SEQUENCE LISTING

<110> MedImmune LLC

<120> CD40L-SPECIFIC TN3-DERIVED SCAFFOLDS AND METHODS OF USE THEREOF

<130> CD40L-101WO1

<160> 210

<170> PatentIn version 3.5

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<213> Homo sapiens

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Met Ile Glu Thr Tyr Asn Gln Thr Ser Pro Arg Ser Ala Ala Thr Gly
1 5 10 15

Leu Pro Ile Ser Met Lys Ile Phe Met Tyr Leu Leu Thr Val Phe Leu
20 25 30

Ile Thr Gln Met Ile Gly Ser Ala Leu Phe Ala Val Tyr Leu His Arg
35 40 45

Arg Leu Asp Lys Ile Glu Asp Glu Arg Asn Leu His Glu Asp Phe Val
50 55 60

Phe Met Lys Thr Ile Gln Arg Cys Asn Thr Gly Glu Arg Ser Leu Ser
65 70 75 80

Leu Leu Asn Cys Glu Glu Ile Lys Ser Gln Phe Glu Gly Phe Val Lys
85 90 95

Asp Ile Met Leu Asn Lys Glu Glu Thr Lys Lys Glu Asn Ser Phe Glu
100 105 110

Met Gln Lys Gly Asp Gln Asn Pro Gln Ile Ala Ala His Val Ile Ser
115 120 125

Glu Ala Ser Ser Lys Thr Thr Ser Val Leu Gln Trp Ala Glu Lys Gly
130 135 140

Tyr Tyr Thr Met Ser Asn Asn Leu Val Thr Leu Glu Asn Gly Lys Gln
145 150 155 160

Leu Thr Val Lys Arg Gln Gly Leu Tyr Tyr Ile Tyr Ala Gln Val Thr
165 170 175

Phe Cys Ser Asn Arg Glu Ala Ser Ser Gln Ala Pro Phe Ile Ala Ser
180 185 190

Leu Cys Leu Lys Ser Pro Gly Arg Phe Glu Arg Ile Leu Leu Arg Ala

195 200 205

Ala Asn Thr His Ser Ser Ala Lys Pro Cys Gly Gln Gln Ser Ile His
210 215 220

Leu Gly Gly Val Phe Glu Leu Gln Pro Gly Ala Ser Val Phe Val Asn
225 230 235 240

Val Thr Asp Pro Ser Gln Val Ser His Gly Thr Gly Phe Thr Ser Phe
245 250 255

Gly Leu Leu Lys Leu
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Met Gln Lys Gly Asp Gln Asn Pro Gln Ile Ala Ala His Val Ile Ser
1 5 10 15

Glu Ala Ser Ser Lys Thr Thr Ser Val Leu Gln Trp Ala Glu Lys Gly
20 25 30

Tyr Tyr Thr Met Ser Asn Asn Leu Val Thr Leu Glu Asn Gly Lys Gln
35 40 45

Leu Thr Val Lys Arg Gln Gly Leu Tyr Tyr Ile Tyr Ala Gln Val Thr
50 55 60

Phe Cys Ser Asn Arg Glu Ala Ser Ser Gln Ala Pro Phe Ile Ala Ser
65 70 75 80

Leu Cys Leu Lys Ser Pro Gly Arg Phe Glu Arg Ile Leu Leu Arg Ala
85 90 95

Ala Asn Thr His Ser Ser Ala Lys Pro Cys Gly Gln Gln Ser Ile His
100 105 110

Leu Gly Gly Val Phe Glu Leu Gln Pro Gly Ala Ser Val Phe Val Asn
115 120 125

Val Thr Asp Pro Ser Gln Val Ser His Gly Thr Gly Phe Thr Ser Phe
130 135 140

Gly Leu Leu Lys Leu
145

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<400> 3

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Phe
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Lys Pro Leu Ala Glu Ile Asp Gly Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Thr Glu Asp Glu Asn
35 40 45

Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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Lys Asp Val Thr Asp Thr Thr
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<400> 5

Phe Lys Pro Leu Ala Glu Ile Asp Gly
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Lys Asp Val Pro Gly Asp Arg
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Thr Glu Asp Glu Asn Gln
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Gly Asn Leu Lys Pro Asp Thr Glu
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Arg Arg Gly Asp Met Ser Ser Asn Pro Ala
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Arg Leu Asp Ala Pro Ser Gln Ile Glu Val
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<400> 11

