

SEQUENCE LISTING

<110> IMMUNOGEN, INC.
 <120> ANTI-CD123 ANTIBODIES AND CONJUGATES AND DERIVATIVES THEREOF
 <130> 121162-02820
 <150> 62/346,730
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 <160> 97
 <170> PatentIn version 3.5
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 Ser Tyr Val Met His
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 Tyr Ile Lys Pro Tyr Lys Asp Gly Thr Lys
 1 5 10
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Tyr Ile Lys Pro Tyr Lys Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys
1 5 10 15

Gly

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<400> 4

Glu Gly Glu Asn Gly Tyr Tyr Asp Ala Met Asp Tyr
1 5 10

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<220>
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<400> 5

Ser Ser Ile Met His
1 5

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<400> 6

Tyr Ile Lys Pro Tyr Asn Asp Gly Thr Lys
1 5 10

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<400> 7

Tyr	Ile	Arg	Pro	Tyr	Asn	Asp	Gly	Thr	Arg
1				5				10	

<210> 8

<211> 17

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<400> 8

Tyr	Ile	Lys	Pro	Tyr	Asn	Asp	Gly	Thr	Lys	Tyr	Asn	Glu	Lys	Phe	Lys
1				5				10						15	

Gly

<210> 9

<211> 17

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 9

Tyr	Ile	Arg	Pro	Tyr	Asn	Asp	Gly	Thr	Arg	Tyr	Asn	Gln	Lys	Phe	Gln
1				5				10						15	

Gly

<210> 10

<211> 17

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 10

Tyr	Ile	Lys	Pro	Tyr	Asn	Asp	Gly	Thr	Lys	Tyr	Asn	Gln	Lys	Phe	Gln
1				5				10						15	

Gly

<210> 11
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<400> 11

Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp Tyr
1 5 10

<210> 12
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<220>
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<400> 12

Asn Tyr Ala Met Ser
1 5

<210> 13
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<220>
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<400> 13

Thr Ile Asn Ser Gly Gly Ser Phe Thr Tyr
1 5 10

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<220>
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<400> 14

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

Gly

<210> 15
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<212> PRT
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<220>
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<400> 15

Gln Ser Glu Ala Tyr Tyr Gly Tyr Asp Lys Arg Thr
1 5 10

<210> 16
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<400> 16

Lys Ala Ser Gln Asp Ile Asn Lys Tyr Ile Ala
1 5 10

<210> 17
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<220>
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<400> 17

Tyr Thr Ser Thr Leu Gln Pro
1 5

<210> 18
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<212> PRT
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<220>
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<400> 18

Leu Gln Tyr Asp Asn Leu Leu Tyr Thr

1 5

<210> 19
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<220>
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<400> 19

Lys Ala Ser Gln Asp Ile Asn Ser Tyr Leu Ser
1 5 10

<210> 20
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<400> 20

Arg Ala Ser Gln Asp Ile Asn Ser Tyr Leu Ser
1 5 10

<210> 21
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<400> 21

Arg Val Asn Arg Leu Val Asp
1 5

<210> 22
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<400> 22

Leu Gln Tyr Asp Ala Phe Pro Tyr Thr
1 5

<210> 23
<211> 11
<212> PRT
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<220>
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<400> 23

Arg Ala Ser Gln Ser Val Gly Thr Ser Ile His
1 5 10

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

<220>
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<400> 24

Tyr Ala Ser Glu Ser Ile Ser
1 5

<210> 25
<211> 9
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<220>
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<400> 25

Gln Gln Ser Lys Ser Trp Pro Leu Thr
1 5

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<220>
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<400> 26

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

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr

	20		25		30										
Val	Met	His	Trp	Met	Lys	Gln	Lys	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Ile
		35					40					45			
Gly	Tyr	Ile	Lys	Pro	Tyr	Lys	Asp	Gly	Thr	Lys	Tyr	Asn	Glu	Lys	Phe
	50					55					60				
Lys	Gly	Lys	Ala	Thr	Leu	Ile	Ser	Asp	Lys	Pro	Ser	Ser	Thr	Ala	Tyr
65					70					75					80
Met	Glu	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Ser	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Ala	Arg	Glu	Gly	Glu	Asn	Gly	Tyr	Tyr	Asp	Ala	Met	Asp	Tyr	Trp	Gly
			100						105				110		
Gln	Gly	Thr	Ser	Val	Thr	Val	Ser	Ser							
		115					120								
<210>	27														
<211>	108														
<212>	PRT														
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<400>	27														
Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	Ser	Leu	Ser	Ala	Ser	Leu	Gly
1				5					10					15	
Gly	Lys	Val	Thr	Ile	Thr	Cys	Lys	Ala	Ser	Gln	Asp	Ile	Asn	Lys	Tyr
			20					25					30		
Ile	Ala	Trp	Tyr	Gln	His	Lys	Pro	Gly	Lys	Gly	Pro	Arg	Leu	Leu	Ile
	35						40					45			
His	Tyr	Thr	Ser	Thr	Leu	Gln	Pro	Gly	Ile	Pro	Ser	Arg	Phe	Ser	Gly
	50					55					60				
Ser	Gly	Ser	Gly	Arg	Asp	Tyr	Ser	Phe	Ser	Ile	Ser	Asn	Leu	Glu	Pro
65					70					75				80	
Glu	Asp	Ile	Ala	Thr	Tyr	Tyr	Cys	Leu	Gln	Tyr	Asp	Asn	Leu	Leu	Tyr

85

90

95

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

<210> 28
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<220>
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<400> 28

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

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

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
 115 120

<210> 29
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<400> 29

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

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

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

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

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

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

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

<210> 30
 <211> 125
 <212> PRT
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<220>
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<400> 30

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

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

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

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

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

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

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

Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 31
<211> 108
<212> PRT
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<220>
<223> Synthetic Peptide

<400> 31

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

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

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

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

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

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

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

<210> 32
<211> 82
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<223> Synthetic Peptide

<400> 32

Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Tyr Ile Lys Pro Tyr Asn
1 5 10 15

Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys Gly Arg Val Thr Met Thr
20 25 30

Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu Leu Ser Ser Leu Arg
35 40 45

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

Tyr Tyr Asp Thr Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
65 70 75 80

Ser Ser

<210> 33

<211> 108

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 33

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

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

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Ala Phe Pro Tyr

85

90

95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 34
 <211> 121
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<220>
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<220>
 <221> Xaa
 <222> (2)..(2)
 <223> Phe or Val

<400> 34

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

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

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

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

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

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 35
 <211> 108
 <212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 35

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

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

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

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

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

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

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 36

<211> 378

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 36

Met Val Leu Leu Trp Leu Thr Leu Leu Leu Ile Ala Leu Pro Cys Leu
1 5 10 15

Leu Gln Thr Lys Glu Asp Pro Asn Pro Pro Ile Thr Asn Leu Arg Met
20 25 30

Lys Ala Lys Ala Gln Gln Leu Thr Trp Asp Leu Asn Arg Asn Val Thr
35 40 45

Asp Ile Glu Cys Val Lys Asp Ala Asp Tyr Ser Met Pro Ala Val Asn

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

Gln Arg Phe Glu Cys Asp Gln Glu Glu Gly Ala Asn Thr Arg Ala Trp
 290 295 300

Arg Thr Ser Leu Leu Ile Ala Leu Gly Thr Leu Leu Ala Leu Val Cys
 305 310 315 320

Val Phe Val Ile Cys Arg Arg Tyr Leu Val Met Gln Arg Leu Phe Pro
 325 330 335

Arg Ile Pro His Met Lys Asp Pro Ile Gly Asp Ser Phe Gln Asn Asp
 340 345 350

Lys Leu Val Val Trp Glu Ala Gly Lys Ala Gly Leu Glu Glu Cys Leu
 355 360 365

Val Thr Glu Val Gln Val Val Gln Lys Thr
 370 375

<210> 37
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<220>
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<400> 37

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

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

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

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

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

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

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 38
<211> 121
<212> PRT
<213> Artificial

<220>
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<220>
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<222> (2)..(2)
<223> Phe or Val

<400> 38

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

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

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

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

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

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 39
<211> 121
<212> PRT
<213> Artificial

<220>

<223> Synthetic Peptide

<400> 39

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

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

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 40

<211> 121

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 40

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

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

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 41
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<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 41

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

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

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

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

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

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

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

<210> 42
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 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 42

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

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

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser
 115 120 125

Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val
 130 135 140

Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val
 145 150 155 160

Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala
 165 170 175

Val Leu Glu Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro
 180 185 190

Ser Ser Pro Arg Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro
195 200 205

Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly
210 215 220

Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys
245 250 255

Val Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln
260 265 270

Phe Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln
275 280 285

Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu
290 295 300

Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg
305 310 315 320

Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
325 330 335

Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro
340 345 350

Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr
355 360 365

Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln
370 375 380

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asn Thr Asn Gly
385 390 395 400

Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
405 410 415

Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn

420

425

430

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 43
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<220>
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<400> 43

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp Ala Ala
 100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
 115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
 130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
 145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser

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

Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln
 370 375 380

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asn Thr Asn Gly
 385 390 395 400

Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu
 405 410 415

Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn
 420 425 430

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys
 435 440 445

<210> 45
 <211> 214
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 45

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

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

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

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

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
 100 105 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
 115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
 130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
 145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
 165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
 180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
 195 200 205

Phe Asn Arg Asn Glu Cys
 210

<210> 46
 <211> 449
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 46

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

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

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

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

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

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

35					40					45					
Lys	Tyr	Ala	Ser	Glu	Ser	Ile	Ser	Gly	Ile	Pro	Ser	Arg	Phe	Ser	Gly
50					55					60					
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Asn	Ile	Asn	Ser	Val	Glu	Ser
65					70					75					80
Glu	Asp	Ile	Ala	Asp	Tyr	Tyr	Cys	Gln	Gln	Ser	Lys	Ser	Trp	Pro	Leu
				85					90					95	
Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu	Lys	Arg	Ala	Asp	Ala	Ala
			100					105					110		
Pro	Thr	Val	Ser	Ile	Phe	Pro	Pro	Ser	Ser	Glu	Gln	Leu	Thr	Ser	Gly
		115					120					125			
Gly	Ala	Ser	Val	Val	Cys	Phe	Leu	Asn	Asn	Phe	Tyr	Pro	Lys	Asp	Ile
	130					135					140				
Asn	Val	Lys	Trp	Lys	Ile	Asp	Gly	Ser	Glu	Arg	Gln	Asn	Gly	Val	Leu
145					150					155					160
Asn	Ser	Trp	Thr	Asp	Gln	Asp	Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Met	Ser
				165					170					175	
Ser	Thr	Leu	Thr	Leu	Thr	Lys	Asp	Glu	Tyr	Glu	Arg	His	Asn	Ser	Tyr
			180					185					190		
Thr	Cys	Glu	Ala	Thr	His	Lys	Thr	Ser	Thr	Ser	Pro	Ile	Val	Lys	Ser
		195					200					205			
Phe	Asn	Arg	Asn	Glu	Cys										
	210														
<210>	48														
<211>	450														
<212>	PRT														
<213>	Artificial														
<220>															
<223>	Synthetic Peptide														
<400>	48														
Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala

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

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Pro Gly
450

<210> 49

<211> 214
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 49

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

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

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

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

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

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

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
 115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
 130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
 145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
 165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
 180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser

195	200	205
Phe Asn Arg Gly Glu Cys		
210		
<210>	50	
<211>	450	
<212>	PRT	
<213>	Artificial	
<220>		
<223>	Synthetic Peptide	
<220>		
<221>	Xaa	
<222>	(2)..(2)	
<223>	Phe or Val	
<400>	50	
Gln Xaa Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala		
1	5	10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Ser Ser		
	20	25 30
Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile		
	35	40 45
Gly Tyr Ile Lys Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe		
	50	55 60
Lys Gly Arg Ala Thr Leu Thr Ser Asp Arg Ser Thr Ser Thr Ala Tyr		
65	70	75 80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys		
	85	90 95
Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp Tyr Trp Gly		
	100	105 110
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser		
	115	120 125
Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala		
	130	135 140

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 195 200 205

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

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 340 345 350

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
 355 360 365

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

370 375 380
 Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 385 390 395 400
 Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 405 410 415
 Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 420 425 430
 His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 435 440 445
 Pro Gly
 450
 <210> 51
 <211> 214
 <212> PRT
 <213> Artificial
 <220>
 <223> Synthetic Peptide
 <400> 51
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Asn Ser Tyr
 20 25 30
 Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Thr Leu Ile
 35 40 45
 Tyr Arg Val Asn Arg Leu Val Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Asn Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Ala Phe Pro Tyr
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala

	100		105		110										
Pro	Ser	Val	Phe	Ile	Phe	Pro	Pro	Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly
		115					120					125			
Thr	Ala	Ser	Val	Val	Cys	Leu	Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala
	130					135					140				
Lys	Val	Gln	Trp	Lys	Val	Asp	Asn	Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln
145					150					155					160
Glu	Ser	Val	Thr	Glu	Gln	Asp	Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser
				165					170					175	
Ser	Thr	Leu	Thr	Leu	Ser	Lys	Ala	Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr
			180					185					190		
Ala	Cys	Glu	Val	Thr	His	Gln	Gly	Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser
		195					200					205			
Phe	Asn	Arg	Gly	Glu	Cys										
	210														

<210> 52
 <211> 1713
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 52

Gly	Thr	Cys	Ala	Gly	Gly	Thr	Thr	Cys	Ala	Thr	Gly	Gly	Thr	Thr	Ala
1				5					10					15	
Cys	Gly	Ala	Ala	Gly	Cys	Thr	Gly	Cys	Thr	Gly	Ala	Cys	Cys	Cys	Cys
			20					25					30		
Ala	Gly	Gly	Ala	Thr	Cys	Cys	Cys	Ala	Gly	Cys	Cys	Cys	Gly	Thr	Gly
		35					40					45			
Gly	Gly	Ala	Gly	Ala	Gly	Ala	Ala	Gly	Gly	Gly	Gly	Gly	Thr	Cys	Thr
	50					55						60			
Cys	Thr	Gly	Ala	Cys	Ala	Gly	Cys	Cys	Cys	Cys	Cys	Ala	Cys	Cys	Cys

65					70					75				80		
Cys	Thr	Cys	Cys	Cys	Cys	Ala	Cys	Thr	Gly	Cys	Cys	Ala	Gly	Ala	Thr	
				85					90					95		
Cys	Cys	Thr	Thr	Ala	Thr	Thr	Gly	Gly	Gly	Thr	Cys	Thr	Gly	Ala	Gly	
			100					105					110			
Thr	Thr	Thr	Cys	Ala	Gly	Gly	Gly	Gly	Thr	Gly	Gly	Gly	Gly	Cys	Cys	
		115					120					125				
Cys	Cys	Ala	Gly	Cys	Thr	Gly	Gly	Ala	Gly	Gly	Thr	Thr	Ala	Thr	Ala	
	130					135						140				
Ala	Ala	Ala	Cys	Ala	Gly	Cys	Thr	Cys	Ala	Ala	Thr	Cys	Gly	Gly	Gly	
145					150					155					160	
Gly	Ala	Gly	Thr	Ala	Cys	Ala	Ala	Cys	Cys	Thr	Thr	Cys	Gly	Gly	Thr	
				165					170					175		
Thr	Thr	Cys	Thr	Cys	Thr	Thr	Cys	Gly	Gly	Gly	Gly	Ala	Ala	Ala	Gly	
			180					185					190			
Cys	Thr	Gly	Cys	Thr	Thr	Thr	Cys	Ala	Gly	Cys	Gly	Cys	Ala	Cys	Ala	
		195					200					205				
Cys	Gly	Gly	Gly	Ala	Ala	Gly	Ala	Thr	Ala	Thr	Cys	Ala	Gly	Ala	Ala	
	210					215					220					
Ala	Cys	Ala	Thr	Cys	Cys	Thr	Ala	Gly	Gly	Ala	Thr	Cys	Ala	Gly	Gly	
225					230					235					240	
Ala	Cys	Ala	Cys	Cys	Cys	Cys	Ala	Gly	Ala	Thr	Cys	Thr	Thr	Cys	Thr	
				245					250					255		
Cys	Ala	Ala	Cys	Thr	Gly	Gly	Ala	Ala	Cys	Cys	Ala	Cys	Gly	Ala	Ala	
			260				265						270			
Gly	Gly	Cys	Thr	Gly	Thr	Thr	Thr	Cys	Thr	Thr	Cys	Cys	Ala	Cys	Ala	
		275					280					285				
Cys	Ala	Gly	Thr	Ala	Cys	Thr	Thr	Thr	Gly	Ala	Thr	Cys	Thr	Cys	Cys	
	290					295					300					

