

SEQUENCE LISTING

<110> IMMUNOGEN, INC.

<120> ANTI-CD123 ANTIBODIES AND CONJUGATES AND DERIVATIVES THEREOF

<130> SP102704SGA

<150> 62/346,730

<151> 2016-06-07

<150> 62/338,203

<151> 2016-05-18

<150> 62/186,161

<151> 2015-06-29

<160> 97

<170> PatentIn version 3.5

<210> 1

<211> 5

<212> PRT

<213> Artificial

<220>

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<400> 1

Ser Tyr Val Met His

1 5

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Tyr Ile Lys Pro Tyr Lys Asp Gly Thr Lys

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Tyr Ile Lys Pro Tyr Lys Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys
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Gly

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Glu Gly Glu Asn Gly Tyr Tyr Asp Ala Met Asp Tyr
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Ser Ser Ile Met His
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Tyr Ile Lys Pro Tyr Asn Asp Gly Thr Lys
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Tyr Ile Arg Pro Tyr Asn Asp Gly Thr Arg
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Tyr Ile Lys Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys
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Gly

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<400> 9

Tyr Ile Arg Pro Tyr Asn Asp Gly Thr Arg Tyr Asn Gln Lys Phe Gln
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Gly

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<400> 10

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

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Glu Gly Gly Asn Asp Tyr Tyr Asp Thr Met Asp Tyr
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<400> 12

Asn Tyr Ala Met Ser
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<400> 13

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

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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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<400> 15

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

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<400> 16

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

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<400> 17

Tyr Thr Ser Thr Leu Gln Pro
1 5

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<400> 18

Leu Gln Tyr Asp Asn Leu Leu Tyr Thr
1 5

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<400> 19

Lys Ala Ser Gln Asp Ile Asn Ser Tyr Leu Ser
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Arg Ala Ser Gln Asp Ile Asn Ser Tyr Leu Ser
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Arg Val Asn Arg Leu Val Asp
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<400> 22

Leu Gln Tyr Asp Ala Phe Pro Tyr Thr
1 5

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<400> 23

Arg Ala Ser Gln Ser Val Gly Thr Ser Ile His
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<400> 24

Tyr Ala Ser Glu Ser Ile Ser
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<400> 25

Gln Gln Ser Lys Ser Trp Pro Leu Thr
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<400> 26

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

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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

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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

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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

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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
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<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

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<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

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<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

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<220>
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 <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

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<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
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<220>
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<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
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
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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 <212> PRT
 <213> Artificial

<220>

<223> Synthetic Peptide

<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

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<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
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	

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<400> 39

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

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<212> PRT

<213> Artificial

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<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
			85			
				Ser	Glu	Asp
					90	
				Ser	Ala	Val
						Tyr
						Tyr
						Cys
						95
Ala	Arg	Glu	Gly	Gly	Asn	Asp
			100			
				Tyr	Tyr	Asp
					105	
				Thr	Met	Asp
						Tyr
						Trp
						Gly
						110
Gln	Gly	Thr	Ser	Val	Thr	Val
						Ser
						Ser
						115
						120
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Asp	Ile	Gln	Met	Thr	Gln	Ser
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						Pro
						Ser
						Ser
						Met
						Ser
						Ala
						Ser
						Val
						Gly
						15
Glu	Arg	Val	Thr	Ile	Thr	Cys
			20			
						Arg
						Ala
						Ser
						Gln
						Asp
						Ile
						Asn
						Ser
						Tyr
						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
65						
						Ser
						Leu
						Thr
						Ile
						Ser
						Ser
						Leu
						Glu
						Pro
						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

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<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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<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
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> 44
<211> 445
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 44

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 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 Met 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> 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		
305	310	315
Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys		
325	330	335
Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr		
340	345	350
Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr		
355	360	365
Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln		
370	375	380
Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met		
385	390	395
Asn Thr Asn Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys		
405	410	415
Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu		
420	425	430
Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly		
435	440	445

