val	Leu
385				390					395					400
Lys	Arg	Arg	Gly	Arg	Asp	Pro	Glu	Met	Gly	Gly	Lys	Pro	Arg	Arg
			405				410						415	
Asn	Pro	Gln	Glu	Gly	Leu	Tyr	Asn	Glu	Leu	Gln	Lys	Asp	Lys	Met
		420					425					430		
Glu	Ala	Tyr	Ser	Glu	Ile	Gly	Met	Lys	Gly	Glu	Arg	Arg	Arg	Gly
	435					440					445			
Gly	His	Asp	Gly	Leu	Tyr	Gln	Gly	Leu	Ser	Thr	Ala	Thr	Lys	Asp
	450					455				460				
Tyr	Asp	Ala	Leu	His	Met	Gln	Ala	Leu	Pro	Pro	Arg			
465				470					475					

<210> 46

<211> 471

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Clone B-CAR

<400> 46

Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln
1				5				10						15	
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn
			20				25				30				
Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
		35				40					45				
Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	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	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu
				85					90					95	
Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser
			100					105					110		
Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
		115					120					125			
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys
		130				135					140				
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn
145					150					155					160
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly
				165					170					175	
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr
			180					185					190		
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
		195					200					205			
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
		210				215					220				
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ala	Ala	Ile	Glu	Val	Met
				245					250					255	
Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile
			260					265					270		
His	Val	Lys	Gly	Lys	His	Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro
		275					280					285			
Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys
	290					295					300				
Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser
305					310					315					320
Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg
				325					330					335	
Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg
			340					345					350		
Asp	Phe	Ala	Ala	Tyr	Arg	Ser	Arg	Val	Lys	Phe	Ser	Arg	Ser	Ala	Asp
		355					360					365			
Ala	Pro	Ala	Tyr	Gln	Gln	Gly	Gln	Asn	Gln	Leu	Tyr	Asn	Glu	Leu	Asn
		370				375					380				
Leu	Gly	Arg	Arg	Glu	Glu	Tyr	Asp	Val	Leu	Asp	Lys	Arg	Arg	Gly	Arg
385					390					395					400
Asp	Pro	Glu	Met	Gly	Gly	Lys	Pro	Arg	Arg	Lys	Asn	Pro	Gln	Glu	Gly
				405					410					415	
Leu	Tyr	Asn	Glu	Leu	Gln	Lys	Asp	Lys	Met	Ala	Glu	Ala	Tyr	Ser	Glu
			420					425					430		
Ile	Gly	Met	Lys	Gly	Glu	Arg	Arg	Arg	Gly	Lys	Gly	His	Asp	Gly	Leu
		435					440					445			
Tyr	Gln	Gly	Leu	Ser	Thr	Ala	Thr	Lys	Asp	Thr	Tyr	Asp	Ala	Leu	His
		450				455					460				

Met Gln Ala Leu Pro Pro Arg
465 470

<210> 47
<211> 907
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct: Bivalent Anti-PSMA Clone A caTCR
with 1 scFv and 1 Fab (a.k.a. "Ax2-caTCR-1" or
"Bivalent Clone A caTCR-1")

<400> 47
Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15
Gly Ser Thr Gly Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly
20 25 30
Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Asn
35 40 45
Ile Gly Ala Gly Tyr Asp Val His Trp Tyr Gln Gln Leu Pro Gly Thr
50 55 60
Ala Pro Lys Leu Leu Ile Tyr Gly Asn Ser Asn Arg Pro Ser Gly Val
65 70 75 80
Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
85 90 95
Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
100 105 110
Tyr Asp Ser Ser Leu Ser Gly Tyr Val Phe Gly Thr Gly Thr Lys Val
115 120 125
Thr Val Leu Gly Ser Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
130 135 140
Gly Gly Gly Gly Ser Leu Glu Met Ala Glu Val Gln Leu Val Gln Ser
145 150 155 160
Gly Ala Glu Val Lys Lys Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys
165 170 175
Gly Ser Gly Tyr Ser Phe Thr Ser Tyr Trp Ile Gly Trp Val Arg Gln
180 185 190
Met Pro Gly Lys Gly Leu Glu Trp Met Gly Ile Ile Tyr Pro Gly Asp
195 200 205
Ser Asp Thr Arg Tyr Ser Pro Ser Phe Gln Gly Gln Val Thr Ile Ser
210 215 220
Ala Asp Lys Ser Ile Ser Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys
225 230 235 240
Ala Ser Asp Thr Ala Met Tyr Tyr Cys Ala Arg Ser Met Gly Ser Ser
245 250 255
Leu Tyr Ala Ser Ser Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val
260 265 270
Ser Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala

		275				280				285					
Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser
	290					295					300				
Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro
305					310					315					320
Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp
				325					330					335	
Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp
			340					345					350		
Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser
		355					360					365			
Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr
	370					375					380				
Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
385					390					395					400
Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys
				405					410					415	
Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr
			420					425					430		
Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser
		435					440					445			
Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser
	450					455					460				
Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr
465					470					475					480
Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys
			485					490						495	
Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His
			500					505					510		
Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys
		515					520					525			
His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser
	530					535					540				
Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val
545					550					555					560
Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser
				565					570					575	
Gly	Ser	Gly	Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys
			580					585				590			
Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr
		595					600					605			
Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln
	610					615					620				
Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg
625					630					635					640
Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr
				645					650					655	
Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
			660					665					670		
Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser

Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr
65					70					75					80
Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
				85					90					95	
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
			100					105					110		
Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	Ser
		115					120					125			
Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly
	130					135					140				
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala
145					150					155					160
Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser
				165					170					175	
Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro
			180					185					190		
Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp
		195					200					205			
Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp
	210					215						220			
Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser
225					230					235					240
Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr
				245					250					255	
Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
			260					265					270		
Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys
			275				280					285			
Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr
	290					295					300				
Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser
305					310					315					320
Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser
				325					330					335	
Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr
			340					345					350		
Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys
		355					360					365			
Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His
	370					375					380				
Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys
385					390					395					400
His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser
				405					410					415	
Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val
			420					425					430		
Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser
	435						440					445			
Gly	Ser	Gly	Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys
	450					455					460				

Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	465	470	475	480
Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	485	490		495
Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	500	505		510
Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	515	520	525	
Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	530	535	540	
Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	545	550	555	560
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	565	570		575
Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	580	585		590
Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gly	595	600	605	
Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gln	Ser	Val	Leu	Thr	Gln	Pro	610	615	620	
Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	625	630	635	640
Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val	His	Trp	Tyr	Gln	645	650		655
Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Gly	Asn	Ser	Asn	660	665		670
Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	675	680	685	
Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala	Asp	690	695	700	
Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	Tyr	Val	Phe	Gly	705	710	715	720
Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	725	730		735
Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	740	745	750	
Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	755	760	765	
Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	770	775	780	
Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	785	790	795	800
Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	805	810		815
Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	820	825	830	
Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	835	840	845	
Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	850	855	860	

Ser Ala Tyr Tyr Met Tyr Leu Leu Leu Leu Leu Lys Ser Val Val Tyr
 865 870 875 880
 Phe Ala Ile Ile Thr Cys Cys Leu Leu Arg Arg Thr Ala Phe Cys Cys
 885 890 895
 Asn Gly Glu Lys Ser
 900

<210> 49
 <211> 897
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct: Bivalent Anti-PSMA Clone B caTCR
 with 1 scFv and 1 Fab (a.k.a. "Bx2-caTCR-1" or "Bivalent
 Clone B caTCR-1")

<400> 49
 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15
 Gly Ser Thr Gly Gln Ala Val Leu Thr Gln Pro Pro Ser Ala Ser Gly
 20 25 30
 Thr Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Asn
 35 40 45
 Ile Gly Ser Asn Thr Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala
 50 55 60
 Pro Lys Leu Leu Met Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro
 65 70 75 80
 Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
 85 90 95
 Ser Gly Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp
 100 105 110
 Asp Asp Ser Leu Asn Gly Tyr Val Phe Gly Thr Gly Thr Lys Val Thr
 115 120 125
 Val Leu Gly Ser Arg Gly Gly Gly Ser Gly Gly Gly Ser Gly
 130 135 140
 Gly Gly Gly Ser Leu Glu Met Ala Glu Val Gln Leu Val Gln Ser Gly
 145 150 155 160
 Ala Glu Met Lys Lys Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly
 165 170 175
 Ser Gly Tyr Asn Phe Ala Ser Tyr Trp Val Gly Trp Val Arg Gln Met
 180 185 190
 Pro Gly Lys Gly Leu Glu Trp Met Gly Thr Ile Tyr Pro Asp Asp Ser
 195 200 205
 Asp Thr Arg Tyr Gly Pro Ala Phe Gln Gly Gln Val Thr Ile Ser Ala
 210 215 220
 Asp Lys Ser Ile Ser Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala
 225 230 235 240
 Ser Asp Thr Ala Met Tyr Tyr Cys Ala Arg Asp Ser Tyr Tyr Gly Ile

				245				250					255			
Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	
			260					265					270			
Gly	Ser	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys	Pro	
		275					280					285				
Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe	Ala	
	290					295					300					
Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	
305					310					315					320	
Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	Gly	Pro	
				325						330				335		
Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	
			340					345					350			
Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	
		355					360					365				
Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln	Gly	
	370					375					380					
Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	
385					390					395					400	
Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	
				405					410					415		
Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	
		420						425				430				
Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	
	435					440					445					
Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	
	450					455				460						
Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	
465					470					475				480		
Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	
			485						490					495		
Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	
		500						505					510			
Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	
		515					520					525				
Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	
	530					535				540						
Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	
545					550				555					560		
Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser	Gly	Ala	Pro	Val	Lys	Gln	Thr	
			565					570						575		
Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn	Pro	
		580						585				590				
Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	
		595				600						605				
Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	
	610					615					620					
Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	
625					630					635				640		
Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	

				645					650					655			
Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly		
			660					665					670				
Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu		
		675					680					685					
Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala		
	690					695					700						
Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys		
705				710						715					720		
Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr	Leu	Phe		
			725						730					735			
Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys		
			740					745					750				
Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala		
		755					760					765					
Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys		
	770					775					780						
Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro		
785				790						795					800		
Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu		
			805						810					815			
Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile		
			820					825					830				
Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp		
		835					840				845						
Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr		
	850					855					860						
Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile		
865					870					875					880		
Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys		
			885					890						895			

Ser

<210> 50

<211> 891

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Bivalent Anti-PSMA Clone B caTCR
with 2 Fabs (a.k.a. "Bx2-caTCR-2" or
"Bivalent Clone B caTCR-2")

<400> 50

Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro
1				5				10					15		
Gly	Ser	Thr	Gly	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys
			20				25					30			

Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn
		35					40					45			
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly
	50					55					60				
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr
65				70						75					80
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
				85					90					95	
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
			100				105						110		
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
		115					120					125			
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly
	130					135					140				
Gly	Gly	Ser	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys
145					150					155					160
Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe
				165					170					175	
Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu
			180					185					190		
Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	Gly
		195					200					205			
Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser
	210					215					220				
Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met
225					230					235					240
Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln
				245					250					255	
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val
		260						265					270		
Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala
		275					280					285			
Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser
	290					295					300				
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val
305					310					315					320
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro
				325					330					335	
Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys
			340					345					350		
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu
		355					360					365			
Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn
	370					375					380				
Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His
385					390					395					400
Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met
				405					410					415	
Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu
			420					425					430		

Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser	Gly	Ala	Pro	Val	Lys	Gln
		435					440					445			
Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn
	450					455					460				
Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu
465					470					475					480
Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser
				485					490					495	
Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser
			500					505					510		
Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro
		515					520					525			
Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser
	530					535					540				
Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser
545					550					555					560
Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys
				565					570					575	
Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr
			580					585					590		
Lys	Val	Thr	Val	Leu	Gly	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
	595					600						605			
Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln
	610					615					620				
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn
625					630					635					640
Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
				645					650					655	
Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser
			660					665					670		
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln
		675					680					685			
Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu
	690					695					700				
Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln
705					710					715					720
Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu
				725					730					735	
Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr
			740					745					750		
Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys
		755					760					765			
Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr
	770					775					780				
Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His
785					790					795					800
Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys
				805					810					815	
Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr
			820					825					830		

Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu
		835					840					845			
Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu
	850					855					860				
Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg
865					870					875					880
Arg	Thr	Ala	Phe	Cys	Asn	Gly	Glu	Lys	Ser						
				885				890							

<210> 51

<211> 394

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 51

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

				245					250				255				
Leu	Tyr	Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val		
			260					265					270				
Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Ile		
		275					280					285					
Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn	Glu	Lys	Ser	Asn	Gly		
	290					295					300						
Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	Leu	Cys	Pro	Ser	Pro	Leu	Phe		
305					310					315					320		
Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val		
				325					330					335			
Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp		
			340					345					350				
Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met		
	355					360					365						
Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala		
	370				375						380						
Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser								
385					390												

<210> 52

<211> 384

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 52

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

Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys
				165					170					175	
Gly	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln
			180					185					190		
Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp
		195					200					205			
Ser	Asp	Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser
	210					215					220				
Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys
225					230					235					240
Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser
				245					250					255	
Leu	Tyr	Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val
			260					265					270		
Ser	Ser	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp
		275					280					285			
Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	Leu
	290					295					300				
Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu
305					310					315					320
Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val
				325					330					335	
Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His
			340					345					350		
Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys
		355					360				365				
His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser
	370					375					380				

<210> 53

<211> 389

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 53

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

				85					90					95			
Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp		
			100					105					110				
Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr		
		115					120					125					
Val	Leu	Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly		
	130				135						140						
Gly	Gly	Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly		
145					150					155					160		
Ala	Glu	Met	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly		
			165					170					175				
Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met		
			180					185					190				
Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser		
	195						200					205					
Asp	Thr	Arg	Tyr	Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala		
	210					215					220						
Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala		
225					230					235					240		
Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile		
			245						250					255			
Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys		
	260						265						270				
Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro		
	275						280					285					
Pro	Pro	Tyr	Leu	Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val		
	290					295					300						
Lys	Gly	Lys	His	Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys		
305					310					315					320		
Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser		
			325						330					335			
Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg		
		340						345					350				
Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro		
	355						360					365					
Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe		
	370					375					380						
Ala	Ala	Tyr	Arg	Ser													
385																	

<210> 54

<211> 379

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 54

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

<210> 55
<211> 374
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 55
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ala Gly
20 25 30
Tyr Asp Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
35 40 45
Leu Ile Tyr Gly Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
65 70 75 80
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser
85 90 95
Leu Ser Gly Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110
Ser Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
115 120 125
Ser Leu Glu Met Ala Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val
130 135 140
Lys Lys Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr
145 150 155 160
Ser Phe Thr Ser Tyr Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys
165 170 175
Gly Leu Glu Trp Met Gly Ile Ile Tyr Pro Gly Asp Ser Asp Thr Arg
180 185 190
Tyr Ser Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser
195 200 205
Ile Ser Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr
210 215 220
Ala Met Tyr Tyr Cys Ala Arg Ser Met Gly Ser Ser Leu Tyr Ala Ser
225 230 235 240
Ser Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Glu Gln
245 250 255
Lys Leu Ile Ser Glu Glu Asp Leu Ala Ala Ala Ile Glu Val Met Tyr
260 265 270
Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His
275 280 285
Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser
290 295 300
Lys Pro Phe Trp Val Leu Val Val Gly Gly Val Leu Ala Cys Tyr
305 310 315 320
Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys

				325					330					335			
Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg		
			340					345					350				
Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp		
		355					360					365					
Phe	Ala	Ala	Tyr	Arg	Ser												
	370																

<210> 56
 <211> 363
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 56

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

Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Thr	Gly	Pro	Ala	Asp
			260					265					270		
Leu	Ser	Pro	Gly	Ala	Ser	Ser	Val	Thr	Pro	Pro	Ala	Pro	Ala	Arg	Glu
		275					280					285			
Pro	Gly	His	Ser	Pro	Gln	Ile	Ile	Ser	Phe	Phe	Leu	Ala	Leu	Thr	Ser
	290					295					300				
Thr	Ala	Leu	Leu	Phe	Leu	Phe	Phe	Leu	Thr	Leu	Arg	Phe	Ser	Val	
305				310					315					320	
Val	Lys	Arg	Gly	Arg	Lys	Lys	Leu	Leu	Tyr	Ile	Phe	Lys	Gln	Pro	Phe
			325					330					335		
Met	Arg	Pro	Val	Gln	Thr	Thr	Gln	Glu	Glu	Asp	Gly	Cys	Ser	Cys	Arg
		340					345					350			
Phe	Pro	Glu	Glu	Glu	Glu	Gly	Gly	Cys	Glu	Leu					
		355				360									

<210> 57

<211> 353

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 57

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

Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr
145					150					155					160
Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys
				165					170						175
Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg
			180					185						190	
Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser
		195					200					205			
Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr
	210					215					220				
Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser
225					230					235					240
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln
				245					250					255	
Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Thr	Gly	Pro	Thr	His
			260					265					270		
Leu	Pro	Tyr	Val	Ser	Glu	Met	Leu	Glu	Ala	Arg	Thr	Ala	Gly	His	Met
		275					280					285			
Gln	Thr	Leu	Ala	Asp	Phe	Arg	Gln	Leu	Pro	Ala	Arg	Thr	Leu	Ser	Thr
	290					295					300				
His	Trp	Pro	Pro	Gln	Arg	Ser	Leu	Cys	Ser	Ser	Asp	Phe	Ile	Arg	Ile
305					310					315					320
Leu	Val	Ile	Phe	Ser	Gly	Met	Phe	Leu	Val	Phe	Thr	Leu	Ala	Gly	Ala
				325					330					335	
Leu	Phe	Leu	His	Gln	Arg	Arg	Lys	Tyr	Arg	Ser	Asn	Lys	Gly	Glu	Ser
			340					345					350		
Pro	Val	Glu	Pro	Ala	Glu	Pro	Cys	Arg	Tyr	Ser	Cys	Pro	Arg	Glu	Glu
		355					360					365			
Glu	Gly	Ser	Thr	Ile	Pro	Ile	Gln	Glu	Asp	Tyr	Arg	Lys	Pro	Glu	Pro
	370					375					380				
Ala	Cys	Ser	Pro												
385															

<210> 59
 <211> 378
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 59															
Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln
1				5				10					15		
Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly
			20					25				30			
Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu
	35					40						45			
Leu	Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe

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

<210> 60

<211> 539

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 60

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

Arg	Arg	Ser	Ser	Thr	Gln	Leu	Arg	Ser	Gly	Ala	Ser	Val	Thr	Glu	Pro
385					390					395					400
Val	Ala	Glu	Glu	Arg	Gly	Leu	Met	Ser	Gln	Pro	Leu	Met	Glu	Thr	Cys
				405					410						415
His	Ser	Val	Gly	Ala	Ala	Tyr	Leu	Glu	Ser	Leu	Pro	Leu	Gln	Asp	Ala
			420					425					430		
Ser	Pro	Ala	Gly	Gly	Pro	Ser	Ser	Pro	Arg	Asp	Leu	Pro	Glu	Pro	Arg
		435					440					445			
Val	Ser	Thr	Glu	His	Thr	Asn	Asn	Lys	Ile	Glu	Lys	Ile	Tyr	Ile	Met
	450					455					460				
Lys	Ala	Asp	Thr	Val	Ile	Val	Gly	Thr	Val	Lys	Ala	Glu	Leu	Pro	Glu
465					470					475					480
Gly	Arg	Gly	Leu	Ala	Gly	Pro	Ala	Glu	Pro	Glu	Leu	Glu	Glu	Glu	Leu
				485					490						495
Glu	Ala	Asp	His	Thr	Pro	His	Tyr	Pro	Glu	Gln	Glu	Thr	Glu	Pro	Pro
			500					505					510		
Leu	Gly	Ser	Cys	Ser	Asp	Val	Met	Leu	Ser	Val	Glu	Glu	Glu	Gly	Lys
		515					520					525			
Glu	Asp	Pro	Leu	Pro	Thr	Ala	Ala	Ser	Gly	Lys					
	530					535									

<210> 61

<211> 529

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 61

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

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

<210> 62
 <211> 379
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 62

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

Leu	Gly	Leu	Gly	Leu	Val	Leu	Gly	Leu	Leu	Gly	Pro	Leu	Ala	Ile	Leu
				325					330					335	
Leu	Ala	Leu	Tyr	Leu	Leu	Arg	Arg	Asp	Gln	Arg	Leu	Pro	Pro	Asp	Ala
			340					345						350	
His	Lys	Pro	Pro	Gly	Gly	Gly	Ser	Phe	Arg	Thr	Pro	Ile	Gln	Glu	Glu
		355					360					365			
Gln	Ala	Asp	Ala	His	Ser	Thr	Leu	Ala	Lys	Ile					
	370					375									

<210> 63
 <211> 369
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 63

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

				245				250					255			
Ala	Thr	Gly	Asp	Arg	Asp	Pro	Pro	Ala	Thr	Gln	Pro	Gln	Glu	Thr	Gln	
			260					265					270			
Gly	Pro	Pro	Ala	Arg	Pro	Ile	Thr	Val	Gln	Pro	Thr	Glu	Ala	Trp	Pro	
		275					280					285				
Arg	Thr	Ser	Gln	Gly	Pro	Ser	Thr	Arg	Pro	Val	Glu	Val	Pro	Gly	Gly	
	290					295					300					
Arg	Ala	Val	Ala	Ala	Ile	Leu	Gly	Leu	Gly	Leu	Val	Leu	Gly	Leu	Leu	
305					310					315					320	
Gly	Pro	Leu	Ala	Ile	Leu	Leu	Ala	Leu	Tyr	Leu	Leu	Arg	Arg	Asp	Gln	
			325					330						335		
Arg	Leu	Pro	Pro	Asp	Ala	His	Lys	Pro	Pro	Gly	Gly	Gly	Ser	Phe	Arg	
		340						345					350			
Thr	Pro	Ile	Gln	Glu	Glu	Gln	Ala	Asp	Ala	His	Ser	Thr	Leu	Ala	Lys	
		355					360					365				

Ile

<210> 64

<211> 386

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 64

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

Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg
			180					185					190		
Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser
		195					200					205			
Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr
	210					215					220				
Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser
225					230					235					240
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln
				245					250					255	
Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Thr	Gly	Thr	Thr	Thr
			260					265					270		
Pro	Ala	Pro	Arg	Pro	Pro	Thr	Pro	Ala	Pro	Thr	Ile	Ala	Ser	Gln	Pro
		275					280					285			
Leu	Ser	Leu	Arg	Pro	Glu	Ala	Cys	Arg	Pro	Ala	Ala	Gly	Gly	Ala	Val
	290					295					300				
His	Thr	Arg	Gly	Leu	Asp	Phe	Ala	Cys	Asp	Ile	Tyr	Ile	Trp	Ala	Pro
305					310					315					320
Leu	Ala	Gly	Thr	Cys	Gly	Val	Leu	Leu	Leu	Ser	Leu	Val	Ile	Thr	Leu
				325					330					335	
Tyr	Cys	Gln	Arg	Arg	Lys	Tyr	Arg	Ser	Asn	Lys	Gly	Glu	Ser	Pro	Val
			340					345					350		
Glu	Pro	Ala	Glu	Pro	Cys	Arg	Tyr	Ser	Cys	Pro	Arg	Glu	Glu	Glu	Gly
		355					360					365			
Ser	Thr	Ile	Pro	Ile	Gln	Glu	Asp	Tyr	Arg	Lys	Pro	Glu	Pro	Ala	Cys
	370					375					380				
Ser	Pro														
385															

