

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		
				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	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

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
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	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
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
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
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									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	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	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					320	
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	400	
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	480	
Gln Gln Trp Ser Ser	Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Val			
	485	490	495	
Glu Ile Lys His 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	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
 305 310 315 320
 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
 385 390 395 400
 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
 465 470 475 480
 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										

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	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	Asp	Ala	Leu	His	Met	Gln	Ala	Leu	Pro	Pro
465					470				475					480	
Arg															

<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	

$$\begin{aligned} \langle 210 \rangle & 34 \\ \langle 211 \rangle & 288 \end{aligned}$$

<211> 288

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 34
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 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	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	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
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
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
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
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
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													

<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

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							
	210					215									

<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

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
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
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					635					640
Glu	Ile	Ala	Ser	Lys	Phe	Ser	Glu	Arg	Leu	Gln	Asp	Phe	Asp	Lys	Ser
				645					650					655	
Asn	Pro	Ile	Val	Leu	Arg	Met	Met	Asn	Asp	Gln	Leu	Met	Phe	Leu	Glu
			660					665						670	
Arg	Ala	Phe	Ile	Asp	Pro	Leu	Gly	Leu	Pro	Asp	Arg	Pro	Phe	Tyr	Arg
		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
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
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
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
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
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
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
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 Arg Val Lys Phe
355	360	365
Ser Arg Ser Ala Asp Ala	Pro Ala Tyr Gln Gln	Gly Gln Asn Gln Leu
370	375	380
Tyr Asn Glu Leu Asn Leu	Gly Arg Arg Glu Glu	Tyr Asp Val Leu Asp
385	390	395
Lys Arg Arg Gly Arg Asp	Pro Glu Met Gly Gly	Lys Pro Arg Arg Lys
405	410	415
Asn Pro Gln Glu Gly Leu	Tyr Asn Glu Leu Gln	Lys Asp Lys Met Ala
420	425	430
Glu Ala Tyr Ser Glu Ile	Gly Met Lys Gly Glu	Arg Arg Arg Gly Lys
435	440	445
Gly His Asp Gly Leu Tyr	Gln Gly Leu Ser Thr	Ala Thr Lys Asp Thr
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

<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	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
						695					700				
Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu
705					710										

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					
		900						905							

<210> 48

<211> 901

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct: Bivalent Anti-PSMA Clone A caTCR with 2 Fabs (a.k.a. "Ax2-caTCR-2" or "Bivalent Clone A caTCR-2")

<400> 48

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	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 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 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	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			
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			
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			
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			
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			
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	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
Ala Ser Asp Thr Ala Met Tyr Tyr Cys Ala Arg Ser Met Gly Ser Ser		240
	245	250
Leu Tyr Ala Ser Ser Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val		255
	260	265
Ser Ser Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Ala Ala Ala Ile		270
	275	280
Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly		285
	290	295
Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe		300
305	310	315
Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val		320
	325	330
Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp		335
	340	345
Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met		350
	355	360
Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala		365
	370	375
Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser		380
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
Gly Ser Thr Gly Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly	10
	20
Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Asn	25
	30
Ile Gly Ala Gly Tyr Asp Val His Trp Tyr Gln Gln Leu Pro Gly Thr	35
	40
Ala Pro Lys Leu Leu Ile Tyr Gly Asn Ser Asn Arg Pro Ser Gly Val	45
65	50
Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala	55
	60
Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser	65
	70
Tyr Asp Ser Ser Leu Ser Gly Tyr Val Phe Gly Thr Gly Thr Lys Val	75
	80
Thr Val Leu Gly Ser Arg Gly Gly Gly Ser Gly Gly Gly Gly Ser	85
	90
Gly Gly Gly Gly Ser Leu Glu Met Ala Glu Val Gln Leu Val Gln Ser	95
145	100
	105
	110
	115
	120
	125
	130
	135
	140
	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	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	Ala	Ala	Ala
			260					265					270		
Ile	Glu	Val	Met	Tyr	Pro	Pro	Pro	Tyr	Leu	Asp	Asn	Glu	Lys	Ser	Asn
		275					280					285			
Gly	Thr	Ile	Ile	His	Val	Lys	Gly	Lys	His	Leu	Cys	Pro	Ser	Pro	Leu
	290					295					300				
Phe	Pro	Gly	Pro	Ser	Lys	Pro	Phe	Trp	Val	Leu	Val	Val	Val	Gly	Gly
305					310					315					320
Val	Leu	Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe
				325					330					335	
Trp	Val	Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn
			340					345					350		
Met	Thr	Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr
		355				360						365			
Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser					
	370					375									