Ala Thr Thr Thr Ala Ala Gly Cys Ala Gly Gly Cys Ala Cys Cys Thr
 305 310 315 320

Cys Thr Gly Thr Cys Cys Thr Gly Cys Gly Thr Thr Cys Cys Gly Gly
 325 330 335

Ala Gly Cys Thr Gly Cys Gly Thr Thr Cys Cys Cys Gly Ala Thr Gly
 340 345 350

Gly Thr Cys Cys Thr Cys Cys Thr Thr Thr Gly Gly Cys Thr Cys Ala
 355 360 365

Cys Gly Cys Thr Gly Cys Thr Cys Cys Thr Gly Ala Thr Cys Gly Cys
 370 375 380

Cys Cys Thr Gly Cys Cys Cys Thr Gly Thr Cys Thr Cys Cys Thr Gly
 385 390 395 400

Cys Ala Ala Ala Cys Gly Ala Ala Gly Gly Ala Ala Gly Ala Thr Cys
 405 410 415

Cys Ala Ala Ala Cys Cys Cys Ala Cys Cys Ala Ala Thr Cys Ala Cys
 420 425 430

Gly Ala Ala Cys Cys Thr Ala Ala Gly Gly Ala Thr Gly Ala Ala Ala
 435 440 445

Gly Cys Ala Ala Ala Gly Gly Cys Thr Cys Ala Gly Cys Ala Gly Thr
 450 455 460

Thr Gly Ala Cys Cys Thr Gly Gly Gly Ala Cys Cys Thr Thr Ala Ala
 465 470 475 480

Cys Ala Gly Ala Ala Ala Thr Gly Thr Gly Ala Cys Cys Gly Ala Thr
 485 490 495

Ala Thr Cys Gly Ala Gly Thr Gly Thr Gly Thr Thr Ala Ala Ala Gly
 500 505 510

Ala Cys Gly Cys Cys Gly Ala Cys Thr Ala Thr Thr Cys Thr Ala Thr
 515 520 525

Gly Cys Cys Gly Gly Cys Ala Gly Thr Gly Ala Ala Cys Ala Ala Thr

530				535				540							
Ala 545	Gly	Cys	Thr	Ala	Thr 550	Thr	Gly	Cys	Cys	Ala 555	Gly	Thr	Thr	Thr	Gly 560
Gly	Ala	Gly	Cys	Ala 565	Ala	Thr	Thr	Thr	Cys 570	Cys	Thr	Thr	Ala	Thr 575	Gly
Thr	Gly	Ala	Ala 580	Gly	Thr	Gly	Ala	Cys 585	Cys	Ala	Ala	Cys	Thr 590	Ala	Cys
Ala	Cys	Cys 595	Gly	Thr	Cys	Cys	Gly 600	Ala	Gly	Thr	Gly	Gly 605	Cys	Cys	Ala
Ala 610	Cys	Cys	Cys	Ala	Cys	Cys 615	Ala	Thr	Thr	Cys	Thr 620	Cys	Cys	Ala	Cys
Gly 625	Thr	Gly	Gly	Ala	Thr 630	Cys	Cys	Thr	Cys	Thr 635	Thr	Cys	Cys	Cys	Thr 640
Gly	Ala	Gly	Ala 645	Ala	Cys	Ala	Gly	Thr	Gly 650	Gly	Gly	Ala	Ala	Gly 655	Cys
Cys	Thr	Thr	Gly 660	Gly	Gly	Cys	Ala	Gly 665	Gly	Thr	Gly	Cys	Gly 670	Gly	Ala
Gly	Ala 675	Ala	Thr	Cys	Thr	Gly	Ala 680	Cys	Cys	Thr	Gly	Cys 685	Thr	Gly	Gly
Ala 690	Thr	Thr	Cys	Ala	Thr	Gly 695	Ala	Cys	Gly	Thr	Gly 700	Gly	Ala	Thr	Thr
Thr 705	Cys	Thr	Thr	Gly	Ala 710	Gly	Cys	Thr	Gly	Cys 715	Ala	Gly	Cys	Thr	Gly 720
Gly	Gly	Cys	Gly 725	Gly	Thr	Ala	Gly	Gly	Cys 730	Cys	Cys	Gly	Gly	Gly 735	Gly
Gly	Cys	Cys	Cys 740	Cys	Cys	Gly	Cys	Gly 745	Gly	Ala	Cys	Gly	Thr 750	Cys	Cys
Ala 755	Gly	Thr	Ala	Cys	Gly	Ala	Cys 760	Cys	Thr	Gly	Thr	Ala 765	Cys	Thr	Thr

Gly Ala Ala Cys Gly Thr Thr Gly Cys Cys Ala Ala Cys Ala Gly Gly
770 775 780

Cys Gly Thr Cys Ala Ala Cys Ala Gly Thr Ala Cys Gly Ala Gly Thr
785 790 795 800

Gly Thr Cys Thr Thr Cys Ala Cys Thr Ala Cys Ala Ala Ala Ala Cys
805 810 815

Gly Gly Ala Thr Gly Cys Thr Cys Ala Gly Gly Gly Ala Ala Cys Ala
820 825 830

Cys Gly Thr Ala Thr Cys Gly Gly Gly Thr Gly Thr Cys Gly Thr Thr
835 840 845

Thr Cys Gly Ala Thr Gly Ala Cys Ala Thr Cys Thr Cys Thr Cys Gly
850 855 860

Ala Cys Thr Cys Thr Cys Cys Ala Gly Cys Gly Gly Thr Thr Cys Thr
865 870 875 880

Cys Ala Ala Ala Gly Thr Thr Cys Cys Cys Ala Cys Ala Thr Cys Cys
885 890 895

Thr Gly Gly Thr Gly Cys Gly Gly Gly Gly Cys Ala Gly Gly Ala Gly
900 905 910

Cys Gly Cys Ala Gly Cys Cys Thr Thr Cys Gly Gly Thr Ala Thr Cys
915 920 925

Cys Cys Cys Thr Gly Cys Ala Cys Ala Gly Ala Thr Ala Ala Gly Thr
930 935 940

Thr Thr Gly Thr Cys Gly Thr Cys Thr Thr Thr Thr Cys Ala Cys Ala
945 950 955 960

Gly Ala Thr Thr Gly Ala Gly Ala Thr Ala Thr Thr Ala Ala Cys Thr
965 970 975

Cys Cys Ala Cys Cys Cys Ala Ala Cys Ala Thr Gly Ala Cys Thr Gly
980 985 990

Cys Ala Ala Ala Gly Thr Gly Thr Ala Ala Thr Ala Ala Gly Ala Cys

995					1000					1005				
Ala	Cys	Ala	Thr	Thr	Cys	Cys	Thr	Thr	Thr	Ala	Thr	Gly	Cys	Ala
	1010					1015					1020			
Cys	Thr	Gly	Gly	Ala	Ala	Ala	Ala	Thr	Gly	Ala	Gly	Ala	Ala	Gly
	1025					1030					1035			
Thr	Cys	Ala	Thr	Thr	Thr	Cys	Ala	Ala	Thr	Cys	Gly	Cys	Ala	Ala
	1040					1045					1050			
Ala	Thr	Thr	Thr	Cys	Gly	Cys	Thr	Ala	Thr	Gly	Ala	Gly	Cys	Thr
	1055					1060					1065			
Thr	Cys	Ala	Gly	Ala	Thr	Ala	Cys	Ala	Ala	Ala	Ala	Gly	Ala	Gly
	1070					1075					1080			
Ala	Ala	Thr	Gly	Cys	Ala	Gly	Cys	Cys	Thr	Gly	Thr	Ala	Ala	Thr
	1085					1090					1095			
Cys	Ala	Cys	Ala	Gly	Ala	Ala	Cys	Ala	Gly	Gly	Thr	Cys	Ala	Gly
	1100					1105					1110			
Ala	Gly	Ala	Cys	Ala	Gly	Ala	Ala	Cys	Cys	Thr	Cys	Cys	Thr	Thr
	1115					1120					1125			
Cys	Cys	Ala	Gly	Cys	Thr	Ala	Cys	Thr	Cys	Ala	Ala	Thr	Cys	Cys
	1130					1135					1140			
Thr	Gly	Gly	Ala	Ala	Cys	Gly	Thr	Ala	Cys	Ala	Cys	Ala	Gly	Thr
	1145					1150					1155			
Ala	Cys	Ala	Ala	Ala	Thr	Ala	Ala	Gly	Ala	Gly	Cys	Cys	Cys	Gly
	1160					1165					1170			
Gly	Gly	Ala	Ala	Ala	Gly	Ala	Gly	Thr	Gly	Thr	Ala	Thr	Gly	Ala
	1175					1180					1185			
Ala	Thr	Thr	Cys	Thr	Thr	Gly	Ala	Gly	Cys	Gly	Cys	Cys	Thr	Gly
	1190					1195					1200			
Gly	Ala	Gly	Cys	Ala	Cys	Cys	Cys	Cys	Cys	Cys	Ala	Gly	Cys	Gly
	1205					1210					1215			