<210> 65
 <211> 376
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 65

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

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

<210> 66
 <211> 526
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 66
 Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15

Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly		
			20					25					30				
Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu		
		35				40						45					
Leu	Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe		
	50					55					60						
Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu		
65					70					75					80		
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser		
				85					90					95			
Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly		
			100					105					110				
Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly		
		115					120					125					
Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val		
	130					135					140						
Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr		
145					150					155					160		
Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys		
				165					170					175			
Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg		
			180					185					190				
Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser		
		195					200					205					
Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr		
	210					215					220						
Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser		
225					230					235					240		
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln		
				245					250					255			
Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Thr	Gly	Thr	Thr	Thr		
			260					265					270				
Pro	Ala	Pro	Arg	Pro	Pro	Thr	Pro	Ala	Pro	Thr	Ile	Ala	Ser	Gln	Pro		
		275					280					285					
Leu	Ser	Leu	Arg	Pro	Glu	Ala	Cys	Arg	Pro	Ala	Ala	Gly	Gly	Ala	Val		
	290					295					300						
His	Thr	Arg	Gly	Leu	Asp	Phe	Ala	Cys	Asp	Ile	Tyr	Ile	Trp	Ala	Pro		
305					310					315					320		
Leu	Ala	Gly	Thr	Cys	Gly	Val	Leu	Leu	Leu	Ser	Leu	Val	Ile	Thr	Leu		
				325					330					335			
Tyr	Cys	His	Arg	Arg	Ala	Cys	Arg	Lys	Arg	Ile	Arg	Gln	Lys	Leu	His		
			340					345					350				
Leu	Cys	Tyr	Pro	Val	Gln	Thr	Ser	Gln	Pro	Lys	Leu	Glu	Leu	Val	Asp		
		355					360					365					
Ser	Arg	Pro	Arg	Arg	Ser	Ser	Thr	Gln	Leu	Arg	Ser	Gly	Ala	Ser	Val		
		370				375					380						
Thr	Glu	Pro	Val	Ala	Glu	Glu	Arg	Gly	Leu	Met	Ser	Gln	Pro	Leu	Met		
385					390					395					400		
Glu	Thr	Cys	His	Ser	Val	Gly	Ala	Ala	Tyr	Leu	Glu	Ser	Leu	Pro	Leu		
				405					410					415			

Gln	Asp	Ala	Ser	Pro	Ala	Gly	Gly	Pro	Ser	Ser	Pro	Arg	Asp	Leu	Pro
			420					425					430		
Glu	Pro	Arg	Val	Ser	Thr	Glu	His	Thr	Asn	Asn	Lys	Ile	Glu	Lys	Ile
		435					440					445			
Tyr	Ile	Met	Lys	Ala	Asp	Thr	Val	Ile	Val	Gly	Thr	Val	Lys	Ala	Glu
	450					455					460				
Leu	Pro	Glu	Gly	Arg	Gly	Leu	Ala	Gly	Pro	Ala	Glu	Pro	Glu	Leu	Glu
465					470				475						480
Glu	Glu	Leu	Glu	Ala	Asp	His	Thr	Pro	His	Tyr	Pro	Glu	Gln	Glu	Thr
				485					490				495		
Glu	Pro	Pro	Leu	Gly	Ser	Cys	Ser	Asp	Val	Met	Leu	Ser	Val	Glu	Glu
			500					505					510		
Glu	Gly	Lys	Glu	Asp	Pro	Leu	Pro	Thr	Ala	Ala	Ser	Gly	Lys		
		515					520					525			

<210> 67

<211> 516

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 67

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

<400> 68

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

<210> 69
<211> 370
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 69

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

305					310					315					320
Ser	Leu	Val	Ile	Thr	Leu	Tyr	Cys	Ala	Leu	Tyr	Leu	Leu	Arg	Arg	Asp
				325					330					335	
Gln	Arg	Leu	Pro	Pro	Asp	Ala	His	Lys	Pro	Pro	Gly	Gly	Gly	Ser	Phe
			340					345						350	
Arg	Thr	Pro	Ile	Gln	Glu	Glu	Gln	Ala	Asp	Ala	His	Ser	Thr	Leu	Ala
		355					360					365			
Lys	Ile														
	370														

<210> 70
 <211> 369
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 70

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

Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu
				245					250					255	
Glu	Asp	Leu	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu
			260					265						270	
Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His
		275					280						285		
Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val
	290					295					300				
Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr
305					310					315					320
Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu
				325					330					335	
His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg
		340						345					350		
Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg
		355					360					365			
Ser															

<210> 71
 <211> 358
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 71															
Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln
1				5					10					15	
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn
			20					25					30		
Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
		35					40					45			
Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	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	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu
			85					90					95		
Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser
			100					105					110		
Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
		115					120					125			
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys
	130					135					140				
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn
145					150					155					160
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly

				165					170				175			
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	
			180					185					190			
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	
		195					200					205				
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	
	210				215					220						
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	
225				230						235					240	
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu	
			245						250				255			
Glu	Asp	Leu	Ala	Ala	Ala	Thr	Gly	Pro	Ala	Asp	Leu	Ser	Pro	Gly	Ala	
		260						265					270			
Ser	Ser	Val	Thr	Pro	Pro	Ala	Pro	Ala	Arg	Glu	Pro	Gly	His	Ser	Pro	
	275					280						285				
Gln	Ile	Ile	Ser	Phe	Phe	Leu	Ala	Leu	Thr	Ser	Thr	Ala	Leu	Leu	Phe	
	290					295					300					
Leu	Leu	Phe	Phe	Leu	Thr	Leu	Arg	Phe	Ser	Val	Val	Lys	Arg	Gly	Arg	
305				310						315					320	
Lys	Lys	Leu	Leu	Tyr	Ile	Phe	Lys	Gln	Pro	Phe	Met	Arg	Pro	Val	Gln	
			325					330					335			
Thr	Thr	Gln	Glu	Glu	Asp	Gly	Cys	Ser	Cys	Arg	Phe	Pro	Glu	Glu	Glu	
		340						345					350			
Glu	Gly	Gly	Cys	Glu	Leu											
		355														

<210> 72

<211> 348

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 72

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

Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
		115					120					125			
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys
		130				135					140				
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn
145					150					155					160
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly
				165					170					175	
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr
			180					185					190		
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
		195					200					205			
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
		210				215					220				
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ala	Ala	Thr	Gly	Pro	Ala
				245					250					255	
Asp	Leu	Ser	Pro	Gly	Ala	Ser	Ser	Val	Thr	Pro	Pro	Ala	Pro	Ala	Arg
			260					265					270		
Glu	Pro	Gly	His	Ser	Pro	Gln	Ile	Ile	Ser	Phe	Phe	Leu	Ala	Leu	Thr
		275					280					285			
Ser	Thr	Ala	Leu	Leu	Phe	Leu	Leu	Phe	Phe	Leu	Thr	Leu	Arg	Phe	Ser
		290				295					300				
Val	Val	Lys	Arg	Gly	Arg	Lys	Lys	Leu	Leu	Tyr	Ile	Phe	Lys	Gln	Pro
305					310					315					320
Phe	Met	Arg	Pro	Val	Gln	Thr	Thr	Gln	Glu	Glu	Asp	Gly	Cys	Ser	Cys
				325				330						335	
Arg	Phe	Pro	Glu	Glu	Glu	Glu	Gly	Gly	Cys	Glu	Leu				
			340					345							

<210> 73

<211> 383

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 73

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

<210> 74

<211> 373

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 74

[illegible]

<210> 75
 <211> 534
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 75

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

Val	Val	Gly	Ser	325	Ser	Ala	Phe	Leu	Leu	330	Cys	His	Arg	Arg	Ala	335	Cys	Arg
			340						345						350			
Lys	Arg	Ile	Arg	Gln	Lys	Leu	His	Leu	Cys	Tyr	Pro	Val	Gln	Thr	Ser			
		355					360						365					
Gln	Pro	Lys	Leu	Glu	Leu	Val	Asp	Ser	Arg	Pro	Arg	Arg	Ser	Ser	Thr			
		370					375					380						
Gln	Leu	Arg	Ser	Gly	Ala	Ser	Val	Thr	Glu	Pro	Val	Ala	Glu	Glu	Arg			
385					390					395					400			
Gly	Leu	Met	Ser	Gln	Pro	Leu	Met	Glu	Thr	Cys	His	Ser	Val	Gly	Ala			
				405					410					415				
Ala	Tyr	Leu	Glu	Ser	Leu	Pro	Leu	Gln	Asp	Ala	Ser	Pro	Ala	Gly	Gly			
			420					425					430					
Pro	Ser	Ser	Pro	Arg	Asp	Leu	Pro	Glu	Pro	Arg	Val	Ser	Thr	Glu	His			
		435					440					445						
Thr	Asn	Asn	Lys	Ile	Glu	Lys	Ile	Tyr	Ile	Met	Lys	Ala	Asp	Thr	Val			
	450					455					460							
Ile	Val	Gly	Thr	Val	Lys	Ala	Glu	Leu	Pro	Glu	Gly	Arg	Gly	Leu	Ala			
465					470					475					480			
Gly	Pro	Ala	Glu	Pro	Glu	Leu	Glu	Glu	Glu	Leu	Glu	Ala	Asp	His	Thr			
				485					490					495				
Pro	His	Tyr	Pro	Glu	Gln	Glu	Thr	Glu	Pro	Pro	Leu	Gly	Ser	Cys	Ser			
		500						505				510						
Asp	Val	Met	Leu	Ser	Val	Glu	Glu	Glu	Gly	Lys	Glu	Asp	Pro	Leu	Pro			
	515					520					525							
Thr	Ala	Ala	Ser	Gly	Lys													
	530																	

<210> 76

<211> 524

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 76

Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln			
1				5				10					15					
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn			
		20						25				30						
Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu			
		35					40					45						
Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	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	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu			
				85				90						95				

Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser	100	105	110
Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	115	120	125
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	130	135	140
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	145	150	155
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	165	170	175
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	180	185	190
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	195	200	205
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	210	215	220
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	225	230	235
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ala	Ala	Thr	Gly	Ala	Pro	245	250	255
Pro	Leu	Gly	Thr	Gln	Pro	Asp	Cys	Asn	Pro	Thr	Pro	Glu	Asn	Gly	Glu	260	265	270
Ala	Pro	Ala	Ser	Thr	Ser	Pro	Thr	Gln	Ser	Leu	Leu	Val	Asp	Ser	Gln	275	280	285
Ala	Ser	Lys	Thr	Leu	Pro	Ile	Pro	Thr	Ser	Ala	Pro	Val	Ala	Leu	Ser	290	295	300
Ser	Thr	Gly	Lys	Pro	Val	Leu	Asp	Ala	Gly	Pro	Val	Leu	Phe	Trp	Val	305	310	315
Ile	Leu	Val	Leu	Val	Val	Val	Val	Gly	Ser	Ser	Ala	Phe	Leu	Leu	Cys	325	330	335
His	Arg	Arg	Ala	Cys	Arg	Lys	Arg	Ile	Arg	Gln	Lys	Leu	His	Leu	Cys	340	345	350
Tyr	Pro	Val	Gln	Thr	Ser	Gln	Pro	Lys	Leu	Glu	Leu	Val	Asp	Ser	Arg	355	360	365
Pro	Arg	Arg	Ser	Ser	Thr	Gln	Leu	Arg	Ser	Gly	Ala	Ser	Val	Thr	Glu	370	375	380
Pro	Val	Ala	Glu	Glu	Arg	Gly	Leu	Met	Ser	Gln	Pro	Leu	Met	Glu	Thr	385	390	395
Cys	His	Ser	Val	Gly	Ala	Ala	Tyr	Leu	Glu	Ser	Leu	Pro	Leu	Gln	Asp	405	410	415
Ala	Ser	Pro	Ala	Gly	Gly	Pro	Ser	Ser	Pro	Arg	Asp	Leu	Pro	Glu	Pro	420	425	430
Arg	Val	Ser	Thr	Glu	His	Thr	Asn	Asn	Lys	Ile	Glu	Lys	Ile	Tyr	Ile	435	440	445
Met	Lys	Ala	Asp	Thr	Val	Ile	Val	Gly	Thr	Val	Lys	Ala	Glu	Leu	Pro	450	455	460
Glu	Gly	Arg	Gly	Leu	Ala	Gly	Pro	Ala	Glu	Pro	Glu	Leu	Glu	Glu	Glu	465	470	475
Leu	Glu	Ala	Asp	His	Thr	Pro	His	Tyr	Pro	Glu	Gln	Glu	Thr	Glu	Pro	485	490	495