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

Leu

<210> 58

<211> 388
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 58

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	Ser	Gly	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	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	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	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					240
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					320
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					400
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					480
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

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

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

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

370		375		380
Met Ser Gln Pro Leu	Met Glu Thr Cys His	Ser Val Gly Ala Ala Tyr		
385	390	395	400	
Leu Glu Ser Leu Pro	Leu Gln Asp Ala Ser	Pro Ala Gly Gly Pro Ser		
	405	410	415	
Ser Pro Arg Asp Leu	Pro Glu Pro Arg Val	Ser Thr Glu His Thr Asn		
	420	425	430	
Asn Lys Ile Glu Lys	Ile Tyr Ile Met Lys	Ala Asp Thr Val Ile Val		
	435	440	445	
Gly Thr Val Lys Ala	Glu Leu Pro Glu Gly	Arg Gly Leu Ala Gly Pro		
	450	455	460	
Ala Glu Pro Glu Leu	Glu Glu Glu Leu Glu	Ala Asp His Thr Pro His		
465	470	475	480	
Tyr Pro Glu Gln Glu	Thr Glu Pro Pro Leu	Gly Ser Cys Ser Asp Val		
	485	490	495	
Met Leu Ser Val Glu	Glu Glu Gly Lys Glu	Asp Pro Leu Pro Thr Ala		
	500	505	510	
Ala Ser Gly Lys				
515				

<210> 68

<211> 380

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<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

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	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
						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
						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	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

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

<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	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
				325					330					335	
Val	Val	Gly	Ser	Ser	Ala	Phe	Leu	Leu	Cys	His	Arg	Arg	Ala	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				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	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					320
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					400
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					480
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	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	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	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	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
Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys His Arg Arg		
	325	330
Ala Cys Arg Lys Arg Ile Arg Gln Lys Leu His Leu Cys Tyr Pro Val		
	340	345
Gln Thr Ser Gln Pro Lys Leu Glu Leu Val Asp Ser Arg Pro Arg Arg		
	355	360
Ser Ser Thr Gln Leu Arg Ser Gly Ala Ser Val Thr Glu Pro Val Ala		
	370	375
Glu Glu Arg Gly Leu Met Ser Gln Pro Leu Met Glu Thr Cys His Ser		
385	390	395
Val Gly Ala Ala Tyr Leu Glu Ser Leu Pro Leu Gln Asp Ala Ser Pro		
	405	410
Ala Gly Gly Pro Ser Ser Pro Arg Asp Leu Pro Glu Pro Arg Val Ser		
	420	425
Thr Glu His Thr Asn Asn Lys Ile Glu Lys Ile Tyr Ile Met Lys Ala		
	435	440
Asp Thr Val Ile Val Gly Thr Val Lys Ala Glu Leu Pro Glu Gly Arg		
	450	455
Gly Leu Ala Gly Pro Ala Glu Pro Glu Leu Glu Glu Leu Glu Ala		
465	470	475
Asp His Thr Pro His Tyr Pro Glu Gln Glu Thr Glu Pro Pro Leu Gly		
	485	490
Ser Cys Ser Asp Val Met Leu Ser Val Glu Glu Glu Gly Lys Glu Asp		
	500	505
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
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn	
	20
Thr Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu	
	35
Met Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser	
	50
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln	
65	70
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu	
	85
Asn Gly Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Ser	
	100
	105
	110