Cys Thr	Thr Cys Gly Ala	Gly Thr Gly Cys Gly Ala	Cys Cys Ala
1220		1225	1230
Gly Gly	Ala Gly Gly Ala	Gly Gly Gly Cys Gly Cys	Ala Ala Ala
1235		1240	1245
Cys Ala	Cys Ala Cys Gly Thr	Gly Cys Cys Thr Gly	Gly Cys Gly
1250		1255	1260
Gly Ala	Cys Gly Thr Cys Gly	Cys Thr Gly Cys Thr	Gly Ala Thr
1265		1270	1275
Cys Gly	Cys Gly Cys Thr Gly	Gly Gly Gly Ala Cys	Gly Cys Thr
1280		1285	1290
Gly Cys	Thr Gly Gly Cys Cys	Cys Thr Gly Gly Thr	Cys Thr Gly
1295		1300	1305
Thr Gly	Thr Cys Thr Thr Cys	Gly Thr Gly Ala Thr	Cys Thr Gly
1310		1315	1320
Cys Ala	Gly Ala Ala Gly Gly	Thr Ala Thr Cys Thr	Gly Gly Thr
1325		1330	1335
Gly Ala	Thr Gly Cys Ala Gly	Ala Gly Ala Cys Thr	Cys Thr Thr
1340		1345	1350
Thr Cys	Cys Cys Cys Gly Cys	Ala Thr Cys Cys Cys	Thr Cys Ala
1355		1360	1365
Cys Ala	Thr Gly Ala Ala Ala	Gly Ala Cys Cys Cys	Cys Ala Thr
1370		1375	1380
Cys Gly	Gly Thr Gly Ala Cys	Ala Gly Cys Thr Thr	Cys Cys Ala
1385		1390	1395
Ala Ala	Ala Cys Gly Ala Cys	Ala Ala Gly Cys Thr	Gly Gly Thr
1400		1405	1410
Gly Gly	Thr Cys Thr Gly Gly	Gly Ala Gly Gly Cys	Gly Gly Gly
1415		1420	1425
Cys Ala	Ala Ala Gly Cys Cys	Gly Gly Cys Cys Thr	Gly Gly Ala

1430		1435		1440
Gly Gly Ala Gly Thr Gly Thr Cys Thr Gly Gly Thr Gly Ala Cys	1445	1450	1455	
Thr Gly Ala Ala Gly Thr Ala Cys Ala Gly Gly Thr Cys Gly Thr	1460	1465	1470	
Gly Cys Ala Gly Ala Ala Ala Ala Cys Thr Thr Gly Ala Gly Ala	1475	1480	1485	
Cys Thr Gly Gly Gly Gly Thr Thr Cys Ala Gly Gly Gly Cys Thr	1490	1495	1500	
Thr Gly Thr Gly Gly Gly Gly Gly Thr Cys Thr Gly Cys Cys Thr	1505	1510	1515	
Cys Ala Ala Thr Cys Thr Cys Cys Cys Thr Gly Gly Cys Cys Gly	1520	1525	1530	
Gly Gly Cys Cys Ala Gly Gly Cys Gly Cys Cys Thr Gly Cys Ala	1535	1540	1545	
Cys Ala Gly Ala Cys Thr Gly Gly Cys Thr Gly Cys Thr Gly Gly	1550	1555	1560	
Ala Cys Cys Thr Gly Cys Gly Cys Ala Cys Gly Cys Ala Gly Cys	1565	1570	1575	
Cys Cys Ala Gly Gly Ala Ala Thr Gly Gly Ala Cys Ala Thr Thr	1580	1585	1590	
Cys Cys Thr Ala Ala Cys Gly Gly Gly Thr Gly Gly Thr Gly Gly	1595	1600	1605	
Gly Cys Ala Thr Gly Gly Gly Ala Gly Ala Thr Gly Cys Cys Thr	1610	1615	1620	
Gly Thr Gly Thr Ala Ala Thr Thr Thr Cys Gly Thr Cys Cys Gly	1625	1630	1635	
Ala Ala Gly Cys Thr Gly Cys Cys Ala Gly Gly Ala Ala Gly Ala	1640	1645	1650	

Ala Gly Ala Ala Cys Ala Gly Ala Ala Cys Thr Thr Thr Gly Thr
 1655 1660 1665

Gly Thr Gly Thr Thr Thr Ala Thr Thr Thr Cys Ala Thr Gly Ala
 1670 1675 1680

Thr Ala Ala Ala Gly Thr Gly Ala Thr Thr Thr Thr Thr Thr Thr
 1685 1690 1695

Thr Thr Thr Thr Thr Thr Ala Ala Cys Cys Cys Ala Ala Ala Ala
 1700 1705 1710

<210> 53
 <211> 450
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<220>
 <221> Xaa
 <222> (2)..(2)
 <223> Phe or Val

<400> 53

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

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

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

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

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

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

Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp Tyr Trp Gly

45

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 340 345 350

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
 355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 435 440 445

Pro Gly
 450

<210> 54
 <211> 450
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<220>
 <221> Xaa
 <222> (2)..(2)
 <223> Phe or Val

<400> 54

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

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

Ile Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile

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

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Cys Leu Ser
435 440 445

Pro Gly
450

<210> 55
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 55

Ala Leu Ala Leu
1

<210> 56
<211> 398
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 56

Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys Gly Arg Ala
1 5 10 15

Thr Leu Thr Ser Asp Arg Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser
20 25 30

Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Glu Gly
35 40 45

Gly Asn Asp Tyr Tyr Asp Thr Met Asp Tyr Trp Gly Gln Gly Thr Leu
50 55 60

Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
65 70 75 80

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
85 90 95

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
100 105 110

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
115 120 125

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
130 135 140

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

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
165 170 175

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
180 185 190

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
195 200 205

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
210 215 220

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
225 230 235 240

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
245 250 255

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
260 265 270

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
275 280 285

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
290 295 300

Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
305 310 315 320

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
325 330 335

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
340 345 350

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
355 360 365

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
370 375 380

His Asn His Tyr Thr Gln Lys Ser Leu Cys Leu Ser Pro Gly
385 390 395

<210> 57

<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<220>
<221> Xaa
<222> (1)..(1)
<223> beta-Ala

<400> 57

Xaa Leu Ala Leu
1

<210> 58
<211> 214
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 58

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

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

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

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

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

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

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly

115		120		125											
Thr	Ala	Ser	Val	Val	Cys	Leu	Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala
130						135					140				
Lys	Val	Gln	Trp	Lys	Val	Asp	Asn	Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln
145					150					155					160
Glu	Ser	Val	Thr	Glu	Gln	Asp	Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser
				165					170					175	
Ser	Thr	Leu	Thr	Leu	Ser	Lys	Ala	Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr
			180					185					190		
Ala	Cys	Glu	Val	Thr	His	Gln	Gly	Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser
		195					200					205			
Phe	Asn	Arg	Gly	Glu	Cys										
	210														

<210> 59
 <211> 450
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 59

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

85

90

95

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

Gln Gly Thr Ser Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 195 200 205

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

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
385 390 395 400

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
405 410 415

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
435 440 445

Pro Gly
450

<210> 60
<211> 450
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 60

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

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

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

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

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115 120 125

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

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

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

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val

275		280		285											
His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr
	290					295					300				
Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly
305					310					315					320
Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile
				325					330					335	
Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val
			340					345					350		
Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser
		355					360					365			
Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu
	370					375					380				
Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro
385					390					395					400
Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val
				405					410					415	
Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met
			420					425					430		
His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser
		435					440					445			
Pro	Gly														
	450														
<210>	61														
<211>	214														
<212>	PRT														
<213>	Artificial														
<220>															
<223>	Synthetic Peptide														
<400>	61														
Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	Ser	Met	Ser	Ala	Ser	Val	Gly

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

<210> 62
 <211> 449
 <212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 62