Pro	Leu	Gly	Ser	Cys	Ser	Asp	Val	Met	Leu	Ser	Val	Glu	Glu	Glu	Gly
			500					505					510		
Lys	Glu	Asp	Pro	Leu	Pro	Thr	Ala	Ala	Ser	Gly	Lys				
		515					520								

<210> 77
 <211> 374
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 77

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

		275					280					285				
Thr	Glu	Ala	Trp	Pro	Arg	Thr	Ser	Gln	Gly	Pro	Ser	Thr	Arg	Pro	Val	
	290					295					300					
Glu	Val	Pro	Gly	Gly	Arg	Ala	Val	Ala	Ala	Ile	Leu	Gly	Leu	Gly	Leu	
305					310					315						320
Val	Leu	Gly	Leu	Leu	Gly	Pro	Leu	Ala	Ile	Leu	Leu	Ala	Leu	Tyr	Leu	
				325					330					335		
Leu	Arg	Arg	Asp	Gln	Arg	Leu	Pro	Pro	Asp	Ala	His	Lys	Pro	Pro	Gly	
		340					345						350			
Gly	Gly	Ser	Phe	Arg	Thr	Pro	Ile	Gln	Glu	Glu	Gln	Ala	Asp	Ala	His	
	355						360					365				
Ser	Thr	Leu	Ala	Lys	Ile											
	370															

<210> 78

<211> 364

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 78

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

Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
210						215					220				
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ala	Ala	Thr	Gly	Asp	Arg
				245					250					255	
Asp	Pro	Pro	Ala	Thr	Gln	Pro	Gln	Glu	Thr	Gln	Gly	Pro	Pro	Ala	Arg
			260					265					270		
Pro	Ile	Thr	Val	Gln	Pro	Thr	Glu	Ala	Trp	Pro	Arg	Thr	Ser	Gln	Gly
		275					280					285			
Pro	Ser	Thr	Arg	Pro	Val	Glu	Val	Pro	Gly	Gly	Arg	Ala	Val	Ala	Ala
		290				295					300				
Ile	Leu	Gly	Leu	Gly	Leu	Val	Leu	Gly	Leu	Leu	Gly	Pro	Leu	Ala	Ile
305					310					315					320
Leu	Leu	Ala	Leu	Tyr	Leu	Leu	Arg	Arg	Asp	Gln	Arg	Leu	Pro	Pro	Asp
				325					330					335	
Ala	His	Lys	Pro	Pro	Gly	Gly	Gly	Ser	Phe	Arg	Thr	Pro	Ile	Gln	Glu
			340				345						350		
Glu	Gln	Ala	Asp	Ala	His	Ser	Thr	Leu	Ala	Lys	Ile				
		355					360								

<210> 79

<211> 381

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 79

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

145					150					155				160	
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly
				165					170					175	
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr
			180					185						190	
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
		195					200					205			
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
	210					215					220				
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu
			245						250					255	
Glu	Asp	Leu	Ala	Ala	Ala	Thr	Gly	Thr	Thr	Thr	Pro	Ala	Pro	Arg	Pro
			260					265						270	
Pro	Thr	Pro	Ala	Pro	Thr	Ile	Ala	Ser	Gln	Pro	Leu	Ser	Leu	Arg	Pro
		275					280						285		
Glu	Ala	Cys	Arg	Pro	Ala	Ala	Gly	Gly	Ala	Val	His	Thr	Arg	Gly	Leu
	290					295					300				
Asp	Phe	Ala	Cys	Asp	Ile	Tyr	Ile	Trp	Ala	Pro	Leu	Ala	Gly	Thr	Cys
305					310					315					320
Gly	Val	Leu	Leu	Leu	Ser	Leu	Val	Ile	Thr	Leu	Tyr	Cys	Gln	Arg	Arg
			325						330					335	
Lys	Tyr	Arg	Ser	Asn	Lys	Gly	Glu	Ser	Pro	Val	Glu	Pro	Ala	Glu	Pro
			340					345					350		
Cys	Arg	Tyr	Ser	Cys	Pro	Arg	Glu	Glu	Glu	Gly	Ser	Thr	Ile	Pro	Ile
		355					360					365			
Gln	Glu	Asp	Tyr	Arg	Lys	Pro	Glu	Pro	Ala	Cys	Ser	Pro			
	370					375					380				

<210> 80
 <211> 371
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 80

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

<210> 81
 <211> 521
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 81
 Gln Ala Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln

1				5				10					15			
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	
			20					25					30			
Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	
		35					40					45				
Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	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	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	
			85					90						95		
Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser	
			100					105					110			
Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	
	115						120					125				
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	
	130					135					140					
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	
145				150					155						160	
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	
			165					170						175		
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	
		180						185					190			
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	
	195						200					205				
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	
	210					215					220					
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	
225				230						235					240	
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu	
			245						250					255		
Glu	Asp	Leu	Ala	Ala	Ala	Thr	Gly	Thr	Thr	Thr	Pro	Ala	Pro	Arg	Pro	
		260					265						270			
Pro	Thr	Pro	Ala	Pro	Thr	Ile	Ala	Ser	Gln	Pro	Leu	Ser	Leu	Arg	Pro	
	275						280					285				
Glu	Ala	Cys	Arg	Pro	Ala	Ala	Gly	Gly	Ala	Val	His	Thr	Arg	Gly	Leu	
	290				295					300						
Asp	Phe	Ala	Cys	Asp	Ile	Tyr	Ile	Trp	Ala	Pro	Leu	Ala	Gly	Thr	Cys	
305				310					315						320	
Gly	Val	Leu	Leu	Leu	Ser	Leu	Val	Ile	Thr	Leu	Tyr	Cys	His	Arg	Arg	
			325					330						335		
Ala	Cys	Arg	Lys	Arg	Ile	Arg	Gln	Lys	Leu	His	Leu	Cys	Tyr	Pro	Val	
		340					345						350			
Gln	Thr	Ser	Gln	Pro	Lys	Leu	Glu	Leu	Val	Asp	Ser	Arg	Pro	Arg	Arg	
	355					360						365				
Ser	Ser	Thr	Gln	Leu	Arg	Ser	Gly	Ala	Ser	Val	Thr	Glu	Pro	Val	Ala	
	370					375					380					
Glu	Glu	Arg	Gly	Leu	Met	Ser	Gln	Pro	Leu	Met	Glu	Thr	Cys	His	Ser	
385				390						395					400	
Val	Gly	Ala	Ala	Tyr	Leu	Glu	Ser	Leu	Pro	Leu	Gln	Asp	Ala	Ser	Pro	

				405					410					415		
Ala	Gly	Gly	Pro	Ser	Ser	Pro	Arg	Asp	Leu	Pro	Glu	Pro	Arg	Val	Ser	
			420					425					430			
Thr	Glu	His	Thr	Asn	Asn	Lys	Ile	Glu	Lys	Ile	Tyr	Ile	Met	Lys	Ala	
		435					440					445				
Asp	Thr	Val	Ile	Val	Gly	Thr	Val	Lys	Ala	Glu	Leu	Pro	Glu	Gly	Arg	
	450					455					460					
Gly	Leu	Ala	Gly	Pro	Ala	Glu	Pro	Glu	Leu	Glu	Glu	Glu	Leu	Glu	Ala	
465					470					475					480	
Asp	His	Thr	Pro	His	Tyr	Pro	Glu	Gln	Glu	Thr	Glu	Pro	Pro	Leu	Gly	
				485					490					495		
Ser	Cys	Ser	Asp	Val	Met	Leu	Ser	Val	Glu	Glu	Glu	Gly	Lys	Glu	Asp	
			500					505					510			
Pro	Leu	Pro	Thr	Ala	Ala	Ser	Gly	Lys								
		515					520									

<210> 82

<211> 511

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 82

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

Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
		195					200					205			
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
		210				215					220				
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ala	Ala	Thr	Gly	Thr	Thr
				245					250					255	
Thr	Pro	Ala	Pro	Arg	Pro	Pro	Thr	Pro	Ala	Pro	Thr	Ile	Ala	Ser	Gln
			260					265					270		
Pro	Leu	Ser	Leu	Arg	Pro	Glu	Ala	Cys	Arg	Pro	Ala	Ala	Gly	Gly	Ala
		275					280					285			
Val	His	Thr	Arg	Gly	Leu	Asp	Phe	Ala	Cys	Asp	Ile	Tyr	Ile	Trp	Ala
	290					295					300				
Pro	Leu	Ala	Gly	Thr	Cys	Gly	Val	Leu	Leu	Leu	Ser	Leu	Val	Ile	Thr
305					310					315					320
Leu	Tyr	Cys	His	Arg	Arg	Ala	Cys	Arg	Lys	Arg	Ile	Arg	Gln	Lys	Leu
				325					330					335	
His	Leu	Cys	Tyr	Pro	Val	Gln	Thr	Ser	Gln	Pro	Lys	Leu	Glu	Leu	Val
			340					345					350		
Asp	Ser	Arg	Pro	Arg	Arg	Ser	Ser	Thr	Gln	Leu	Arg	Ser	Gly	Ala	Ser
		355					360					365			
Val	Thr	Glu	Pro	Val	Ala	Glu	Glu	Arg	Gly	Leu	Met	Ser	Gln	Pro	Leu
		370				375					380				
Met	Glu	Thr	Cys	His	Ser	Val	Gly	Ala	Ala	Tyr	Leu	Glu	Ser	Leu	Pro
385					390					395					400
Leu	Gln	Asp	Ala	Ser	Pro	Ala	Gly	Gly	Pro	Ser	Ser	Pro	Arg	Asp	Leu
				405					410					415	
Pro	Glu	Pro	Arg	Val	Ser	Thr	Glu	His	Thr	Asn	Asn	Lys	Ile	Glu	Lys
			420					425					430		
Ile	Tyr	Ile	Met	Lys	Ala	Asp	Thr	Val	Ile	Val	Gly	Thr	Val	Lys	Ala
		435					440					445			
Glu	Leu	Pro	Glu	Gly	Arg	Gly	Leu	Ala	Gly	Pro	Ala	Glu	Pro	Glu	Leu
		450				455					460				
Glu	Glu	Glu	Leu	Glu	Ala	Asp	His	Thr	Pro	His	Tyr	Pro	Glu	Gln	Glu
465					470					475					480
Thr	Glu	Pro	Pro	Leu	Gly	Ser	Cys	Ser	Asp	Val	Met	Leu	Ser	Val	Glu
				485					490					495	
Glu	Glu	Gly	Lys	Glu	Asp	Pro	Leu	Pro	Thr	Ala	Ala	Ser	Gly	Lys	
			500					505					510		

<210> 83

<211> 375

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<210> 84
<211> 365
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 84