370

375

<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										
		1060															

<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 1	Glu	Thr	Asp	Thr 5	Leu	Leu	Leu	Trp	Val 10	Leu	Leu	Leu	Trp	Val 15	Pro
Gly	Ser	Thr	Gly 20	Glu	Val	Gln	Leu	Val 25	Gln	Ser	Gly	Ala	Glu 30	Val	Lys
Lys	Pro	Gly 35	Glu	Ser	Leu	Lys	Ile 40	Ser	Cys	Lys	Gly	Ser 45	Gly	Tyr	Ser
Phe 50	Thr	Ser	Tyr	Trp	Ile	Gly 55	Trp	Val	Arg	Gln	Met 60	Pro	Gly	Lys	Gly
Leu 65	Glu	Trp	Met	Gly	Ile 70	Ile	Tyr	Pro	Gly	Asp 75	Ser	Asp	Thr	Arg	Tyr 80
Ser	Pro	Ser	Phe	Gln 85	Gly	Gln	Val	Thr	Ile 90	Ser	Ala	Asp	Lys	Ser 95	Ile
Ser	Thr	Ala	Tyr 100	Leu	Gln	Trp	Ser	Ser 105	Leu	Lys	Ala	Ser	Asp 110	Thr	Ala
Met	Tyr	Tyr 115	Cys	Ala	Arg	Ser	Met 120	Gly	Ser	Ser	Leu	Tyr 125	Ala	Ser	Ser
Asp	Val	Trp	Gly	Gln	Gly 135	Thr	Leu	Val	Thr	Val 140	Ser	Ala	Ser	Thr	Thr
Lys 145	Gly	Pro	Ser	Val	Phe 150	Pro	Leu	Ala	Pro	Ser 155	Ser	Lys	Ser	Thr	Ser 160
Gly	Gly	Thr	Ala	Ala 165	Leu	Gly	Cys	Leu	Val 170	Lys	Asp	Tyr	Phe	Pro 175	Glu
Pro	Val	Thr	Val	Ser 180	Trp	Asn	Ser	Gly 185	Ala	Leu	Thr	Ser	Gly 190	Val	His
Thr	Phe	Pro 195	Ala	Val	Leu	Gln	Ser 200	Ser	Gly	Leu	Tyr	Ser 205	Leu	Ser	Ser
Val 210	Val	Thr	Val	Pro	Ser	Ser 215	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys
Asn 225	Val	Asn	His	Lys 230	Pro	Ser	Asn	Thr	Lys	Val 235	Asp	Lys	Arg	Val	Glu 240
Pro	Lys	Ser	Cys	Glu 245	Val	Lys	Thr	Asp	Ser 250	Thr	Asp	His	Val	Lys	Pro
Lys	Glu	Thr	Glu	Asn 260	Thr	Lys	Gln	Pro	Ser 265	Lys	Ser	Cys	His	Lys	Pro
Lys	Ala	Ile	Val	His	Thr	Glu	Lys 280	Val	Asn	Met	Met	Ser	Leu	Thr	Val
Leu	Gly 290	Leu	Arg	Met	Leu	Phe 295	Ala	Lys	Thr	Val	Ala	Val	Asn	Phe	Leu
Leu 305	Thr	Ala	Lys	Leu	Phe 310	Phe	Leu	Arg	Ala	Lys 315	Arg	Ser	Gly	Ser	Gly 320
Ala	Pro	Val	Lys	Gln 325	Thr	Leu	Asn	Phe	Asp 330	Leu	Leu	Lys	Leu	Ala	Gly 335
Asp	Val	Glu	Ser	Asn 340	Pro	Gly	Pro	Met 345	Glu	Thr	Asp	Thr	Leu	Leu	Leu
Trp	Val	Leu 355	Leu	Leu	Trp	Val	Pro 360	Gly	Ser	Thr	Gly	Gln	Ser	Val	Leu
Thr	Gln 370	Pro	Pro	Ser	Val	Ser 375	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr	Ile
Ser 385	Cys	Thr	Gly	Ser	Ser 390	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val	His 400
Trp	Tyr	Gln	Gln	Leu 405	Pro	Gly	Thr	Ala	Pro 410	Lys	Leu	Leu	Ile	Tyr	Gly 415
Asn	Ser	Asn	Arg 420	Pro	Ser	Gly	Val	Pro 425	Asp	Arg	Phe	Ser	Gly	Ser	Lys

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
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
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
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
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
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
	1010					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	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala
				1045					1050					1055	
Tyr	Arg	Ser													

<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
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
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
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
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
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	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	
His	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	Tyr	
			725						730					735		
Gly	Asn	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	
			740					745					750			
Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	Gln	Ala	Glu	
		755					760				765					
Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Ser	Ser	Leu	Ser	Gly	
	770					775				780						
Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu	Gly	Ser	Arg	Gly	
785					790					795					800	
Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Leu	Glu	
			805						810					815		
Met	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	
			820					825					830			
Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe	Thr	
		835					840					845				
Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu	Glu	
	850					855				860						
Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr	Ser	Pro	
865					870					875					880	
Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser	Thr	
			885						890					895		
Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met	Tyr	
		900						905					910			
Tyr	Cys	Ala	Arg	Ser	Met	Gly	Ser	Ser	Leu	Tyr	Ala	Ser	Ser	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
	1010					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	Tyr	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe	Ala	Ala
				1045					1050					1055	
Tyr	Arg	Ser													