Ala Ala Gly Cys Thr Thr Gly Cys Cys Ala Cys Cys Ala Thr Gly Gly
1 5 10 15

Gly Ala Thr Gly Gly Thr Cys Cys Thr Gly Cys Ala Thr Thr Ala Thr
20 25 30

Cys Cys Thr Gly Thr Thr Cys Cys Thr Thr Gly Thr Ala Gly Cys Ala
35 40 45

Ala Cys Thr Gly Cys Ala Ala Cys Ala Gly Gly Ala Gly Thr Cys Cys
50 55 60

Ala Cys Ala Gly Cys Cys Ala Gly Gly Thr Cys Cys Ala Ala Cys Thr
65 70 75 80

Gly Gly Thr Gly Cys Ala Gly Thr Cys Cys Gly Gly Gly Gly Cys Cys
85 90 95

Gly Ala Gly Gly Thr Gly Ala Ala Gly Ala Ala Ala Cys Cys Ala Gly
100 105 110

Gly Cys Gly Cys Ala Thr Cys Cys Gly Thr Gly Ala Ala Gly Gly Thr
115 120 125

Cys Ala Gly Cys Thr Gly Thr Ala Ala Ala Gly Cys Cys Ala Gly Cys
130 135 140

Gly Gly Cys Thr Ala Thr Gly Gly Thr Thr Thr Thr Ala Cys Cys Ala
145 150 155 160

Gly Cys Thr Cys Ala Ala Thr Cys Ala Thr Gly Cys Ala Cys Thr Gly
165 170 175

Gly Gly Thr Cys Ala Gly Gly Cys Ala Ala Gly Cys Cys Cys Cys Ala
180 185 190

Gly Gly Ala Cys Ala Gly Gly Gly Thr Cys Thr Cys Gly Ala Ala Thr
195 200 205

Gly Gly Ala Thr Gly Gly Gly Ala Thr Ala Cys Ala Thr Thr Ala Ala
 210 215 220

Gly Cys Cys Thr Thr Ala Cys Ala Ala Thr Gly Ala Thr Gly Gly Thr
 225 230 235 240

Ala Cys Ala Ala Ala Ala Thr Ala Thr Ala Ala Thr Gly Ala Ala Ala
 245 250 255

Ala Ala Thr Thr Thr Ala Ala Gly Gly Gly Thr Cys Gly Thr Gly Thr
 260 265 270

Thr Ala Cys Cys Ala Thr Gly Ala Cys Ala Ala Gly Gly Gly Ala Thr
 275 280 285

Ala Cys Ala Thr Cys Ala Ala Cys Thr Ala Gly Cys Ala Cys Thr Gly
 290 295 300

Thr Cys Thr Ala Thr Ala Thr Gly Gly Ala Ala Cys Thr Gly Ala Gly
 305 310 315 320

Cys Thr Cys Thr Cys Thr Cys Ala Gly Gly Thr Cys Cys Gly Ala Gly
 325 330 335

Gly Ala Thr Ala Cys Thr Gly Cys Ala Gly Thr Ala Thr Ala Thr Thr
 340 345 350

Ala Cys Thr Gly Cys Gly Cys Cys Cys Gly Gly Gly Ala Gly Gly Gly
 355 360 365

Ala Gly Gly Cys Ala Ala Cys Gly Ala Cys Thr Ala Thr Thr Ala Cys
 370 375 380

Gly Ala Cys Ala Cys Cys Ala Thr Gly Gly Ala Cys Thr Ala Thr Thr
 385 390 395 400

Gly Gly Gly Gly Gly Cys Ala Gly Gly Gly Cys Ala Cys Ala Cys Thr
 405 410 415

Gly Gly Thr Thr Ala Cys Thr Gly Thr Ala Thr Cys Cys Ala Gly Cys
 420 425 430

Gly Cys Cys Thr Cys Thr Ala Cys Thr Ala Ala Gly Gly Gly Cys Cys

435

440

445

Cys

<210> 63
 <211> 396
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 63

Gly Ala Ala Thr Thr Cys Gly Cys Cys Ala Cys Cys Ala Thr Gly Gly
 1 5 10 15

Gly Thr Thr Gly Gly Thr Cys Thr Thr Gly Thr Ala Thr Ala Ala Thr
 20 25 30

Cys Cys Thr Gly Thr Thr Cys Cys Thr Gly Gly Thr Cys Gly Cys Thr
 35 40 45

Ala Cys Cys Gly Cys Ala Ala Cys Ala Gly Gly Gly Gly Thr Thr Cys
 50 55 60

Ala Cys Thr Cys Ala Gly Ala Cys Ala Thr Cys Cys Ala Gly Ala Thr
 65 70 75 80

Gly Ala Cys Cys Cys Ala Gly Ala Gly Thr Cys Cys Cys Thr Cys Thr
 85 90 95

Thr Cys Thr Cys Thr Gly Ala Gly Cys Gly Cys Thr Thr Cys Thr Gly
 100 105 110

Thr Thr Gly Gly Gly Gly Ala Cys Cys Gly Gly Gly Thr Gly Ala Cys
 115 120 125

Cys Ala Thr Cys Ala Cys Cys Thr Gly Thr Cys Gly Gly Gly Cys Ala
 130 135 140

Thr Cys Cys Cys Ala Gly Gly Ala Cys Ala Thr Cys Ala Ala Thr Thr
 145 150 155 160

Cys Thr Thr Ala Cys Cys Thr Gly Gly Cys Thr Thr Gly Gly Thr Thr

				165						170						175
Cys	Cys	Ala	Gly	Cys	Ala	Gly	Ala	Ala	Gly	Cys	Cys	Cys	Gly	Gly	Ala	
			180					185					190			
Ala	Ala	Ala	Gly	Cys	Cys	Cys	Cys	Thr	Ala	Ala	Ala	Thr	Cys	Thr	Cys	
		195					200					205				
Thr	Cys	Ala	Thr	Thr	Thr	Ala	Cys	Cys	Gly	Gly	Gly	Thr	Ala	Ala	Ala	
	210					215					220					
Cys	Cys	Gly	Thr	Thr	Thr	Gly	Gly	Thr	Cys	Thr	Cys	Cys	Gly	Gly	Ala	
225					230				235						240	
Gly	Thr	Gly	Cys	Cys	Thr	Thr	Cys	Ala	Ala	Gly	Gly	Thr	Thr	Thr	Ala	
			245						250						255	
Gly	Thr	Gly	Gly	Ala	Thr	Cys	Thr	Gly	Gly	Ala	Thr	Cys	Ala	Gly	Gly	
			260					265					270			
Thr	Ala	Cys	Ala	Gly	Ala	Cys	Thr	Thr	Cys	Ala	Cys	Thr	Cys	Thr	Cys	
		275					280					285				
Ala	Cys	Cys	Ala	Thr	Ala	Ala	Gly	Cys	Ala	Gly	Cys	Cys	Thr	Gly	Cys	
	290					295					300					
Ala	Ala	Cys	Cys	Ala	Gly	Ala	Gly	Gly	Ala	Thr	Thr	Thr	Cys	Gly	Cys	
305					310					315					320	
Ala	Ala	Cys	Thr	Thr	Ala	Cys	Thr	Ala	Cys	Thr	Gly	Cys	Thr	Thr	Gly	
				325					330					335		
Cys	Ala	Gly	Thr	Ala	Thr	Gly	Ala	Cys	Gly	Cys	Cys	Thr	Thr	Cys	Cys	
			340					345					350			
Cys	Thr	Thr	Ala	Cys	Ala	Cys	Thr	Thr	Thr	Cys	Gly	Gly	Gly	Cys	Ala	
		355					360					365				
Gly	Gly	Gly	Gly	Ala	Cys	Cys	Ala	Ala	Ala	Gly	Thr	Gly	Gly	Ala	Ala	
	370					375					380					
Ala	Thr	Ala	Ala	Ala	Gly	Cys	Gly	Thr	Ala	Cys	Gly					
385					390					395						