Ile Glu Val
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<400> 12

Ala Leu Ile Thr Trp
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Cys Glu Leu Ala Tyr Gly Ile
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Cys Glu Leu Thr Tyr Gly Ile
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<400> 15

Thr Thr Ile Asp Leu
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<400> 16

Tyr Ser Ile
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<400> 17

Tyr Glu Val Ser Leu Ile Cys
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<400> 18

Lys Glu Thr Phe Thr Thr
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Ser Asp Glu Phe Gly His Tyr Asp Gly Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Tyr Thr Asp Gln Glu Ala Gly Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

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Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Glu Phe Gly His Tyr Asp Gly Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Tyr Thr Asp Gln Glu Ala Gly Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Glu Phe Gly His Tyr Asp Gly Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

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<400> 22

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Glu Phe Gly His Tyr Asp Gly Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Asp Phe Asp Asn Tyr Glu Trp Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Met
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

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Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Asp Phe Asp Asn Tyr Glu Trp Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Met Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Asp Phe Ala Asp Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

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<400> 26

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Asp Phe Ala Asp Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His His
35 40 45

Ala His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

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Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His His Ala
35 40 45

His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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<400> 29

Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Leu Asp Asp Trp Gly Ser Tyr His Val Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Gln
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

<210> 30
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<400> 30

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Leu
1 5 10 15

Asp Asp Trp Gly Ser Tyr His Val Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Gln Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

<210> 31
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Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Glu Val Gly Asp Tyr Val Val Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Met
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

<210> 32
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<400> 32

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Glu Val Gly Asp Tyr Val Val Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Met Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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<400> 33

Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

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

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

<210> 34
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<400> 34

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Asp Phe Ala Glu Tyr Val Gly Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Asp Phe Glu Glu Tyr Val Val Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

<210> 36
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<400> 36

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Asp Phe Glu Glu Tyr Val Val Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

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Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Glu Val Gly Gln Tyr Val Gly Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Met
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

<210> 38
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<212> PRT
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<400> 38

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Glu Val Gly Gln Tyr Val Gly Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His Met Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

<210> 39
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<400> 39

Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ser Asp Asp Ile Gly Leu Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile
20 25 30

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Phe His Gln
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

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Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Asp Ile Gly Leu Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Phe His Gln Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

<210> 41
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<400> 41

Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

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

Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser
35 40 45

Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
50 55 60

Ser Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu
65 70 75 80

Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His His His
85 90 95

His His

<210> 42
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<400> 42

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Glu His Ala Glu Phe Ile Gly Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala
35 40 45

Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

<210> 43
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<400> 43

Ala Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Tyr Asn Leu His Gly Cys Glu Leu Thr Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

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<400> 44

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

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Asn Arg Ser Ser Tyr Tyr Asn Leu His Gly Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser Pro
        35                  40                  45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65                  70                  75                  80

Lys Glu Thr Phe Thr Thr
                85
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Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1               5                   10                  15

Thr Asn Arg Ser Ser Tyr Tyr Asn Leu His Gly Cys Glu Leu Thr Tyr
            20                  25                  30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser
        35                  40                  45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
    50                  55                  60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65                  70                  75                  80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
                85                  90                  95

His His His His His
            100
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Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Ser Tyr Tyr Asn Leu His Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

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<400> 47

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

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

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asp Gln
35 40 45

Ile Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Lys Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

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<400> 48

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ile
1 5 10 15

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

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asp Gln Ile
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Lys Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

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<400> 49

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ser His Leu Asp Gly Cys Glu Leu Thr Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ala
35 40 45

Ala Ile Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu
50 55 60

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

Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His
85 90 95

His His His His His His
100

<210> 50
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 50

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Ser Tyr Ser His Leu Asp Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ala Ala
35 40 45

Ile Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr
85

<210> 51
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 51

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Ile Asn Arg Ser Ser Tyr His Asn Phe Pro His Cys Glu Leu Ala Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 52
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 52

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ile
1 5 10 15

Asn Arg Ser Ser Tyr His Asn Phe Pro His Cys Glu Leu Ala Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 53
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 53

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ser Asn His Leu Gly Cys Glu Leu Ala Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Asn
35 40 45

Ile Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 54
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 54

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Ser Tyr Ser Asn His Leu Gly Cys Glu Leu Ala Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Asn Ile
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 55
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 55