<210> 88

<211> 1054

<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> 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				
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				
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	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg				
				625					630					635				
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				
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				
Ala	Ala	Ser	Ser	Tyr	Leu</													

			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																			

1250	1255	1260
Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys		
1265	1270	1275
Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg		
1285	1290	1295
Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp		
1300	1305	1310
Phe Ala Ala Tyr Arg Ser		
1315		

<210> 90
 <211> 1313
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<400> 90

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	Gly	Gly	Gly
			260					265						270	

Gly 275	Ser 290	Glu 305	Val 310	Gln 325	Leu 335	Val 340	Gln 345	Ser 360	Gly 370	Ala 385	Glu 390	Met 405	Lys 415	Lys 430	Pro 445
Gly 290	Glu 305	Ser 310	Leu 325	Lys 335	Ile 340	Ser 345	Cys 360	Lys 370	Gly 385	Ser 390	Gly 405	Tyr 415	Asn 430	Phe 445	Ala 460
Ser 305	Tyr 310	Trp 325	Val 335	Gly 340	Trp 345	Val 360	Arg 370	Gln 385	Met 390	Pro 405	Gly 415	Lys 430	Gly 445	Leu 460	Glu 475
Trp 310	Met 325	Gly 335	Thr 340	Ile 345	Tyr 360	Pro 370	Asp 385	Asp 390	Ser 405	Asp 415	Thr 430	Arg 445	Tyr 460	Gly 475	Pro 490
Ala 325	Phe 335	Gln 340	Gly 345	Gln 360	Val 370	Thr 385	Ile 390	Ser 405	Ala 415	Asp 430	Lys 445	Ser 460	Ile 475	Ser 490	Thr 505
Ala 340	Tyr 355	Leu 360	Gln 365	Trp 370	Ser 385	Ser 390	Leu 405	Lys 415	Ala 430	Ser 445	Asp 460	Thr 475	Ala 490	Met 505	Tyr 520
Tyr 355	Cys 370	Ala 385	Arg 390	Asp 405	Ser 415	Tyr 430	Tyr 445	Gly 460	Ile 475	Asp 490	Val 505	Trp 520	Gly 535	Gln 550	Gly 565
Thr 365	Leu 375	Val 390	Thr 405	Val 415	Ser 430	Ser 445	Ala 460	Ser 475	Thr 490	Lys 505	Gly 520	Pro 535	Ser 550	Val 565	Phe 580
Pro 375	Leu 385	Ala 400	Pro 415	Ser 430	Lys 445	Ser 460	Ser 475	Thr 490	Ser 505	Gly 520	Gly 535	Thr 550	Ala 565	Ala 580	Leu 595
Gly 385	Cys 395	Leu 410	Val 425	Lys 440	Asp 455	Tyr 470	Phe 485	Pro 500	Glu 515	Pro 530	Val 545	Thr 560	Val 575	Val 590	Trp 605
Asn 395	Ser 405	Gly 420	Ala 435	Leu 450	Thr 465	Ser 480	Gly 495	Val 510	His 525	Thr 540	Phe 555	Pro 570	Ala 585	Val 600	Leu 615
Gln 405	Ser 415	Ser 430	Gly 445	Leu 460	Tyr 475	Ser 490	Leu 505	Ser 520	Ser 535	Val 550	Val 565	Thr 580	Val 595	Pro 610	Ser 625
Ser 415	Ser 425	Leu 440	Gly 455	Thr 470	Gln 485	Thr 500	Tyr 515	Ile 530	Cys 545	Asn 560	Val 575	Asn 590	His 605	Lys 620	Pro 635
Ser 425	Asn 435	Thr 450	Lys 465	Val 480	Asp 495	Lys 510	Arg 525	Val 540	Glu 555	Pro 570	Lys 585	Ser 600	Cys 615	Glu 630	Val 645
Lys 435	Thr 445	Asp 460	Ser 475	Thr 490	Asp 505	His 520	Val 535	Lys 550	Pro 565	Lys 580	Glu 595	Thr 610	Glu 625	Asn 640	Thr 655
Lys 445	Gln 455	Pro 470	Ser 485	Lys 500	Ser 515	Cys 530	His 545	Lys 560	Pro 575	Lys 590	Ala 605	Ile 620	Val 635	His 650	Thr 665
Glu 455	Lys 465	Val 480	Asn 495	Met 510	Met 525	Ser 540	Leu 555	Thr 570	Val 585	Leu 600	Gly 615	Leu 630	Arg 645	Met 660	Leu 675
Phe 465	Ala 475	Lys 490	Thr 505	Val 520	Ala 535	Val 550	Asn 565	Phe 580	Leu 595	Leu 610	Leu 625	Thr 640	Ala 655	Lys 670	Phe 685
Phe 475	Leu 485	Arg 500	Ala 515	Lys 530	Arg 545	Ser 560	Gly 575	Ser 590	Gly 605	Ala 620	Pro 635	Val 650	Lys 665	Gln 680	Thr 695
Leu 485	Asn 495	Phe 510	Asp 525	Leu 540	Leu 555	Lys 570	Leu 585	Ala 600	Gly 615	Asp 630	Val 645	Glu 660	Ser 675	Asn 690	Pro 705
Gly 495	Pro 505	Met 520	Glu 535	Thr 550	Asp 565	Thr 580	Leu 595	Leu 610	Leu 625	Trp 640	Val 655	Leu 670	Leu 685	Leu 700	Trp 715
Val 505	Pro 515	Gly 530	Ser 545	Thr 560	Gly 575	Gln 590	Ala 605	Val 620	Leu 635	Thr 650	Gln 665	Pro 680	Pro 695	Ser 710	Ala 725
Ser 515	Gly 525	Thr 540	Pro 555	Gly 570	Gln 585	Arg 600	Val 615	Thr 630	Ile 645	Ser 660	Cys 675	Ser 690	Gly 705	Ser 720	Ser 735
Ser 525	Asn 535	Ile 550	Gly 565	Ser 580	Asn 595	Thr 610	Val 625	Asn 640	Trp 655	Tyr 670	Gln 685	Gln 700	Leu 715	Pro 730	Gly 745
Thr 535	Ala 545	Pro 560	Lys 575	Leu 590	Leu 605										