<210> 64
 <211> 449
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 64

Ala Ala Gly Cys Thr Thr Gly Cys Cys Ala Cys Cys Ala Thr Gly Gly
 1 5 10 15

Gly Cys Thr Gly Gly Thr Cys Cys Thr Gly Thr Ala Thr Cys Ala Thr
 20 25 30

Cys Cys Thr Gly Thr Thr Cys Cys Thr Cys Gly Thr Thr Gly Cys Ala
 35 40 45

Ala Cys Ala Gly Cys Ala Ala Cys Thr Gly Gly Cys Gly Thr Gly Cys
 50 55 60

Ala Cys Ala Gly Cys Cys Ala Gly Thr Thr Cys Cys Ala Gly Cys Thr
 65 70 75 80

Thr Gly Thr Gly Cys Ala Gly Ala Gly Thr Gly Gly Cys Gly Cys Cys
 85 90 95

Gly Ala Ala Gly Thr Cys Ala Ala Gly Ala Ala Ala Cys Cys Ala Gly
 100 105 110

Gly Cys Gly Cys Thr Ala Gly Thr Gly Thr Cys Ala Ala Gly Gly Thr
 115 120 125

Gly Thr Cys Cys Thr Gly Thr Ala Ala Gly Gly Cys Ala Thr Cys Ala
 130 135 140

Gly Gly Cys Thr Ala Cys Ala Thr Cys Thr Thr Thr Ala Cys Cys Ala
 145 150 155 160

Gly Cys Thr Cys Cys Ala Thr Cys Ala Thr Gly Cys Ala Thr Thr Gly
 165 170 175

Gly Gly Thr Cys Ala Gly Ala Cys Ala Gly Gly Cys Thr Cys Cys Thr
 180 185 190

Gly Gly Ala Cys Ala Gly Gly Gly Cys Cys Thr Gly Gly Ala Gly Thr
195 200 205

Gly Gly Ala Thr Thr Gly Gly Gly Thr Ala Thr Ala Thr Cys Ala Ala
210 215 220

Gly Cys Cys Ala Thr Ala Cys Ala Ala Thr Gly Ala Thr Gly Gly Gly
225 230 235 240

Ala Cys Ala Ala Ala Ala Thr Ala Cys Ala Ala Thr Gly Ala Ala Ala
245 250 255

Ala Gly Thr Thr Thr Ala Ala Ala Gly Gly Gly Cys Gly Ala Gly Cys
260 265 270

Cys Ala Cys Thr Cys Thr Gly Ala Cys Ala Thr Cys Thr Gly Ala Thr
275 280 285

Cys Gly Gly Ala Gly Thr Ala Cys Ala Ala Gly Cys Ala Cys Thr Gly
290 295 300

Cys Cys Thr Ala Cys Ala Thr Gly Gly Ala Ala Thr Thr Gly Ala Gly
305 310 315 320

Cys Thr Cys Ala Cys Thr Gly Cys Gly Gly Thr Cys Cys Gly Ala Ala
325 330 335

Gly Ala Cys Ala Cys Thr Gly Cys Thr Gly Thr Gly Thr Ala Thr Thr
340 345 350

Ala Thr Thr Gly Cys Gly Cys Thr Cys Gly Gly Gly Ala Gly Gly Gly
355 360 365

Ala Gly Gly Gly Ala Ala Cys Gly Ala Cys Thr Ala Cys Thr Ala Cys
370 375 380

Gly Ala Thr Ala Cys Cys Ala Thr Gly Gly Ala Cys Thr Ala Cys Thr
385 390 395 400

Gly Gly Gly Gly Cys Cys Ala Gly Gly Gly Cys Ala Cys Cys Cys Thr
405 410 415

Gly Gly Thr Thr Ala Cys Cys Gly Thr Cys Ala Gly Cys Ala Gly Cys

420

425

430

Gly Cys Thr Thr Cys Cys Ala Cys Thr Ala Ala Gly Gly Gly Cys Cys
 435 440 445

Cys

<210> 65
 <211> 396
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 65

Gly Ala Ala Thr Thr Cys Gly Cys Cys Ala Cys Cys Ala Thr Gly Gly
 1 5 10 15

Gly Thr Thr Gly Gly Thr Cys Cys Thr Gly Thr Ala Thr Cys Ala Thr
 20 25 30

Cys Cys Thr Cys Thr Thr Thr Cys Thr Gly Gly Thr Gly Gly Cys Ala
 35 40 45

Ala Cys Thr Gly Cys Ala Ala Cys Cys Gly Gly Cys Gly Thr Cys Cys
 50 55 60

Ala Thr Ala Gly Cys Gly Ala Cys Ala Thr Thr Cys Ala Gly Ala Thr
 65 70 75 80

Gly Ala Cys Ala Cys Ala Gly Thr Cys Thr Cys Cys Thr Thr Cys Thr
 85 90 95

Thr Cys Cys Cys Thr Gly Ala Gly Cys Gly Cys Cys Ala Gly Cys Gly
 100 105 110

Thr Cys Gly Gly Gly Gly Ala Cys Cys Gly Cys Gly Thr Gly Ala Cys
 115 120 125

Thr Ala Thr Cys Ala Cys Ala Thr Gly Thr Cys Gly Gly Gly Cys Cys
 130 135 140

Thr Cys Cys Cys Ala Gly Gly Ala Cys Ala Thr Thr Ala Ala Cys Thr

145					150						155				160
Cys	Thr	Thr	Ala	Cys	Cys	Thr	Cys	Thr	Cys	Cys	Thr	Gly	Gly	Thr	Thr
				165					170					175	
Cys	Cys	Ala	Gly	Cys	Ala	Gly	Ala	Ala	Gly	Cys	Cys	Thr	Gly	Gly	Gly
			180					185					190		
Ala	Ala	Ala	Gly	Cys	Cys	Cys	Cys	Ala	Ala	Ala	Gly	Ala	Cys	Ala	Cys
		195					200					205			
Thr	Gly	Ala	Thr	Ala	Thr	Ala	Cys	Ala	Gly	Gly	Gly	Thr	Ala	Ala	Ala
	210					215					220				
Thr	Cys	Gly	Thr	Thr	Thr	Gly	Gly	Thr	Thr	Gly	Ala	Cys	Gly	Gly	Thr
225					230					235					240
Gly	Thr	Ala	Cys	Cys	Ala	Thr	Cys	Ala	Cys	Gly	Ala	Thr	Thr	Thr	Thr
				245					250					255	
Cys	Cys	Gly	Gly	Thr	Ala	Gly	Thr	Gly	Gly	Gly	Thr	Cys	Thr	Gly	Gly
			260					265					270		
Ala	Ala	Ala	Cys	Gly	Ala	Thr	Thr	Ala	Cys	Ala	Cys	Thr	Cys	Thr	Cys
		275					280					285			
Ala	Cys	Ala	Ala	Thr	Thr	Ala	Gly	Cys	Ala	Gly	Cys	Cys	Thr	Gly	Cys
	290					295					300				
Ala	Ala	Cys	Cys	Ala	Gly	Ala	Gly	Gly	Ala	Cys	Thr	Thr	Thr	Gly	Cys
305					310					315					320
Ala	Ala	Cys	Ala	Thr	Ala	Cys	Thr	Ala	Thr	Thr	Gly	Cys	Cys	Thr	Gly
				325					330					335	
Cys	Ala	Gly	Thr	Ala	Cys	Gly	Ala	Thr	Gly	Cys	Thr	Thr	Thr	Thr	Cys
			340					345					350		
Cys	Thr	Thr	Ala	Thr	Ala	Cys	Cys	Thr	Thr	Cys	Gly	Gly	Thr	Cys	Ala
		355					360					365			
Gly	Gly	Gly	Thr	Ala	Cys	Cys	Ala	Ala	Gly	Gly	Thr	Gly	Gly	Ala	Ala
	370					375					380				

Ala Thr Thr Ala Ala Ala Cys Gly Thr Ala Cys Gly
 385 390 395

<210> 66
 <211> 449
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 66

Ala Ala Gly Cys Thr Thr Gly Cys Cys Ala Cys Cys Ala Thr Gly Gly
 1 5 10 15

Gly Cys Thr Gly Gly Thr Cys Cys Thr Gly Thr Ala Thr Cys Ala Thr
 20 25 30

Cys Cys Thr Gly Thr Thr Cys Cys Thr Cys Gly Thr Thr Gly Cys Ala
 35 40 45

Ala Cys Ala Gly Cys Ala Ala Cys Thr Gly Gly Cys Gly Thr Gly Cys
 50 55 60

Ala Cys Ala Gly Cys Cys Ala Gly Gly Thr Cys Cys Ala Ala Cys Thr
 65 70 75 80

Thr Gly Thr Gly Cys Ala Gly Ala Gly Thr Gly Gly Cys Gly Cys Cys
 85 90 95

Gly Ala Ala Gly Thr Cys Ala Ala Gly Ala Ala Ala Cys Cys Ala Gly
 100 105 110

Gly Cys Gly Cys Thr Ala Gly Thr Gly Thr Cys Ala Ala Gly Gly Thr
 115 120 125

Gly Thr Cys Cys Thr Gly Thr Ala Ala Gly Gly Cys Ala Thr Cys Ala
 130 135 140

Gly Gly Cys Thr Ala Cys Ala Thr Cys Thr Thr Thr Ala Cys Cys Ala
 145 150 155 160

Gly Cys Thr Cys Cys Ala Thr Cys Ala Thr Gly Cys Ala Thr Thr Gly
 165 170 175

Gly Gly Thr Cys Ala Gly Ala Cys Ala Gly Gly Cys Thr Cys Cys Thr
180 185 190

Gly Gly Ala Cys Ala Gly Gly Gly Cys Cys Thr Gly Gly Ala Gly Thr
195 200 205

Gly Gly Ala Thr Thr Gly Gly Gly Thr Ala Thr Ala Thr Cys Ala Ala
210 215 220

Gly Cys Cys Ala Thr Ala Cys Ala Ala Thr Gly Ala Thr Gly Gly Gly
225 230 235 240

Ala Cys Ala Ala Ala Ala Thr Ala Cys Ala Ala Thr Gly Ala Ala Ala
245 250 255

Ala Gly Thr Thr Thr Ala Ala Ala Gly Gly Gly Cys Gly Ala Gly Cys
260 265 270

Cys Ala Cys Thr Cys Thr Gly Ala Cys Ala Thr Cys Thr Gly Ala Thr
275 280 285

Cys Gly Gly Ala Gly Thr Ala Cys Ala Ala Gly Cys Ala Cys Thr Gly
290 295 300

Cys Cys Thr Ala Cys Ala Thr Gly Gly Ala Ala Thr Thr Gly Ala Gly
305 310 315 320

Cys Thr Cys Ala Cys Thr Gly Cys Gly Gly Thr Cys Cys Gly Ala Ala
325 330 335

Gly Ala Cys Ala Cys Thr Gly Cys Thr Gly Thr Gly Thr Ala Thr Thr
340 345 350

Ala Thr Thr Gly Cys Gly Cys Thr Cys Gly Gly Gly Ala Gly Gly Gly
355 360 365

Ala Gly Gly Gly Ala Ala Cys Gly Ala Cys Thr Ala Cys Thr Ala Cys
370 375 380

Gly Ala Thr Ala Cys Cys Ala Thr Gly Gly Ala Cys Thr Ala Cys Thr
385 390 395 400

Gly Gly Gly Gly Cys Cys Ala Gly Gly Gly Cys Ala Cys Cys Cys Thr

				405						410						415
Gly	Gly	Thr	Thr	Ala	Cys	Cys	Gly	Thr	Cys	Ala	Gly	Cys	Ala	Gly	Cys	
			420					425					430			