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

Leu	Tyr	Cys	Ala	Leu	Tyr	Leu	Leu	Arg	Arg	Asp	Gln	Arg	Leu	Pro	Pro
				325					330					335	
Asp	Ala	His	Lys	Pro	Pro	Gly	Gly	Gly	Ser	Phe	Arg	Thr	Pro	Ile	Gln
			340					345					350		
Glu	Glu	Gln	Ala	Asp	Ala	His	Ser	Thr	Leu	Ala	Lys	Ile			
		355					360					365			

<210> 85

<211> 1064

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 85

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

			260					265				270			
Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val
		275					280					285			
Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu
	290					295					300				
Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser	Gly
305					310					315					320
Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly
				325					330					335	
Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu
			340					345					350		
Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ser	Val	Leu
		355					360					365			
Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr	Ile
	370					375					380				
Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val	His
385					390					395					400
Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Gly
				405					410					415	
Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys
			420					425					430		
Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	Asp
	435						440					445			
Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	Tyr
	450					455					460				
Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala
465					470					475					480
Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala
				485					490					495	
Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala
			500					505					510		
Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val
		515					520					525			
Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser
	530					535					540				
Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr
545					550					555					560
Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala
				565					570					575	
Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro
			580					585					590		
Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu
		595					600						605		
Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser
	610					615						620			
Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala
625					630					635					640
Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser	Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser
				645					650					655	
Leu	Leu	Lys	Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly	Pro	Met	Glu

			660					665				670			
Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser
		675					680					685			
Thr	Gly	Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro
	690					695					700				
Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly
705					710					715					720
Ala	Gly	Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro
			725					730						735	
Lys	Leu	Leu	Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp
			740					745					750		
Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr
		755					760					765			
Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp
	770					775					780				
Ser	Ser	Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val
785					790					795					800
Leu	Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly
			805						810					815	
Gly	Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala
			820					825					830		
Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser
		835					840					845			
Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro
	850					855					860				
Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp
865					870					875					880
Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp
			885					890						895	
Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser
		900						905					910		
Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr
		915					920					925			
Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
	930					935					940				
Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Ile	Glu	Val
945					950					955					960
Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile
			965						970					975	
Ile	His	Val	Lys	Gly	Lys	His	Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly
			980					985					990		
Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala
		995					1000					1005			
Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg
	1010					1015					1020				
Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro
1025					1030					1035					1040
Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro
			1045						1050					1055	
Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser								

<210> 86
 <211> 1059
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct: PSMA Clone A caTCR + PSMA Clone
 B-CSR-1A (a.k.a. "Ax1-caTCR + B-CSR "
 or " Ax1-caTCR + B-CSR -1A")

<400> 86
 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15
 Gly Ser Thr Gly Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
 20 25 30
 Lys Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser
 35 40 45
 Phe Thr Ser Tyr Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys Gly
 50 55 60
 Leu Glu Trp Met Gly Ile Ile Tyr Pro Gly Asp Ser Asp Thr Arg Tyr
 65 70 75 80
 Ser Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile
 85 90 95
 Ser Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala
 100 105 110
 Met Tyr Tyr Cys Ala Arg Ser Met Gly Ser Ser Leu Tyr Ala Ser Ser
 115 120 125
 Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr
 130 135 140
 Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
 145 150 155 160
 Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
 165 170 175
 Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
 180 185 190
 Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
 195 200 205
 Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys
 210 215 220
 Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
 225 230 235 240
 Pro Lys Ser Cys Glu Val Lys Thr Asp Ser Thr Asp His Val Lys Pro
 245 250 255
 Lys Glu Thr Glu Asn Thr Lys Gln Pro Ser Lys Ser Cys His Lys Pro
 260 265 270
 Lys Ala Ile Val His Thr Glu Lys Val Asn Met Met Ser Leu Thr Val
 275 280 285

Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu
290						295					300				
Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser	Gly
305					310					315					320
Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly
				325					330					335	
Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu
			340					345					350		
Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ser	Val	Leu
		355					360					365			
Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr	Ile
	370					375					380				
Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val	His
385					390					395					400
Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Gly
				405					410					415	
Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys
			420					425					430		
Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	Asp
		435					440					445			
Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	Tyr
	450					455					460				
Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala
465					470					475					480
Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala
				485					490					495	
Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala
			500					505					510		
Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val
		515				520						525			
Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser
	530					535					540				
Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr
545					550					555					560
Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala
				565					570					575	
Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro
			580					585					590		
Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu
		595				600						605			
Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser
	610					615						620			
Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala
625					630					635					640
Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser	Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser
				645					650					655	
Leu	Leu	Lys	Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly	Pro	Met	Glu
			660					665					670		
Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser
		675					680					685			

Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro
	690					695					700				
Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly
705					710					715					720
Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys
				725					730					735	
Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg
			740					745					750		
Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly
		755					760					765			
Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp
	770					775					780				
Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu
785					790					795					800
Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly
				805					810					815	
Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu
			820					825					830		
Met	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly
		835					840					845			
Tyr	Asn	Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly
	850					855					860				
Lys	Gly	Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr
865					870					875					880
Arg	Tyr	Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys
				885					890					895	
Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp
			900					905					910		
Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val
		915					920					925			
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile
	930					935					940				
Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro
945					950					955					960
Tyr	Leu	Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly
				965					970					975	
Lys	His	Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe
			980					985					990		
Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu
		995					1000					1005			
Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg
						1015					1020				
Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro
1025					1030					1035					1040
Thr	Arg	Lys	His	T											

<210> 87
 <211> 1059
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct: PSMA Clone B caTCR + PSMA Clone
 A-CSR-1A (a.k.a. "Bx1-caTCR + A-CSR" or "Bx1-caTCR + A-CSR-1A")

<400> 87
 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15
 Gly Ser Thr Gly Glu Val Gln Leu Val Gln Ser Gly Ala Glu Met Lys
 20 25 30
 Lys Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Asn
 35 40 45
 Phe Ala Ser Tyr Trp Val Gly Trp Val Arg Gln Met Pro Gly Lys Gly
 50 55 60
 Leu Glu Trp Met Gly Thr Ile Tyr Pro Asp Asp Ser Asp Thr Arg Tyr
 65 70 75 80
 Gly Pro Ala Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile
 85 90 95
 Ser Thr Ala Tyr Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala
 100 105 110
 Met Tyr Tyr Cys Ala Arg Asp Ser Tyr Tyr Gly Ile Asp Val Trp Gly
 115 120 125
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 130 135 140
 Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
 145 150 155 160
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 165 170 175
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 180 185 190
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 195 200 205
 Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 210 215 220
 Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
 225 230 235 240
 Glu Val Lys Thr Asp Ser Thr Asp His Val Lys Pro Lys Glu Thr Glu
 245 250 255
 Asn Thr Lys Gln Pro Ser Lys Ser Cys His Lys Pro Lys Ala Ile Val
 260 265 270
 His Thr Glu Lys Val Asn Met Met Ser Leu Thr Val Leu Gly Leu Arg
 275 280 285
 Met Leu Phe Ala Lys Thr Val Ala Val Asn Phe Leu Leu Thr Ala Lys
 290 295 300
 Leu Phe Phe Leu Arg Ala Lys Arg Ser Gly Ser Gly Ala Pro Val Lys
 305 310 315 320

Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser		
				325					330					335			
Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu		
			340					345					350				
Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro		
		355					360					365					
Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly		
	370					375					380						
Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu		
385					390					395					400		
Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro		
			405					410						415			
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala		
			420					425					430				
Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr		
	435						440					445					
Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly		
	450					455					460						
Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr		
465					470					475					480		
Leu	Phe	Pro	Pro	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu			
				485				490						495			
Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp		
			500					505					510				
Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro		
	515						520					525					
Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu		
	530					535					540						
Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr		
545					550					555					560		
His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser		
				565					570					575			
Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser		
			580					585					590				
Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala		
	595					600						605					
Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala			
	610					615				620							
Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly		
625					630					635					640		
Glu	Lys	Ser	Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys	Gln	Ala		
			645						650					655			
Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu		
		660						665					670				
Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ser	Val		
	675						680					685					
Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr		
	690					695					700						
Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val		
705					710					715					720		

<220>

<223> Synthetic Construct: PSMA Clone B caTCR + PSMA Clone

A-CSR-1A (a.k.a. "Bx1-caTCR + A-CSR" or "Bx1-caTCR + A-CSR-1A")

<400> 88

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

Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro
		355					360					365			
Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly
	370					375					380				
Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu
385					390					395					400
Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro
			405						410					415	
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala
			420					425					430		
Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr
		435					440					445			
Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly
	450					455					460				
Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr
465					470					475					480
Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu
				485					490					495	
Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp
			500					505						510	
Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro
		515					520					525			
Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu
	530					535					540				
Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr
545					550					555					560
His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser
				565					570					575	
Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser
			580					585					590		
Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala
		595					600					605			
Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala
	610					615					620				
Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly
625					630					635					640
Glu	Lys	Ser	Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys	Gln	Ala
				645					650					655	
Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu
			660					665					670		
Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val
		675					680					685			
Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr
	690					695					700				
Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn
705					710					715					720
Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser
				725					730					735	
Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys
			740					745					750		

Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp
		755					760					765			
Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr
		770				775						780			
Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser	Arg	Gly	Gly
785					790					795					800
Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Leu	Glu	Met
				805					810					815	
Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys	Pro	Gly
			820					825					830		
Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe	Ala	Ser
		835					840					845			
Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp
		850				855						860			
Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	Gly	Pro	Ala
865					870					875					880
Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala
				885					890					895	
Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr
			900					905					910		
Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln	Gly	Thr
		915					920					925			
Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu
		930				935					940				
Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn	Glu
945					950					955					960
Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	Leu	Cys	Pro
				965					970					975	
Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val
			980					985					990		
Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe
		995					1000					1005			
Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp
		1010				1015					1020				
Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr
1025					1030					1035					1040
Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser		
				1045					1050						

<210> 89

<211> 1318

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Bivalent PSMA Clone A caTCR with 1 scFv and 1 Fab + PSMA Clone B-CSR-1A, to be called "Ax2-caTCR + B-CSR" in PCT figure.

<400> 89

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

385					390					395					400
Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys
				405					410						415
Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr
			420					425						430	
Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser
		435					440					445			
Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser
	450					455					460				
Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr
465					470					475					480
Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys
			485						490					495	
Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His
			500					505					510		
Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys
		515					520					525			
His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser
	530					535					540				
Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val
545					550					555					560
Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser
			565					570						575	
Gly	Ser	Gly	Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys
			580					585				590			
Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr
		595					600					605			
Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln
	610					615					620				
Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg
625					630					635					640
Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr
			645					650						655	
Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
			660					665					670		
Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser
	675						680					685			
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln
	690					695					700				
Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu
705					710					715					720
Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln
			725						730					735	
Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu
			740					745					750		
Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr
	755						760					765			
Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys
	770					775					780				
Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr

785					790					795				800	
Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His
				805					810					815	
Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys
			820					825					830		
Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr
		835					840					845			
Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu
	850					855					860				
Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu
865					870					875					880
Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg
				885					890						895
Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser	Gly	Ser	Gly	Ala	Thr
		900						905					910		
Asn	Phe	Ser	Leu	Leu	Lys	Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly
	915						920					925			
Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val
	930					935					940				
Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser
945					950					955					960
Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser
			965						970						975
Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr
		980						985					990		
Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val
		995					1000					1005			
Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala
	1010					1015					1020				
Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala
1025					1030					1035					1040
Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val
				1045					1050						1055
Thr	Val	Leu	Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
			1060					1065							1070
Gly	Gly	Gly	Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser
	1075						1080					1085			
Gly	Ala	Glu	Met	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys
	1090					1095					1100				
Gly	Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln
1105					1110					1115					1120
Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp
				1125					1130						1135
Ser	Asp	Thr	Arg	Tyr	Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser
			1140					1145						1150	
Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys
	1155						1160					1165			
Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly
	1170					1175				1180					
Ile	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln