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	Leu	Leu	Leu	Trp	Val	Pro	Gly	Ser	Thr	Gly	Gln	Ser	Val	Leu	Thr	930	935	940	
Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	945	950	955	960
Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ala	Gly	Tyr	Asp	Val	His	Trp	965	970	975	
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																

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	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	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	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

<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

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

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

<400> 119

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

<400> 121

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	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 290	Met 290	Lys 295	Lys 300	Pro 305	Gly 310	Glu 315	Ser 320	Leu 325	Lys 330	Ile 335	Ser 340	Cys 345	Lys 350	Gly 355
Gly 360	Tyr 365	Asn 370	Phe 375	Ala 380	Ser 385	Tyr 390	Trp 395	Val 400	Gly 405	Trp 410	Val 415	Arg 420	Gln 425	Met 430
Gly 435	Lys 440	Gly 445	Leu 450	Glu 455	Trp 460	Met 465	Gly 470	Thr 475	Ile 480	Tyr 485	Pro 490	Asp 495	Asp 500	Ser 505
Thr 510	Arg 515	Tyr 520	Gly 525	Pro 530	Ala 535	Phe 540	Gln 545	Gly 550	Gln 555	Val 560	Thr 565	Ile 570	Ser 575	Ala 580
Lys 585	Ser 590	Ile 595	Ser 600	Thr 605	Ala 610	Tyr 615	Leu 620	Gln 625	Trp 630	Ser 635	Ser 640	Leu 645	Lys 650	Ala 655
Asp 660	Thr 665	Ala 670	Met 675	Tyr 680	Tyr 685	Cys 690	Ala 695	Arg 700	Asp 705	Ser 710	Tyr 715	Tyr 720	Gly 725	Ile 730
Val 735	Trp 740	Gly 745	Gln 750	Gly 755	Thr 760	Leu 765	Val 770	Thr 775	Val 780	Ser 785	Ser 790	Ala 795	Ser 800	Thr 805
Gly 810	Pro 815	Ser 820	Val 825	Phe 830	Pro 835	Leu 840	Ala 845	Pro 850	Ser 855	Ser 860	Lys 865	Ser 870	Thr 875	Ser 880
Gly 885	Thr 890	Ala 895	Ala 900	Leu 905	Gly 910	Cys 915	Leu 920	Val 925	Lys 930	Asp 935	Tyr 940	Phe 945	Pro 950	Glu 955
Val 960	Thr 965	Val 970	Ser 975	Trp 980	Asn 985	Ser 990	Gly 995	Ala 1000	Leu 1005	Thr 1010	Ser 1015	Gly 1020	Val 1025	His 1030