Gly	Cys	Thr	Thr	Cys	Cys	Ala	Cys	Thr	Ala	Ala	Gly	Gly	Gly	Cys	Cys
		435					440					445			

Cys

<210> 67
 <211> 396
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 67

Gly	Ala	Ala	Thr	Thr	Cys	Gly	Cys	Cys	Ala	Cys	Cys	Ala	Thr	Gly	Gly
1				5					10					15	

Gly	Cys	Thr	Gly	Gly	Thr	Cys	Ala	Thr	Gly	Thr	Ala	Thr	Thr	Ala	Thr
			20				25						30		

Cys	Cys	Thr	Gly	Thr	Thr	Thr	Cys	Thr	Gly	Gly	Thr	Thr	Gly	Cys	Ala
		35					40					45			

Ala	Cys	Cys	Gly	Cys	Ala	Ala	Cys	Ala	Gly	Gly	Ala	Gly	Thr	Ala	Cys
	50					55					60				

Ala	Cys	Thr	Cys	Thr	Gly	Ala	Thr	Ala	Thr	Cys	Cys	Ala	Gly	Ala	Thr
65					70					75					80

Gly	Ala	Cys	Thr	Cys	Ala	Gly	Thr	Cys	Thr	Cys	Cys	Cys	Thr	Cys	Thr
				85					90					95	

Thr	Cys	Thr	Ala	Thr	Gly	Thr	Cys	Thr	Gly	Cys	Thr	Thr	Cys	Thr	Gly
			100					105					110		

Thr	Gly	Gly	Gly	Ala	Gly	Ala	Gly	Ala	Gly	Ala	Gly	Thr	Cys	Ala	Cys
		115					120					125			

Cys	Ala	Thr	Cys	Ala	Cys	Cys	Thr	Gly	Thr	Cys	Gly	Cys	Gly	Cys	Thr
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

130	135	140
Thr Cys Cys Cys Ala Ala Gly Ala Thr Ala Thr Thr Ala Ala Thr Ala 145 150 155 160		
Gly Cys Thr Ala Thr Cys Thr Gly Thr Cys Thr Thr Gly Gly Thr Thr 165 170 175		
Cys Cys Ala Ala Cys Ala Gly Ala Ala Ala Cys Cys Thr Gly Gly Cys 180 185 190		
Ala Ala Ala Thr Cys Ala Cys Cys Cys Ala Ala Gly Ala Cys Thr Cys 195 200 205		
Thr Gly Ala Thr Thr Thr Ala Thr Cys Gly Gly Gly Thr Thr Ala Ala 210 215 220		
Cys Cys Gly Cys Cys Thr Gly Gly Thr Gly Gly Ala Cys Gly Gly Thr 225 230 235 240		
Gly Thr Gly Cys Cys Thr Thr Cys Ala Cys Gly Cys Thr Thr Cys Thr 245 250 255		
Cys Cys Gly Gly Cys Ala Gly Cys Gly Gly Thr Ala Gly Thr Gly Gly 260 265 270		
Ala Cys Ala Ala Gly Ala Cys Thr Ala Thr Ala Gly Cys Cys Thr Gly 275 280 285		
Ala Cys Ala Ala Thr Thr Thr Cys Thr Thr Cys Thr Cys Thr Thr Gly 290 295 300		
Ala Ala Cys Cys Cys Gly Ala Gly Gly Ala Cys Ala Thr Gly Gly Gly 305 310 315 320		
Ala Ala Thr Cys Thr Ala Cys Thr Ala Thr Thr Gly Cys Thr Thr Gly 325 330 335		
Cys Ala Gly Thr Ala Thr Gly Ala Cys Gly Cys Thr Thr Thr Thr Cys 340 345 350		
Cys Thr Thr Ala Thr Ala Cys Ala Thr Thr Cys Gly Gly Cys Cys Ala 355 360 365		