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ser Asn Phe His Gly Cys Glu Leu Ala Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

```
Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65                  70                  75                  80


Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
                85                  90                  95


His His His His His
            100


<210>  56
<211>  86
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  56

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1               5                   10                  15


Asn Arg Ser Ser Tyr Ser Asn Phe His Gly Cys Glu Leu Ala Tyr Gly
            20                  25                  30


Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser Pro
        35                  40                  45


Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60


Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65                  70                  75                  80


Lys Glu Thr Phe Thr Thr
                85


<210>  57
<211>  101
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  57

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1               5                   10                  15


Thr Asn Arg Ser Phe Tyr Ser Asn Leu His Gly Cys Glu Leu Thr Tyr
            20                  25                  30


Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln
        35                  40                  45
```

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 58
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 58

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Phe Tyr Ser Asn Leu His Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 59
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 59

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ala Tyr Leu His Gly Cys Glu Leu Ala Tyr
20 25 30

```
Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln
        35                  40                  45


Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
    50                  55                  60


Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65                  70                  75                  80


Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
                85                  90                  95


His His His His His
            100


<210>  60
<211>  86
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  60

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1               5                   10                  15


Asn Arg Ser Ser Tyr Ala Tyr Leu His Gly Cys Glu Leu Ala Tyr Gly
            20                  25                  30


Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln Pro
        35                  40                  45


Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60


Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65                  70                  75                  80


Lys Glu Thr Phe Thr Thr
                85


<210>  61
<211>  101
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  61

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1               5                   10                  15
```

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

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 62
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 62

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ile
1 5 10 15

Asn Arg Ser Ser Tyr Ala Asn Leu His Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 63
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 63

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ala Asn Tyr His Gly Cys Glu Leu Ala Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 64
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 64

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Ser Tyr Ala Asn Tyr His Gly Cys Glu Leu Ala Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 65
<211> 101
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic construct

<400> 65

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ala Asn Leu Pro Gly Cys Glu Leu Thr Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 66
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 66

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Ser Tyr Ala Asn Leu Pro Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 67
<211> 101

<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 67

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Ala Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Asn Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 68
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 68

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Ala Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Asn Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 69
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 69

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

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

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 70
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 70

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ile
1 5 10 15

Asn Arg Ser Ser Tyr Ala Asn Leu His Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Ser Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 71
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 71

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Ala Arg Ser Ala Tyr Ser His His His Tyr Cys Glu Leu Thr Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Arg Gln
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 72
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 72

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Ala Arg Ser Ala Tyr Ser His His His Tyr Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Arg Gln Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

```
Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65                  70                  75                  80


Lys Glu Thr Phe Thr Thr
                85


<210>  73
<211>  100
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  73

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1               5                   10                  15


Thr Asn Arg Ser Ser Tyr Ala Asn Tyr His His Cys Glu Leu Thr Tyr
            20                  25                  30


Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Glu Leu
        35                  40                  45


Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60


Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65                  70                  75                  80


Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His His
                85                  90                  95


His His His His
            100


<210>  74
<211>  85
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  74

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1               5                   10                  15


Asn Arg Ser Ser Tyr Ala Asn Tyr His His Cys Glu Leu Thr Tyr Gly
            20                  25                  30


Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Glu Leu Tyr
        35                  40                  45
```

```
Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val
    50                  55                  60

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

Glu Thr Phe Thr Thr
                85
```

<210> 75
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 75

```
Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1               5                   10                  15

Thr Asn Arg Ser Ser Tyr Ser Asp Leu Pro Gly Cys Glu Leu Thr Tyr
            20                  25                  30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser
        35                  40                  45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
    50                  55                  60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65                  70                  75                  80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
                85                  90                  95

His His His His His
            100
```

<210> 76
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 76

```
Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1               5                   10                  15

Asn Arg Ser Ser Tyr Ser Asp Leu Pro Gly Cys Glu Leu Thr Tyr Gly
            20                  25                  30
```

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Ser Ser Pro
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 77
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 77

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr His Arg Ser Ala Tyr Ser Asn His Ser Phe Cys Glu Leu Thr Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Thr
35 40 45

Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 78
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 78

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

```
His Arg Ser Ala Tyr Ser Asn His Ser Phe Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Thr Pro
        35                  40                  45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65                  70                  75                  80

Lys Glu Thr Phe Thr Thr
                85
```

<210> 79
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 79

```
Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1               5                   10                  15

Thr Asn Arg Ser Leu Tyr Ala Asn Phe His Gly Cys Glu Leu Thr Tyr
            20                  25                  30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Glu Gln
        35                  40                  45

Val Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
    50                  55                  60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65                  70                  75                  80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
                85                  90                  95

His His His His His
            100
```