Lys

<210> 47
<211> 214
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 47

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 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 Gly Cys Thr Ala Thr Thr Gly Cys Cys Ala Gly Thr Thr Thr Gly				
545		550		555
Gly Ala Gly Cys Ala Ala Thr Thr Thr Cys Cys Thr Thr Ala Thr Gly				
		565		570
				575
Thr Gly Ala Ala Gly Thr Gly Ala Cys Cys Ala Ala Cys Thr Ala Cys				
		580		585
				590
Ala Cys Cys Gly Thr Cys Cys Gly Ala Gly Thr Gly Gly Cys Cys Ala				
		595		600
				605
Ala Cys Cys Cys Ala Cys Cys Ala Thr Thr Cys Thr Cys Cys Ala Cys				
		610		615
				620
Gly Thr Gly Gly Ala Thr Cys Cys Thr Cys Thr Thr Cys Cys Cys Thr				
625		630		635
				640
Gly Ala Gly Ala Ala Cys Ala Gly Thr Gly Gly Gly Ala Ala Gly Cys				
		645		650
				655
Cys Thr Thr Gly Gly Gly Cys Ala Gly Gly Thr Gly Cys Gly Gly Ala				
		660		665
				670
Gly Ala Ala Thr Cys Thr Gly Ala Cys Cys Thr Gly Cys Thr Gly Gly				
		675		680
				685
Ala Thr Thr Cys Ala Thr Gly Ala Cys Gly Thr Gly Gly Ala Thr Thr				
		690		695
				700
Thr Cys Thr Thr Gly Ala Gly Cys Thr Gly Cys Ala Gly Cys Thr Gly				
705		710		715
				720

Gly Gly Cys Gly Gly Thr Ala Gly Gly Cys Cys Cys Gly Gly Gly Gly
725 730 735

Gly Cys Cys Cys Cys Cys Gly Cys Gly Gly Ala Cys Gly Thr Cys Cys
740 745 750

Ala Gly Thr Ala Cys Gly Ala Cys Cys Thr Gly Thr Ala Cys Thr Thr
755 760 765

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 1115	Ala Cys	Ala Gly	Ala	Ala Cys Cys Thr Cys Cys Thr Thr	1120	1125
Cys Cys 1130	Ala Gly Cys Thr	Ala	Cys Thr Cys Ala	Ala Thr Cys Cys	1135	1140
Thr Gly 1145	Gly Ala Ala Cys	Gly	Thr Ala Cys Ala	Cys Ala Gly Thr	1150	1155
Ala Cys 1160	Ala Ala Ala Thr	Ala	Ala Gly Ala Gly	Cys Cys Cys Gly	1165	1170
Gly Gly 1175	Ala Ala Ala Gly	Ala	Gly Thr Gly Thr	Ala Thr Gly Ala	1180	1185
Ala Thr 1190	Thr Cys Thr Thr	Gly	Ala Gly Cys Gly	Cys Cys Thr Gly	1195	1200
Gly Ala 1205	Gly Cys Ala Cys	Cys	Cys Cys Cys Cys	Ala Gly Cys Gly	1210	1215
Cys Thr 1220	Thr Cys Gly Ala	Gly	Thr Gly Cys Gly	Ala Cys Cys Ala	1225	1230
Gly Gly 1235	Ala Gly Gly Ala	Gly	Gly Gly Cys Gly	Cys Ala Ala Ala	1240	1245
Cys Ala 1250	Cys Ala Cys Gly	Thr	Gly Cys Cys Thr	Gly Gly Cys Gly	1255	1260
Gly Ala 1265	Cys Gly Thr Cys	Gly	Cys Thr Gly Cys	Thr Gly Ala Thr	1270	1275
Cys Gly 1280	Cys Gly Cys Thr	Gly	Gly Gly Gly Ala	Cys Gly Cys Thr	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
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> 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

175

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

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

30

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
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 Gly Ala Ala	Cys Thr Gly Ala			
	305		310			315
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
1 5 10 15

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Ala
20 25 30

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

<210> 85
<211> 47
<212> PRT
<213> Artificial

<220>
<223> Synthetic Peptide

<400> 85

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

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Ala
20 25 30

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

<210> 86

<211> 34

<212> PRT

<213> Artificial

<220>

<223> Synthetic Peptide

<400> 86

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

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser
20 25 30

Tyr Pro

<210> 87

<211> 61

<212> PRT

<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

<220>

<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
 <213> Artificial

<220>
 <223> Synthetic Peptide

<400> 90

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

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
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Peptide

<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

<220>
 <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> Synethetic 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