Gly Gly Gly Cys Ala Cys Ala Ala Ala Gly Cys Thr Gly Gly Ala Ala
 370 375 380

Ala Thr Cys Ala Ala Ala Cys Gly Thr Ala Cys Gly
 385 390 395

<210> 68
 <211> 449
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 68

Ala Ala Gly Cys Thr Thr Gly Cys Cys Ala Cys Cys Ala Thr Gly Gly
 1 5 10 15

Gly Gly Thr Gly Gly Ala Gly Cys Thr Gly Cys Ala Thr Thr Ala Thr
 20 25 30

Thr Cys Thr Gly Thr Thr Cys Thr Thr Gly Gly Thr Cys Gly Cys Cys
 35 40 45

Ala Cys Cys Gly Cys Ala Ala Cys Thr Gly Gly Cys Gly Thr Cys Cys
 50 55 60

Ala Cys Thr Cys Thr Cys Ala Gly Gly Thr Cys Cys Ala Gly Cys Thr
 65 70 75 80

Cys Gly Thr Cys Cys Ala Gly Thr Cys Thr Gly Gly Gly Gly Cys Ala
 85 90 95

Gly Ala Ala Gly Thr Gly Gly Thr Cys Ala Ala Gly Cys Cys Cys Gly
 100 105 110

Gly Thr Gly Cys Ala Thr Cys Thr Gly Thr Gly Ala Ala Ala Ala Thr
 115 120 125

Gly Thr Cys Cys Thr Gly Cys Ala Ala Ala Gly Cys Thr Ala Gly Cys
 130 135 140

Gly Gly Gly Thr Ala Thr Ala Cys Ala Thr Thr Cys Ala Cys Ala Thr
 145 150 155 160

Cys Thr Ala Gly Thr Ala Thr Cys Ala Thr Gly Cys Ala Thr Thr Gly
 165 170 175

Gly Ala Thr Gly Ala Ala Ala Cys Ala Gly Ala Ala Gly Cys Cys Thr
 180 185 190

Gly Gly Cys Cys Ala Gly Gly Gly Thr Cys Thr Gly Gly Ala Gly Thr
 195 200 205

Gly Gly Ala Thr Ala Gly Gly Ala Thr Ala Thr Ala Thr Cys Ala Gly
 210 215 220

Gly Cys Cys Thr Thr Ala Cys Ala Ala Cys Gly Ala Thr Gly Gly Cys
 225 230 235 240

Ala Cys Thr Cys Gly Ala Thr Ala Cys Ala Ala Cys Cys Ala Ala Ala
 245 250 255

Ala Gly Thr Thr Cys Cys Ala Gly Gly Gly Thr Ala Ala Ala Gly Cys
 260 265 270

Thr Ala Cys Ala Cys Thr Gly Ala Cys Cys Thr Cys Ala Gly Ala Cys
 275 280 285

Cys Gly Cys Thr Cys Ala Ala Gly Cys Ala Gly Thr Ala Cys Ala Gly
 290 295 300

Cys Ala Ala Ala Cys Ala Thr Gly Gly Ala Ala Cys Thr Gly Ala Ala
 305 310 315 320

Cys Ala Gly Thr Cys Thr Thr Ala Cys Cys Thr Cys Thr Gly Ala Gly
 325 330 335

Gly Ala Cys Ala Gly Thr Gly Cys Cys Gly Thr Thr Thr Ala Cys Thr
 340 345 350

Ala Thr Thr Gly Cys Gly Cys Cys Ala Gly Gly Gly Ala Gly Gly Gly
 355 360 365

Thr Gly Gly Cys Ala Ala Thr Gly Ala Cys Thr Ala Cys Thr Ala Thr
 370 375 380

Gly Ala Thr Ala Cys Thr Ala Thr Gly Gly Ala Cys Thr Ala Cys Thr

385 390 395 400

 Gly Gly Gly Gly Ala Cys Ala Gly Gly Gly Thr Ala Cys Cys Thr Cys
 405 410 415

 Thr Gly Thr Ala Ala Cys Ala Gly Thr Thr Thr Cys Ala Ala Gly Cys
 420 425 430

 Gly Cys Cys Ala Gly Cys Ala Cys Thr Ala Ala Gly Gly Gly Cys Cys
 435 440 445

 Cys

 <210> 69
 <211> 449
 <212> PRT
 <213> Artificial

 <220>
 <223> Synthetic Peptide

 <400> 69

 Ala Ala Gly Cys Thr Thr Gly Cys Cys Ala Cys Cys Ala Thr Gly Gly
 1 5 10 15

 Gly Cys Thr Gly Gly Thr Cys Thr Thr Gly Thr Ala Thr Thr Ala Thr
 20 25 30

 Thr Cys Thr Gly Thr Thr Thr Cys Thr Gly Gly Thr Gly Gly Cys Cys
 35 40 45

 Ala Cys Cys Gly Cys Ala Ala Cys Ala Gly Gly Cys Gly Thr Thr Cys
 50 55 60

 Ala Cys Ala Gly Thr Cys Ala Ala Thr Thr Cys Cys Ala Gly Cys Thr
 65 70 75 80

 Gly Gly Thr Cys Cys Ala Gly Thr Cys Cys Gly Gly Cys Gly Cys Cys
 85 90 95

 Gly Ala Gly Gly Thr Thr Gly Thr Cys Ala Ala Ala Cys Cys Thr Gly
 100 105 110

 Gly Thr Gly Cys Cys Ala Gly Cys Gly Thr Ala Ala Ala Gly Ala Thr

115					120					125					
Gly	Thr	Cys	Thr	Thr	Gly	Cys	Ala	Ala	Ala	Gly	Cys	Thr	Ala	Gly	Cys
130					135					140					
Gly	Gly	Cys	Thr	Ala	Thr	Ala	Cys	Thr	Thr	Thr	Cys	Ala	Cys	Thr	Thr
145					150					155					160
Cys	Thr	Thr	Cys	Ala	Ala	Thr	Thr	Ala	Thr	Gly	Cys	Ala	Cys	Thr	Gly
				165					170					175	
Gly	Ala	Thr	Gly	Ala	Ala	Gly	Cys	Ala	Ala	Ala	Ala	Gly	Cys	Cys	Thr
			180					185					190		
Gly	Gly	Ala	Cys	Ala	Gly	Gly	Gly	Cys	Cys	Thr	Gly	Gly	Ala	Ala	Thr
		195					200					205			
Gly	Gly	Ala	Thr	Cys	Gly	Gly	Cys	Thr	Ala	Cys	Ala	Thr	Thr	Ala	Ala
	210					215					220				
Ala	Cys	Cys	Thr	Thr	Ala	Thr	Ala	Ala	Cys	Gly	Ala	Cys	Gly	Gly	Cys
225					230					235					240
Ala	Cys	Ala	Ala	Ala	Gly	Thr	Ala	Cys	Ala	Ala	Thr	Cys	Ala	Gly	Ala
				245					250					255	
Ala	Gly	Thr	Thr	Cys	Cys	Ala	Ala	Gly	Gly	Ala	Ala	Ala	Gly	Gly	Cys
			260					265					270		
Ala	Ala	Cys	Cys	Cys	Thr	Gly	Ala	Cys	Cys	Thr	Cys	Ala	Gly	Ala	Cys
		275					280					285			
Ala	Ala	Gly	Thr	Cys	Thr	Thr	Cys	Ala	Thr	Cys	Cys	Ala	Cys	Thr	Gly
	290					295					300				
Cys	Cys	Ala	Ala	Cys	Ala	Thr	Gly	Gly	Ala	Ala	Cys	Thr	Thr	Ala	Ala
305							310				315				320
Thr	Ala	Gly	Thr	Cys	Thr	Thr	Ala	Cys	Cys	Thr	Cys	Thr	Gly	Ala	Gly
				325					330					335	
Gly	Ala	Thr	Thr	Cys	Cys	Gly	Cys	Thr	Gly	Thr	Cys	Thr	Ala	Thr	Thr
			340				345						350		

Ala Thr Thr Gly Cys Gly Cys Thr Cys Gly Gly Gly Ala Gly Gly Gly
 355 360 365

Gly Gly Gly Gly Ala Ala Cys Gly Ala Cys Thr Ala Thr Thr Ala Cys
 370 375 380

Gly Ala Cys Ala Cys Cys Ala Thr Gly Gly Ala Cys Thr Ala Cys Thr
 385 390 395 400

Gly Gly Gly Gly Ala Cys Ala Gly Gly Gly Cys Ala Cys Cys Ala Gly
 405 410 415

Thr Gly Thr Thr Ala Cys Cys Gly Thr Gly Thr Cys Cys Ala Gly Cys
 420 425 430

Gly Cys Thr Ala Gly Cys Ala Cys Cys Ala Ala Gly Gly Gly Cys Cys
 435 440 445

Cys

<210> 70
 <211> 16
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 70

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

<210> 71
 <211> 7
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 71

Arg Val Asn Arg Leu Val Ser
 1 5

<210> 72

<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 72

Arg Ala Ser Gln Asp Ile Asn Ser Tyr Leu Ala
1 5 10

<210> 73
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 73

Gly Phe Leu Gly
1

<210> 74
<211> 61
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 74

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

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

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

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

<210> 75
<211> 47
<212> PRT
<213> Artificial

<220>

<223> Synthetic Peptide

<400> 75

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

Leu Glu Pro Glu Asp Met Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Ala
20 25 30

Phe Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
35 40 45

<210> 76

<211> 61

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 76

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

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

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

Gly Tyr Ile Arg Pro Tyr Asn Asp Gly Thr Arg Tyr Asn
50 55 60

<210> 77

<211> 61

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 77

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

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Ser

	20		25		30
Ile Met His Trp Met Lys Gln Lys Pro Gly Gln Gly Leu Glu Trp Ile	35	40		45	
Gly Tyr Ile Lys Pro Tyr Asn Asp Gly Thr Lys Tyr Asn	50	55		60	
<210> 78					
<211> 60					
<212> PRT					
<213> Artificial					
<220>					
<223> Synthetic Peptide					
<400> 78					
Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Ser Asp Arg Ser Ser Ser	1	5	10	15	
Thr Ala Asn Met Glu Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val	20	25	30		
Tyr Tyr Cys Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp	35	40	45		
Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser	50	55	60		
<210> 79					
<211> 61					
<212> PRT					
<213> Artificial					
<220>					
<223> Synthetic Peptide					
<400> 79					
Asp Ile Lys Met Thr Gln Ser Pro Ser Ser Met Tyr Ala Ser Leu Gly	1	5	10	15	
Glu Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asn Ser Tyr	20	25	30		
Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Ser Pro Lys Thr Leu Ile	35	40	45		

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

<210> 80
<211> 61
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 80

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

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

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

Tyr Arg Val Asn Arg Leu Val Ser Gly Val Pro Ser Arg
50 55 60

<210> 81
<211> 61
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 81

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

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

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

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

<210> 82

<211> 61
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 82

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

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

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

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg
50 55 60

<210> 83
<211> 47
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 83

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

Leu Glu Tyr Glu Asp Met Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Ala
20 25 30

Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
35 40 45

<210> 84
<211> 47
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 84

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 87

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

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

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

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

<210> 88

<211> 61

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 88

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

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

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

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

<210> 89

<211> 61

<212> PRT

<213> Artificial

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<223> Synthetic Peptide

<400> 89

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

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

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

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

<210> 90
 <211> 61
 <212> PRT
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<400> 90

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

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

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

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

<210> 91
 <211> 61
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 91

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr

	20		25		30
Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	35	40	45		
Gly Ile Ile Asn Pro Ser Gly Gly Ser Thr Ser Tyr Ala	50	55	60		
<210> 92					
<211> 60					
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<400> 92					
Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Ser Ser Ser	1	5	10	15	
Thr Ala Asn Met Glu Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val	20	25	30		
Tyr Tyr Cys Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp	35	40	45		
Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser	50	55	60		
<210> 93					
<211> 60					
<212> PRT					
<213> Artificial					
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<223> Synthetic Peptide					
<400> 93					
Glu Lys Phe Lys Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser	1	5	10	15	
Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val	20	25	30		
Tyr Tyr Cys Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp	35	40	45		

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
50 55 60

<210> 94
<211> 60
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 94

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

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
20 25 30

Tyr Tyr Cys Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp
35 40 45

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
50 55 60

<210> 95
<211> 60
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 95

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

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
20 25 30

Tyr Tyr Cys Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp
35 40 45

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
50 55 60

<210> 96

<211> 37
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 96

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

Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
20 25 30

Tyr Tyr Cys Ala Arg
35

<210> 97
<211> 60
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 97

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

Thr Ala Asn Met Glu Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val
20 25 30

Tyr Tyr Cys Ala Arg Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp
35 40 45

Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
50 55 60