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

Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn	Pro
			580					585					590		
Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp
		595					600					605			
Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala
	610					615					620				
Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser
625					630					635					640
Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly
				645					650					655	
Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly
			660					665					670		
Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu
		675					680					685			
Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala
	690					695					700				
Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys
705					710					715					720
Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr	Leu	Phe
				725					730					735	
Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys
			740					745					750		
Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala
		755					760					765			
Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys
	770					775					780				
Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro
785					790					795					800
Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu
				805					810					815	
Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile
			820					825					830		
Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp
		835					840					845			
Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr
	850					855					860				
Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile
865					870					875					880
Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys
				885					890					895	
Ser	Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys	Gln	Ala	Gly	Asp
			900					905					910		
Val	Glu	Glu	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp
		915					920					925			
Val	Le														

Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Gly	Asn	
			980					985					990			
Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	
		995					1000					1005				
Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	Asp	Glu	
	1010					1015					1020					
Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	Tyr	Val	
1025				1030						1035					1040	
Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser	Arg	Gly	Gly	Gly	
			1045					1050						1055		
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Leu	Glu	Met	Ala	
		1060					1065						1070			
Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu	
	1075						1080					1085				
Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	
	1090					1095					1100					
Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	
1105				1110						1115					1120	
Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr	Ser	Pro	Ser	Phe	
			1125						1130						1135	
Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	
	1140						1145						1150			
Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	
	1155						1160					1165				
Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	Ser	Asp	Val	Trp	Gly	
	1170					1175					1180					
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys	Leu	Ile	Ser	Glu	
1185				1190						1195					1200	
Glu	Asp	Leu	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	
			1205						1210					1215		
Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	
		1220					1225						1230			
Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	
	1235						1240						1245			
Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	
	1250					1255					1260					
Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	
1265				1270						1275					1280	
His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	
			1285						1290					1295		
Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	
		1300					1305					1310				

Ser

<210> 91

<211> 902

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 91

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

		355				360			365						
Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp
	370					375					380				
Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys
385					390					395					400
Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly
				405					410						415
Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro
			420					425					430		
Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr
		435					440					445			
Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val
	450					455					460				
Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn
465					470					475					480
Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro
				485					490					495	
Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys
			500					505					510		
Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys
		515					520					525			
Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu
	530					535					540				
Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu
545					550					555					560
Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser	Gly	Ala
				565					570					575	
Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp
			580					585					590		
Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp
	595						600					605			
Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr
	610					615					620				
Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser
625					630					635					640
Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr
				645					650					655	
Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn
			660					665					670		
Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly
	675						680					685			
Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala
	690					695					700				
Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe
705					710					715					720
Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro
				725					730					735	
Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys
			740					745					750		
Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr

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

Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	Asp	Glu
				565					570					575	
Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	Tyr	Val
			580					585					590		
Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gly	Gly	Gly	Gly	Ser
		595					600					605			
Gly	Gly	Gly	Gly	Ser	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser
	610					615					620				
Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser
625					630					635					640
Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr
				645					650					655	
Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val
			660					665					670		
Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala
		675					680					685			
Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala
	690					695					700				
Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val
705					710					715					720
Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro
				725					730					735	
Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu
			740					745					750		
Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp
		755				760						765			
Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln
	770					775					780				
Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu
785					790					795					800
Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly
				805					810					815	
Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys
			820					825					830		
Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala
	835						840					845			
Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met
	850					855					860				
Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr
865					870					875					880
Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser
				885					890					895	

<210> 93

<211> 633

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 93

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

370		375		380	
Gly Gly Ser Gly Gly Gly Gly Ser Leu Glu Met Ala Glu Val Gln Leu					
385		390		395	400
Val Gln Ser Gly Ala Glu Met Lys Lys Pro Gly Glu Ser Leu Lys Ile					
	405		410		415
Ser Cys Lys Gly Ser Gly Tyr Asn Phe Ala Ser Tyr Trp Val Gly Trp					
	420		425		430
Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met Gly Thr Ile Tyr					
	435		440		445
Pro Asp Asp Ser Asp Thr Arg Tyr Gly Pro Ala Phe Gln Gly Gln Val					
	450		455		460
Thr Ile Ser Ala Asp Lys Ser Ile Ser Thr Ala Tyr Leu Gln Trp Ser					
465		470		475	480
Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys Ala Arg Asp Ser					
	485		490		495
Tyr Tyr Gly Ile Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val Ser					
	500		505		510
Ser Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Ala Ala Ala Ile Glu					
	515		520		525
Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr					
	530		535		540
Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro					
545		550		555	560
Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val Leu					
	565		570		575
Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val					
	580		585		590
Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr					
	595		600		605
Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro					
	610		615		620
Pro Arg Asp Phe Ala Ala Tyr Arg Ser					
625		630			

<210> 94

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 94

Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu	
1	5 10 15
Ser Leu Val Ile Thr	
20	

<210> 95
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 95
Ile Ile Ser Phe Phe Leu Ala Leu Thr Ser Thr Ala Leu Leu Phe Leu
1 5 10 15
Leu Phe Phe Leu Thr Leu Arg Phe Ser Val Val
20 25

<210> 96
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 96
Ile Leu Val Ile Phe Ser Gly Met Phe Leu Val Phe Thr Leu Ala Gly
1 5 10 15
Ala Leu Phe Leu His
20

<210> 97
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 97
Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu
1 5 10 15
Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val
20 25

<210> 98
<211> 28
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 98

Pro	Val	Leu	Asp	Ala	Gly	Pro	Val	Leu	Phe	Trp	Val	Ile	Leu	Val	Leu
1				5				10					15		
Val	Val	Val	Val	Gly	Ser	Ser	Ala	Phe	Leu	Leu	Cys				
			20				25								

<210> 99

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 99

Val	Ala	Ala	Ile	Leu	Gly	Leu	Gly	Leu	Val	Leu	Gly	Leu	Leu	Gly	Pro
1				5				10						15	
Leu	Ala	Ile	Leu	Leu											
			20												

<210> 100

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 100

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

<210> 101

<211> 48

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 101

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

<210> 102

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 102

Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr
1				5					10					15	
Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro
			20					25					30		
Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser							
		35					40								

<210> 103

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 103

Ala	Leu	Tyr	Leu	Leu	Arg	Arg	Asp	Gln	Arg	Leu	Pro	Pro	Asp	Ala	His
1				5					10					15	
Lys	Pro	Pro	Gly	Gly	Gly	Ser	Phe	Arg	Thr	Pro	Ile	Gln	Glu	Glu	Gln
			20					25					30		
Ala	Asp	Ala	His	Ser	Thr	Leu	Ala	Lys	Ile						
		35					40								

<210> 104

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 104

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

<210> 105

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 105

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

<210> 106

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 106

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

<210> 107

<211> 94

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 107

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

<210> 108

<211> 134

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 108

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

<210> 109

<211> 119

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 109

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

<210> 110

<211> 285
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 110

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

<210> 111
<211> 270
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 111

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

<210> 112

<211> 125

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 112

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

<210> 113

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 113

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

<210> 114

<211> 132

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 114

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

<210> 115

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 115

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

<210> 116

<211> 272
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 116

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

<210> 117
<211> 257
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 117

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

Lys

<210> 118

<211> 126

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 118

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

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

<210> 119
 <211> 111
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

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

<210> 120
 <211> 126
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 120

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

<210> 121
 <211> 111
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

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

<210> 122
 <211> 103
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 122

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

<210> 123

<211> 103

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 123

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

<210> 124

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 124

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

<210> 125

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 125

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

<210> 126

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 126

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

<210> 127

<211> 902

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 127

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

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

				580				585				590					
Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp		
		595					600					605					
Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr		
	610					615					620						
Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser		
625					630					635					640		
Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr		
			645						650					655			
Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn		
			660					665					670				
Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly		
	675					680						685					
Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala		
	690					695					700						
Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe		
705				710						715					720		
Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro		
				725					730					735			
Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys		
			740					745					750				
Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr		
	755						760					765					
Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr		
	770					775					780						
Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr		
785					790					795					800		
Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys		
				805					810					815			
Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr		
			820					825					830				
Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp		
	835						840					845					
Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn		
	850					855						860					
Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val			
865					870					875				880			
Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys		
			885						890					895			
Cys	Asn	Gly	Glu	Lys	Ser												
			900														

<210> 128

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 128

Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15
Gly Ser Thr Gly
20

<210> 129

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 129

Arg Ala Lys Arg Ser
1 5

<210> 130

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 130

Gly Ser Gly Ala Pro Val Lys Gln Thr Leu Asn Phe Asp Leu Leu Lys
1 5 10 15
Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro
20 25

<210> 131

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 131

Arg Ala Lys Arg Ser Gly Ser Gly Ala Pro Val Lys Gln Thr Leu Asn
1 5 10 15
Phe Asp Leu Leu Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro
20 25 30

<210> 132
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 132
Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val
1 5 10 15
Glu Glu Asn Pro Gly Pro
20

<210> 133
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 133
Arg Ala Lys Arg Ser Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys
1 5 10 15
Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro
20 25

<210> 134
<211> 68
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 134
Glu Val Lys Thr Asp Ser Thr Asp His Val Lys Pro Lys Glu Thr Glu
1 5 10 15
Asn Thr Lys Gln Pro Ser Lys Ser Cys His Lys Pro Lys Ala Ile Val
20 25 30
His Thr Glu Lys Val Asn Met Met Ser Leu Thr Val Leu Gly Leu Arg
35 40 45
Met Leu Phe Ala Lys Thr Val Ala Val Asn Phe Leu Leu Thr Ala Lys
50 55 60
Leu Phe Phe Leu
65

<210> 135
<211> 67
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 135
Pro Ile Lys Thr Asp Val Ile Thr Met Asp Pro Lys Asp Asn Cys Ser
1 5 10 15
Lys Asp Ala Asn Asp Thr Leu Leu Leu Gln Leu Thr Asn Thr Ser Ala
20 25 30
Tyr Tyr Met Tyr Leu Leu Leu Leu Leu Lys Ser Val Val Tyr Phe Ala
35 40 45
Ile Ile Thr Cys Cys Leu Leu Arg Arg Thr Ala Phe Cys Cys Asn Gly
50 55 60
Glu Lys Ser
65

<210> 136
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 136
Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
1 5 10

<210> 137
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 137
Asp Tyr Lys Asp His Asp Gly Asp Tyr Lys Asp His Asp Ile Asp Tyr
1 5 10 15
Lys Asp Asp Asp Asp Lys
20

<210> 138
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 138
Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 139
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 139
Gly Ser Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
1 5 10 15
Gly Ser Leu Glu Met Ala
20

<210> 140
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 140
Gly Gly Gly Gly Ser
1 5

<210> 141
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 141

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10

<210> 142

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 142

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 143

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 143

Ala Ala Ala Thr Gly
1 5

<210> 144

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 144

Thr Pro Leu Gly Asp Thr Thr His Thr Ser Gly
1 5 10

<210> 145

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 145

Ala Ala Ala

1

<210> 146

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 146

Gly Gly Ser Gly

1

<210> 147

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 147

Ser Gly Gly Gly

1

<210> 148

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 148

Gly Ser Gly Ser

1

<210> 149

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 149

Gly Ser Gly Ser Gly Ser

1

5

<210> 150

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 150

Gly Ser Gly Ser Gly Ser Gly Ser

1

5

<210> 151

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 151

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser

1

5

10

<210> 152

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 152

Gly Gly Ser Gly Gly Ser

1

5

<210> 153

<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 153
Gly Gly Ser Gly Gly Ser Gly Gly Ser
1 5

<210> 154
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 154
Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser
1 5 10

<210> 155
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 155
Gly Gly Ser Gly
1

<210> 156
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 156
Gly Gly Ser Gly Gly Gly Ser Gly
1 5

<210> 157
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 157
Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly
1 5 10