Phe 1035	Pro 1040	Ala 1045	Val 1050	Leu 1055	Gln 1060	Ser 1065	Ser 1070	Gly 1075	Leu 1080	Tyr 1085	Ser 1090	Leu 1095	Ser 1100	Ser 1105
Val 1110	Thr 1115	Val 1120	Pro 1125	Ser 1130	Ser 1135	Ser 1140	Leu 1145	Gly 1150	Thr 1155	Gln 1160	Thr 1165	Tyr 1170	Ile 1175	Cys 1180
Val 1185	Asn 1190	His 1195	Lys 1200	Pro 1205	Ser 1210	Asn 1215	Thr 1220	Lys 1225	Val 1230	Asp 1235	Lys 1240	Arg 1245	Val 1250	Glu 1255
Lys 1260	Ser 1265	Cys 1270	Glu 1275	Val 1280	Lys 1285	Thr 1290	Asp 1295	Ser 1300	Thr 1305	Asp 1310	His 1315	Val 1320	Lys 1325	Pro 1330
Glu 1335	Thr 1340	Glu 1345	Asn 1350	Thr 1355	Lys 1360	Gln 1365	Pro 1370	Ser 1375	Lys 1380	Ser 1385	Cys 1390	His 1395	Lys 1400	Pro 1405
Ala 1410	Ile 1415	Val 1420	His 1425	Thr 1430	Glu 1435	Lys 1440	Val 1445	Asn 1450	Met 1455	Met 1460	Ser 1465	Leu 1470	Thr 1475	Val 1480
Gly 1485	Leu 1490	Arg 1495	Met 1500	Leu 1505	Phe 1510	Ala 1515	Lys 1520	Thr 1525	Val 1530	Ala 1535	Val 1540	Asn 1545	Phe 1550	Leu 1555
Thr 1560	Ala 1565	Lys 1570	Leu 1575	Phe 1580	Phe 1585	Leu 1590	Arg 1595	Ala 1600	Lys 1605	Arg 1610	Ser 1615	Gly 1620	Ser 1625	Gly 1630
Pro 1635	Val 1640	Lys 1645	Gln 1650	Thr 1655	Leu 1660	Asn 1665	Phe 1670	Asp 1675	Leu 1680	Leu 1685	Lys 1690	Leu 1695	Ala 1700	Gly 1705
Val 1710	Glu 1715	Ser 1720	Asn 1725	Pro 1730	Gly 1735	Pro 1740	Met 1745	Glu 1750	Thr 1755	Asp 1760	Thr 1765	Leu 1770	Leu 1775	Leu 1780
Val 1785	Leu 1790	Leu 1795	Leu 1800	Trp 1805	Val 1810	Pro 1815	Gly 1820	Ser 1825	Thr 1830	Gly 1835	Gln 1840	Ala 1845	Val 1850	Leu 1855
Gln 1860	Pro 1865	Pro 1870	Ser 1875	Ala 1880	Ser 1885	Gly 1890	Thr 1895	Pro 1900	Gly 1905	Gln 1910	Arg 1915	Val 1920	Thr 1925	Ile 1930
Cys 1935	Ser 1940	Gly 1945	Ser 1950	Ser 1955	Ser 1960	Asn 1965	Ile 1970	Gly 1975	Ser 1980	Asn 1985	Thr 1990	Val 1995	Asn 2000	Trp 2005
Gln 2010	Gln 2015	Leu 2020	Pro 2025	Gly 2030	Thr 2035	Ala 2040	Pro 2045	Lys 2050	Leu 2055	Leu 2060	Met 2065	Tyr 2070	Ser 2075	Asn 2080
Gln 2085	Arg 20													

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	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 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 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					

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 65	Lys	Leu	Leu	Met 70	Tyr	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	Val 120	Phe	Gly	Thr	Gly	Thr 125	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	Met 150	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly 160
Ala	Glu	Met	Lys	Lys 165	Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys 175	Gly
Ser	Gly	Tyr	Asn 180	Phe	Ala	Ser	Tyr	Trp 185	Val	Gly	Trp	Val	Arg	Gln	Met
Pro	Gly	Lys 195	Gly	Leu	Glu	Trp	Met 200	Gly	Thr	Ile	Tyr	Pro	Asp	Asp	Ser
Asp	Thr	Arg	Tyr	Gly	Pro	Ala 215	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala
Asp 225	Lys	Ser	Ile	Ser	Thr	Ala 230	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala 240
Ser	Asp	Thr	Ala	Met 245	Tyr	Tyr	Cys	Ala	Arg 250	Asp	Ser	Tyr	Tyr	Gly	Ile
Asp	Val	Trp	Gly 260	Gln	Gly	Thr	Leu	Val 265	Thr	Val	Ser	Ser	Glu	Gln	Lys
Leu	Ile	Ser 275	Glu	Glu	Asp	Leu	Ala 280	Ala	Ala	Ile	Glu	Val	Met	Tyr	Pro
Pro	Pro	Tyr 290	Leu	Asp	Asn	Glu 295	Lys	Ser	Asn	Gly	Thr	Ile	Ile	His	Val
Lys 305	Gly	Lys	His	Leu	Cys 310	Pro	Ser	Pro	Leu	Phe	Pro	Gly	Pro	Ser	Lys 320
Pro	Phe	Trp	Val	Leu	Val 325	Val	Val	Gly	Gly 330	Val	Leu	Ala	Cys	Tyr	Ser
Leu	Leu	Val	Thr 340	Val	Ala	Phe	Ile	Ile 345	Phe	Trp	Val	Arg	Ser	Lys	Arg
Ser	Arg	Leu 355	Leu	His	Ser	Asp	Tyr 360	Met	Asn	Met	Thr	Pro	Arg	Arg	Pro
Gly	Pro	Thr 370	Arg	Lys	His	Tyr 375	Gln	Pro	Tyr	Ala	Pro	Pro	Arg	Asp	Phe
Ala 385	Ala	Tyr	Arg	Ser	Gly 390	Ser	Gly	Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys 400
Gln	Ala	Gly	Asp	Val	Glu 405	Glu	Asn	Pro	Gly	Pro	Met	Glu	Thr	Asp	Thr 415
Leu	Leu	Leu	Trp 420	Val	Leu	Leu	Leu	Trp 425	Val	Pro	Gly	Ser	Thr	Gly	Glu
Val	Gln	Leu	Val 435	Gln	Ser	Gly	Ala 440	Glu	Val	Lys	Lys	Pro	Gly	Glu	Ser
Leu	Lys	Ile	Ser 450	Cys	Lys	Gly 455	Ser	Gly	Tyr	Ser	Phe	Thr	Ser	Tyr	Trp
Ile 465	Gly	Trp	Val	Arg	Gln 470	Met	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Met	Gly 480
Ile	Ile	Tyr	Pro	Gly 485	Asp	Ser	Asp	Thr	Arg	Tyr	Ser	Pro	Ser	Phe	Gln 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
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
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
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
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
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					

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						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						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						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						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						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	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
						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
						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 Ser 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
			260				265						270		
Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro
		275					280					285			
Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr
					295						300				
Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val
305					310					315					320
Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn

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

<210> 168

<211> 406

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 168

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	Ser	Val	Leu	Thr	Gln	
	115					120				125						
Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	Arg	Val	Thr	Ile	Ser	Cys	
130					135					140						
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

<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	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	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
	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	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	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	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
				165					170					175
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	Glu	Val	Lys	Thr	Asp	Ser	Thr
	210					215					220			Asp
His	Val	Lys	Pro	Lys	Glu	Thr	Glu	Asn	Thr	Lys	Gln	Pro	Ser	Lys
225					230					235				240
Cys	His	Lys	Pro	Lys	Ala	Ile	Val	His	Thr	Glu	Lys	Val	Asn	Met
				245					250					255
Ser	Leu	Thr	Val	Leu	Gly	Leu	Arg	Met	Leu	Phe	Ala	Lys	Thr	Val
			260					265					270	Ala
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

[illegible]