<210> 158
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 158
His His His His His
1 5

<210> 159
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 159
Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
1 5

<210> 160
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 160
Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Ser
1 5 10

<210> 161
<211> 1064
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 161

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

305					310					315				320	
Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val
				325					330					335	
Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp
			340					345					350		
Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met
		355					360					365			
Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala
	370				375						380				
Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser	Gly	Ser	Gly	Ala	Thr	Asn
385					390					395					400
Phe	Ser	Leu	Leu	Lys	Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly	Pro
				405					410					415	
Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro
			420					425					430		
Gly	Ser	Thr	Gly	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys
		435					440					445			
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser
	450					455					460				
Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly
465					470					475					480
Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr
				485					490					495	
Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
			500					505					510		
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
		515					520					525			
Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	Ser
	530					535					540				
Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr
545					550					555					560
Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser
				565					570					575	
Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu
			580					585					590		
Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His
		595				600						605			
Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser
	610					615					620				
Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys
625					630					635					640
Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu
				645					650					655	
Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro
			660					665					670		
Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro
		675					680					685			
Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val
	690					695					700				
Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu

705					710					715				720
Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser Gly
				725					730					735
Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala Gly
			740					745					750	
Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu Leu
		755				760					765			
Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ser	Val Leu
	770					775					780			
Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr Ile
785				790					795					800
Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val His
			805					810					815	
Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr Gly
		820				825						830		
Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser Lys
	835					840					845			
Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu Asp
	850				855					860				
Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly Tyr
865				870					875					880
Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys Ala
		885				890						895		
Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln Ala
	900					905						910		
Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly Ala
	915					920					925			
Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly Val
	930				935					940				
Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala Ser
945				950					955					960
Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser Tyr
		965				970						975		
Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val Ala
	980					985						990		
Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp Pro
	995				1000						1005			
Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln Leu
	1010				1015					1020				
Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys Ser
1025				1030					1035					1040
Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr Ala
		1045						1050					1055	
Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser							
			1060											

<210> 162

<211> 1059

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 162

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

Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro
		355					360					365			
Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe
	370					375					380				
Ala	Ala	Tyr	Arg	Ser	Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys
385					390					395					400
Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr
			405						410					415	
Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Glu
			420					425					430		
Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser
		435					440					445			
Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp
	450					455					460				
Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly
465					470					475					480
Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln
				485					490					495	
Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu
			500					505					510		
Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala
		515					520					525			
Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln
	530					535					540				
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val
545					550					555					560
Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala
				565					570					575	
Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser
		580						585					590		
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val
		595					600					605			
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro
	610					615					620				
Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys
625					630					635					640
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu
				645					650					655	
Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn
			660					665					670		
Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His
		675					680					685			
Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met
	690					695					700				
Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu
705					710					715					720
Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser	Gly	Ala	Pro	Val	Lys	Gln
				725					730					735	
Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn
			740					745					750		

Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu
	755					760					765				
Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser
	770					775					780				
Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser
785					790					795					800
Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Leu
				805					810					815	
Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro
			820					825					830		
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala
		835					840					845			
Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr
	850					855					860				
Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly
865					870					875					880
Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr
				885					890					895	
Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu
			900					905					910		
Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp
	915						920					925			
Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro
	930					935					940				
Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu
945					950					955					960
Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr
				965					970					975	
His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser
			980					985					990		
Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser
		995					1000					1005			
Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala
	1010					1015					1020				
Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	
1025					1030				1035					1040	
Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly
				1045					1050					1055	
Glu	Lys	Ser													

<210> 163

<211> 1058

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 163

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

385					390					395				400
Phe	Ser	Leu	Leu	Lys	Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly Met
				405					410					415
Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro Gly
			420					425					430	
Ser	Thr	Gly	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys Lys
		435					440					445		
Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn Phe
	450				455						460			
Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly Leu
465				470					475					480
Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr Gly
			485					490					495	
Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile Ser
		500						505					510	
Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala Met
		515				520						525		
Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly Gln
	530				535					540				
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser Val
545				550					555					560
Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala Ala
			565					570					575	
Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val Ser
		580					585					590		
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala Val
	595					600					605			
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val Pro
	610				615				620					
Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His Lys
625			630					635						640
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys Glu
		645					650						655	
Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu Asn
		660				665						670		
Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val His
	675				680				685					
Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg Met
	690			695				700						
Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys Leu
705				710				715						720
Phe	Phe	Leu	Arg	Ala	Lys	Arg	Ser	Gly	Ser	Gly	Ala	Pro	Val	Lys Gln
		725					730					735		
Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser Asn
		740				745						750		
Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu Leu
	755				760						765			
Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro Ser
	770				775						780			
Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly Ser

785					790					795					800
Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro
				805					810					815	
Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser
			820					825					830		
Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser
		835					840					845			
Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys
	850					855				860					
Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr
865				870					875					880	
Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr	Leu
			885					890						895	
Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val
			900					905					910		
Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys
		915					920					925			
Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser
	930					935						940			
Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr
945					950					955				960	
Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His
			965					970						975	
Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro
			980				985					990			
Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys
		995					1000					1005			
Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr
	1010					1015				1020					
Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile
1025					1030					1035				1040	
Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu
			1045					1050						1055	
Lys	Ser														

<210> 164
 <211> 1054
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 164
 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15
 Gly Ser Thr Gly Gln Ala Val Leu Thr Gln Pro Pro Ser Ala Ser Gly
 20 25 30

Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn
		35					40				45				
Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala
	50					55					60				
Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro
65					70					75					80
Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile
			85						90					95	
Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp
		100						105					110		
Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr
		115					120					125			
Val	Leu	Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly
	130					135					140				
Gly	Gly	Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly
145					150					155					160
Ala	Glu	Met	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly
			165						170					175	
Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met
			180					185					190		
Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser
		195					200					205			
Asp	Thr	Arg	Tyr	Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala
	210					215					220				
Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala
225					230					235					240
Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile
			245						250					255	
Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Glu	Gln	Lys
			260					265					270		
Leu	Ile	Ser	Glu	Glu	Asp	Leu	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro
		275					280					285			
Pro	Pro	Tyr	Leu	Asp	Asn	Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val
		290				295					300				
Lys	Gly	Lys	His	Leu	Cys	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys
305					310					315					320
Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser
			325						330					335	
Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg
			340					345				350			
Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro
		355					360					365			
Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe
	370					375					380				
Ala	Ala	Tyr	Arg	Ser	Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys
385					390					395					400
Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr
			405						410					415	
Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Glu
			420					425					430		

Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys	Pro	Gly	Glu	Ser
		435					440					445			
Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr	Trp
	450					455					460				
Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly
465					470					475					480
Thr	Ile	Tyr	Pro	Asp	Ser	Asp	Thr	Arg	Tyr	Gly	Pro	Ala	Phe	Gln	
				485				490						495	
Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu
			500					505					510		
Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala
		515					520					525			
Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val
	530					535					540				
Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala
545					550					555					560
Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu
				565					570					575	
Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly
			580					585					590		
Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser
		595					600					605			
Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu
	610					615					620				
Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr
625					630					635					640
Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp
				645					650					655	
Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro
			660					665					670		
Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val
		675					680					685			
Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys
	690					695					700				
Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	Arg
705				710						715					720
Ala	Lys	Arg	Ser	Gly	Ser	Gly	Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe
				725					730					735	
Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met
			740					745					750		
Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly
		755					760						765		
Ser	Thr	Gly	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr
	770					775					780				
Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile
785					790					795					800
Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro
				805					810					815	
Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp
			820					825					830		

Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser
 835 840 845
 Gly Leu Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp
 850 855 860
 Asp Ser Leu Asn Gly Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val
 865 870 875 880
 Leu Gly Gln Pro Lys Ala Asn Pro Thr Val Thr Leu Phe Pro Pro Ser
 885 890 895
 Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
 900 905 910
 Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Gly Ser
 915 920 925
 Pro Val Lys Ala Gly Val Glu Thr Thr Lys Pro Ser Lys Gln Ser Asn
 930 935 940
 Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
 945 950 955 960
 Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
 965 970 975
 Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser Pro Ile Lys Thr Asp
 980 985 990
 Val Ile Thr Met Asp Pro Lys Asp Asn Cys Ser Lys Asp Ala Asn Asp
 995 1000 1005
 Thr Leu Leu Leu Gln Leu Thr Asn Thr Ser Ala Tyr Tyr Met Tyr Leu
 1010 1015 1020
 Leu Leu Leu Leu Lys Ser Val Val Tyr Phe Ala Ile Ile Thr Cys Cys
 1025 1030 1035 1040
 Leu Leu Arg Arg Thr Ala Phe Cys Cys Asn Gly Glu Lys Ser
 1045 1050

<210> 165
 <211> 551
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 165
 Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ala Gly
 20 25 30
 Tyr Asp Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 35 40 45
 Leu Ile Tyr Gly Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
 65 70 75 80
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser

				85				90					95			
Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	
			100					105					110			
Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	
		115					120					125				
Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	
		130				135					140					
Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	
145					150					155					160	
Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	
				165					170					175		
Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	
			180					185					190			
Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	
		195				200						205				
Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	
		210				215					220					
Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	
225				230						235					240	
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	
			245					250						255		
Gly	Gly	Ser	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	
		260						265				270				
Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	
		275				280						285				
Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	
		290				295					300					
Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr	Ser	
305				310					315						320	
Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	
			325					330						335		
Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	
			340					345					350			
Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	Ser	Asp	
		355				360						365				
Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	
		370				375					380					
Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	
385				390					395						400	
Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	
			405					410						415		
Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	
			420					425					430			
Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	
		435				440						445				
Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	
		450				455					460					
Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	
465				470						475					480	
Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	

				485					490					495		
Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	
			500					505					510			
Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	
		515					520					525				
Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	
	530					535					540					
Thr	Ala	Lys	Leu	Phe	Phe	Leu										
545					550											

<210> 166

<211> 284

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 166

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

Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu
				245					250					255	
Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu
			260					265					270		
Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser				
		275					280								

<210> 167
 <211> 423
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 167

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

Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val	His	Trp	Tyr
145					150					155					160
Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Gly	Asn	Ser
				165					170					175	
Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly
			180					185					190		
Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala
		195					200					205			
Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	Tyr	Val	Phe
	210					215					220				
Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro
225					230					235					240
Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys
				245					250					255	
Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr
			260					265					270		
Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr
		275					280					285			
Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr
	290					295					300				
Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys
305					310					315					320
Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr
				325					330					335	
Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp
			340					345					350		
Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn
		355					360					365			
Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val
	370					375					380				
Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys
385					390					395					400
Cys	Asn	Gly	Glu	Lys	Ser										
				405											

<210> 169

<211> 542

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 169

Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln
1				5					10					15	
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn
			20					25					30		
Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu

		35				40			45						
Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	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	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu
				85					90					95	
Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser
			100					105					110		
Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
		115					120					125			
Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys
	130					135					140				
Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn
145					150					155					160
Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly
				165					170					175	
Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr
			180					185					190		
Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile
		195					200					205			
Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala
	210					215					220				
Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Glu	Val
				245					250					255	
Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys	Pro	Gly	Glu	Ser	Leu
			260					265					270		
Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr	Trp	Val
		275					280					285			
Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Thr
	290					295						300			
Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	Gly	Pro	Ala	Phe	Gln	Gly
305					310					315					320
Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln
				325					330					335	
Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg
			340					345					350		
Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr
		355					360						365		
Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro
		370				375					380				
Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val
385					390					395					400
Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala
				405					410					415	
Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly
			420					425					430		
Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly

		435					440				445				
Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys
	450					455					460				
Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser
465					470					475					480
Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser
			485						490					495	
Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn
		500						505					510		
Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr
	515					520					525				
Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu		
	530					535					540				

<210> 170

<211> 283

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 170

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

Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr
210						215					220				
Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu
225					230					235					240
Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu
				245					250					255	
Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg
			260					265					270		
Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser					
		275					280								

<210> 171
 <211> 415
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 171

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

225					230					235				240	
Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala
				245					250					255	
Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu
			260					265					270		
Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly
		275					280					285			
Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser
	290					295					300				
Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu
305					310					315					320
Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr
				325					330					335	
Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr	Asp
		340					345						350		
Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro
		355					360					365			
Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val
	370					375					380				
Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys
385					390					395					400
Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu	
				405					410					415	

<210> 172
 <211> 404
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 172

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

Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser
130						135					140				
Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln
145				150						155					160
Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg
				165					170						175
Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser
			180					185					190		
Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr
		195					200				205				
Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr
	210					215					220				
Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr	Val
225					230					235					240
Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr
				245					250						255
Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala
		260						265					270		
Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys
		275					280					285			
Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser
		290				295					300				
Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val
305					310					315					320
Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu	Cys
				325					330					335	
Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys
			340					345					350		
Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser
		355					360					365			
Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe
		370				375					380				
Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn
385					390					395					400
Gly	Glu	Lys	Ser												

<210> 173
 <211> 547
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 173
 Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ala Gly

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

				420					425					430					
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro				
			435				440							445					
Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys				
		450				455					460								
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu				
465				470						475					480				
Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn				
			485				490							495					
Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His				
		500					505						510						
Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met				
		515				520						525							
Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu				
	530					535					540								
Phe	Phe	Leu																	
545																			

<210> 174
 <211> 283
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 174																	
Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln		
1				5				10						15			
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn		
			20				25						30				
Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu		
		35				40						45					
Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	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	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu		
			85				90						95				
Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln		
		100				105							110				
Pro	Lys	Ala	Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu		
	115					120						125					
Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr		
	130				135					140							
Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys		
145				150					155						160		
Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr		
			165				170							175			

Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His
			180					185					190		
Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys
		195					200					205			
Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr
	210					215					220				
Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu
225					230					235					240
Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu
			245					250						255	
Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg
		260						265					270		
Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser					
		275					280								

<210> 175

<211> 284

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 175

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

		195					200				205								
Thr	Val	Ala	Pro	Thr	Glu	Cys	Ser	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp				
	210					215					220								
His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser				
225					230					235					240				
Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met				
				245					250					255					
Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala				
	260							265					270						
Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu								
	275						280												

<210> 176

<211> 546

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 176

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

Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser
225					230					235					240
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly
				245					250					255	
Gly	Gly	Ser	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys
			260					265					270		
Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe
		275					280					285			
Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu
290					295					300					
Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	Gly
305					310					315					320
Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser
			325						330					335	
Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met
			340					345					350		
Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln
		355					360					365			
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val
		370				375					380				
Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala
385					390					395					400
Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser
			405					410						415	
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val
			420					425					430		
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro
		435					440					445			
Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys
	450					455					460				
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Pro
465					470					475					480
Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys
			485					490						495	
Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr
			500					505					510		
Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile
		515					520					525			
Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu
	530					535					540				
Lys	Ser														
545															

<210> 177

<211> 419

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 177

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

370		375		380	
Thr	Glu	Lys	Val	Asn	Met
385		390		395	400
Leu	Phe	Ala	Lys	Thr	Val
		405		410	415
Phe	Phe	Leu			

<210> 178
 <211> 405
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 178

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

Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val
			260					265					270		
Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr
		275					280					285			
Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu
	290					295					300				
Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln
305					310					315					320
Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu
			325					330						335	
Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn
			340					345					350		
Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr
		355				360						365			
Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr
	370					375					380				
Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys
385					390					395					400
Asn	Gly	Glu	Lys	Ser											
				405											

<210> 179

<211> 406

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 179

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

145					150					155					160
Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln
				165					170					175	
Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr
			180					185					190		
Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp
		195					200					205			
Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly
	210					215					220				
Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys	Ala	Asn	Pro	Thr
225					230					235				240	
Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala
				245					250					255	
Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val
			260					265					270		
Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr
		275					280					285			
Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu
	290					295					300				
Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln
305					310					315				320	
Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val	Ala	Pro	Thr	Glu
			325						330					335	
Cys	Ser	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu
			340					345					350		
Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala
		355					360					365			
Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly
	370					375					380				
Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr
385					390					395				400	
Ala	Lys	Leu	Phe	Phe	Leu										
				405											

<210> 180

<211> 418

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 180

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

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

<210> 181
<211> 902
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 181

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

				325				330					335			
Glu	Thr	Asp	Thr	Leu	Leu	Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	
			340					345					350			
Ser	Thr	Gly	Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	
		355					360					365				
Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	
	370					375					380					
Gly	Ala	Gly	Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	
385				390					395						400	
Pro	Lys	Leu	Leu	Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	
			405					410					415			
Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	
		420						425					430			
Thr	Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	
	435					440						445				
Asp	Ser	Ser	Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	
	450				455						460					
Val	Leu	Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	
465				470						475					480	
Gly	Gly	Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	
			485					490						495		
Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	
		500					505						510			
Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	
	515					520						525				
Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	
	530					535					540					
Asp	Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	
545				550					555						560	
Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	
			565					570						575		
Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	
		580						585					590			
Tyr	Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	
	595					600						605				
Ser	Gly	Gly	Gly	Gly	Ser	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	
	610				615						620					
Met	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	
625				630						635					640	
Tyr	Asn	Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	
		645						650					655			
Lys	Gly	Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	
	660						665						670			
Arg	Tyr	Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	
	675					680						685				
Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	
	690				695						700					
Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	
705				710						715					720	
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	

				725				730					735			
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	
			740					745					750			
Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	
		755					760					765				
Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	
	770					775					780					
Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	
785				790					795						800	
Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	
			805					810					815			
Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	
			820					825					830			
Ser	Cys	Glu	Val	Lys	Thr	Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	
	835					840					845					
Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	
	850				855						860					
Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	
865				870					875						880	
Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	
			885					890					895			
Ala	Lys	Leu	Phe	Phe	Leu											
			900													

<210> 182

<211> 896

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 182

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

Thr	Val	Leu	Gly	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gln	Ala
130						135					140				
Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val
145				150						155					160
Thr	Ile	Ser	Cys	Ser	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val
			165						170					175	
Asn	Trp	Tyr	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	
			180				185				190				
Ser	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser
		195					200					205			
Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu
		210				215					220				
Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly
225				230						235					240
Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Gln	Pro	Lys
			245						250					255	
Ala	Asn	Pro	Thr	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	Gln
			260					265					270		
Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	Gly
		275					280					285			
Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	Pro	Val	Lys	Ala	Gly
		290				295					300				
Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	Ala
305				310						315					320
Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	Ser
			325						330					335	
Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	Val
			340					345					350		
Ala	Pro	Thr	Glu	Cys	Ser	Pro	Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp
		355					360					365			
Pro	Lys	Asp	Asn	Cys	Ser	Lys	Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln
		370				375					380				
Leu	Thr	Asn	Thr	Ser	Ala	Tyr	Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys
385				390						395					400
Ser	Val	Val	Tyr	Phe	Ala	Ile	Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr
			405						410					415	
Ala	Phe	Cys	Cys	Asn	Gly	Glu	Lys	Ser	Arg	Ala	Lys	Arg	Ser	Gly	Ser
			420					425					430		
Gly	Ala	Pro	Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala
		435					440				445				
Gly	Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr	Leu	Leu
		450				455					460				
Leu	Trp	Val	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Glu	Val	Gln
465				470						475					480
Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys
			485					490						495	
Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly
			500					505					510		
Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile
		515					520					525			

Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln
530						535					540				
Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp
545					550					555					560
Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser
				565					570					575	
Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr
			580					585					590		
Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
		595				600						605			
Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys	Pro	Gly	Glu
					615					620					
Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr
625					630					635					640
Trp	Val	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met
				645					650					655	
Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	Gly	Pro	Ala	Phe
			660					665					670		
Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr
		675					680					685			
Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys
		690				695					700				
Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu
705					710					715					720
Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu
				725					730					735	
Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys
			740					745					750		
Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser
		755					760					765			
Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser
		770				775					780				
Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser
785					790					795					800
Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn
			805					810						815	
Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Pro	Lys	Ser	Cys	Glu	Val	Lys	Thr
			820					825					830		
Asp	Ser	Thr	Asp	His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln
		835					840					845			
Pro	Ser	Lys	Ser	Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys
		850				855					860				
Val	Asn	Met	Met	Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala
865					870					875					880
Lys	Thr	Val	Ala	Val	Asn	Phe	Leu	Leu	Thr	Ala	Lys	Leu	Phe	Phe	Leu
				885					890					895	

<210> 183

<211> 188

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 183

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

<210> 184
<211> 623
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 184

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

Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu
65					70					75					80
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser
				85					90					95	
Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly
		100						105					110		
Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly
		115					120					125			
Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val
	130					135				140					
Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr
145				150						155					160
Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys
				165				170						175	
Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg
		180						185					190		
Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser
		195				200						205			
Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr
	210					215					220				
Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser
225				230					235						240
Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly
				245				250						255	
Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gln	Ala	Val	Leu	Thr	Gln	Pro	Pro
		260						265					270		
Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly
		275				280						285			
Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn	Thr	Val	Asn	Trp	Tyr	Gln	Gln	Leu
	290				295					300					
Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Met	Tyr	Ser	Asn	Asn	Gln	Arg	Pro
305				310					315						320
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala
				325				330						335	
Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr
		340						345					350		
Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	Asn	Gly	Tyr	Val	Phe	Gly	Thr	Gly
	355					360						365			
Thr	Lys	Val	Thr	Val	Leu	Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly
	370					375					380				
Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu
385				390					395						400
Val	Gln	Ser	Gly	Ala	Glu	Met	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile
				405				410						415	
Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr	Trp	Val	Gly	Trp
		420					425						430		
Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Thr	Ile	Tyr
	435					440						445			
Pro	Asp	Asp	Ser	Asp	Thr	Arg	Tyr	Gly	Pro	Ala	Phe	Gln	Gly	Gln	Val
	450					455					460				

Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser
465					470					475					480
Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser
				485					490					495	
Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser
			500					505						510	
Ser	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn
			515				520						525		
Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	Leu	Cys
	530					535					540				
Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val
545					550					555					560
Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala
				565					570					575	
Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser
			580				585						590		
Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His
	595						600					605			
Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser	
	610					615					620				

<210> 185

<211> 633

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 185

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

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

545					550					555				560	
Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly	Val	Leu
				565					570					575	
Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp	Val
			580					585						590	
Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr
		595					600					605			
Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro
	610					615					620				
Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser							
625					630										

<210> 186

<211> 623

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 186

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

Met	Tyr	Tyr	Cys	Ala	Arg	Asp	Ser	Tyr	Tyr	Gly	Ile	Asp	Val	Trp	Gly
225					230					235					240
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly
				245					250					255	
Gly	Gly	Ser	Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala
			260					265					270		
Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile
		275					280					285			
Gly	Ala	Gly	Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala
290						295					300				
Pro	Lys	Leu	Leu	Ile	Tyr	Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro
305					310					315					320
Asp	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile
				325					330					335	
Thr	Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr
			340					345					350		
Asp	Ser	Ser	Leu	Ser	Gly	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr
		355					360					365			
Val	Leu	Gly	Ser	Arg	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly
	370					375					380				
Gly	Gly	Gly	Ser	Leu	Glu	Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly
385					390					395					400
Ala	Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly
				405					410					415	
Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met
			420					425					430		
Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser
		435					440					445			
Asp	Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala
	450					455					460				
Asp	Lys	Ser	Ile	Ser	Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala
465					470					475					480
Ser	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu
				485					490					495	
Tyr	Ala	Ser	Ser	Asp	Val	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser
			500					505					510		
Ser	Ala	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn
		515					520					525			
Glu	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	Leu	Cys
	530					535					540				
Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val
545					550					555					560
Val	Val	Gly	Gly	Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala
				565					570					575	
Phe	Ile	Ile	Phe	Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser
			580					585					590		
Asp	Tyr	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His
		595					600					605			
Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser	
	610					615					620				