<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

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	Pro
		340						345					350		
Ile	Lys	Thr	Asp	Val	Ile	Thr	Met	Asp	Pro	Lys	Asp	Asn	Cys	Ser	Lys
	355						360					365			
Asp	Ala	Asn	Asp	Thr	Leu	Leu	Leu	Gln	Leu	Thr	Asn	Thr	Ser	Ala	Tyr
	370					375					380				
Tyr	Met	Tyr	Leu	Leu	Leu	Leu	Leu	Lys	Ser	Val	Val	Tyr	Phe	Ala	Ile
385					390					395					400
Ile	Thr	Cys	Cys	Leu	Leu	Arg	Arg	Thr	Ala	Phe	Cys	Cys	Asn	Gly	Glu
			405						410					415	
Lys	Ser														

<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	Asp Thr Arg Tyr Ser	535	Pro Ser Phe Gln Gly	540	Gln Val Thr Ile Ser Ala
545	Asp Lys Ser Ile Ser	550	Thr Ala Tyr Leu Gln	555	Trp Ser Ser Leu Lys Ala
	565		570		575
Ser Asp Thr	Ala Met Tyr Tyr Cys	585	Ala Arg Ser Met Gly		Ser Ser Leu
	580		590		
Tyr Ala Ser	Ser Asp Val Trp Gly	600	Gln Gly Thr Leu Val	605	Thr Val Ser
	595		610		
Ser Gly Gly	Gly Gly Ser Glu	615	Val Gln Leu Val	620	Gln Ser Gly Ala Glu
	610		625		
Met Lys Lys	Pro Gly Glu Ser	630	Leu Lys Ile Ser	635	Cys Lys Gly Ser Gly
625		635		640	
Tyr Asn Phe	Ala Ser Tyr Trp	645	Val Gly Trp Val	650	Arg Gln Met Pro Gly
	645		655		
Lys Gly Leu	Glu Trp Met Gly	660	Thr Ile Tyr Pro	665	Asp Asp Ser Asp Thr
	660		670		
Arg Tyr Gly	Pro Ala Phe Gln	675	Gly Gln Val Thr	680	Ile Ser Ala Asp Lys
	675		685		
Ser Ile Ser	Thr Ala Tyr Leu	690	Gln Trp Ser Ser	695	Leu Lys Ala Ser Asp
	690		700		
Thr Ala Met	Tyr Tyr Cys Ala	705	Arg Asp Ser Tyr	710	Tyr Gly Ile Asp Val
	710		715		720
Trp Gly Gln	Gly Thr Leu Val	725	Thr Val Ser Ala	730	Ser Thr Lys Gly
	725		735		
Pro Ser Val	Phe Pro Leu Ala	740	Pro Ser Ser Lys	745	Ser Thr Ser Gly Gly
	740		750		
Thr Ala Ala	Leu Gly Cys Leu	755	Val Lys Asp Tyr	760	Phe Pro Glu Pro Val
	755		765		
Thr Val Ser	Trp Asn Ser Gly	770	Ala Leu Thr Ser	775	Gly Val His Thr Phe
	770		780		
Pro Ala Val	Leu Gln Ser Ser	785	Gly Leu Tyr Ser	790	Leu Ser Ser Val Val
	790		795		800
Thr Val Pro	Ser Ser Ser Leu	805	Gly Thr Gln Thr	810	Tyr Ile Cys Asn Val
	805		815		
Asn His Lys	Pro Ser Asn Thr	820	Lys Val Asp Lys	825	Arg Val Glu Pro Lys
	820		830		
Ser Cys Glu	Val Lys Thr Asp	835	Ser Thr Asp His	840	Val Lys Pro Lys Glu
	835		845		
Thr Glu Asn	Thr Lys Gln Pro	850	Ser Lys Ser Cys	855	His Lys Pro Lys Ala
	850		860		
Ile Val His	Thr Glu Lys Val	865	Asn Met Met Ser	870	Leu Thr Val Leu Gly
	870		875		880
Leu Arg Met	Leu Phe Ala Lys	885	Thr Val Ala Val	890	Asn Phe Leu Leu Thr
	885		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	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	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
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	610	615	620
Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Asn	Phe	Ala	Ser	Tyr	625	630	635
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
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
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	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
			565						570					575
Ala	Cys	Tyr	Ser	Leu	Leu	Val	Thr	Val	Ala	Phe	Ile	Ile	Phe	Trp

			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	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	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		
						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						