<210> 80
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 80

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Leu Tyr Ala Asn Phe His Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Glu Gln Val
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 81
<211> 101
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 81

Ala Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp
1 5 10 15

Thr Asn Arg Ser Ser Tyr Ser Asn Leu Pro Gly Cys Glu Leu Thr Tyr
20 25 30

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln
35 40 45

Val Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
50 55 60

Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro
65 70 75 80

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Thr Leu Gly His His His
85 90 95

His His His His His
100

<210> 82
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 82

Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr
1 5 10 15

Asn Arg Ser Ser Tyr Ser Asn Leu Pro Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln Val
35 40 45

Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr
85

<210> 83
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 83

Ser Asp Glu Phe Gly His Tyr Asp Gly
1 5

<210> 84
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 84

Ser Asp Asp Phe Asp Asn Tyr Glu Trp
1 5

<210> 85
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 85

Ser Asp Asp Phe Ala Asp Tyr Val Trp
1 5

<210> 86
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 86

Ser Asp Asp Phe Gly Glu Tyr Val Trp
1 5

<210> 87
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 87

Leu Asp Asp Trp Gly Ser Tyr His Val
1 5

<210> 88
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 88

Ser Asp Glu Val Gly Asp Tyr Val Val
1 5

<210> 89
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 89

Ser Asp Asp Phe Ala Glu Tyr Val Gly
1 5

<210> 90
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 90

Ser Asp Asp Phe Glu Glu Tyr Val Val
1 5

<210> 91
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 91

Ser Asp Glu Val Gly Gln Tyr Val Gly
1 5

<210> 92
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 92

Ser Asp Asp Ile Gly Leu Tyr Val Trp
1 5

<210> 93
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 93

Ser Asp Glu His Ala Glu Phe Ile Gly
1 5

<210> 94
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 94

Trp Trp His Ser Ala Trp
1 5

<210> 95
<211> 6
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic construct

<400> 95

Trp Tyr His Met Ala Trp
1 5

<210> 96
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 96

Trp Tyr His His Ala His
1 5

<210> 97
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 97

Trp Tyr His Gln Ala Trp
1 5

<210> 98
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 98

Trp Phe His Gln Ala Trp
1 5

<210> 99
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 99

Tyr Thr Asp Gln Glu Ala Gly Asn Pro Ala
1 5 10

<210> 100
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 100

Thr Asn Arg Ser Ser Tyr Tyr Asn Leu His Gly
1 5 10

<210> 101
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 101

Ile Asn Arg Ser Tyr Tyr Ala Asp Leu His Gly
1 5 10

<210> 102
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 102

Thr Asn Arg Ser Ser Tyr Ser His Leu Asp Gly
1 5 10

<210> 103
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 103

Ile Asn Arg Ser Ser Tyr His Asn Phe Pro His
1 5 10

<210> 104
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 104

Thr Asn Arg Ser Ser Tyr Ser Asn His Leu Gly
1 5 10

<210> 105
<211> 11

<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 105

Thr Asn Arg Ser Ser Tyr Ser Asn Phe His Gly
1 5 10

<210> 106
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 106

Thr Asn Arg Ser Phe Tyr Ser Asn Leu His Gly
1 5 10

<210> 107
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 107

Thr Asn Arg Ser Ser Tyr Ala Tyr Leu His Gly
1 5 10

<210> 108
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 108

Ile Asn Arg Ser Ser Tyr Ala Asn Leu His Gly
1 5 10

<210> 109
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 109

Thr Asn Arg Ser Ser Tyr Ala Asn Tyr His Gly
1 5 10

<210> 110
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 110

Thr Asn Arg Ser Ser Tyr Ala Asn Leu Pro Gly
1 5 10

<210> 111
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 111

Thr Asn Arg Ser Ser Tyr Ser Asn Leu His Gly
1 5 10

<210> 112
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 112

Thr Ala Arg Ser Ala Tyr Ser His His His Tyr
1 5 10

<210> 113
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 113

Thr Asn Arg Ser Ser Tyr Ala Asn Tyr His His
1 5 10

<210> 114
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 114

Thr Asn Arg Ser Ser Tyr Ser Asp Leu Pro Gly
1 5 10

<210> 115
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 115

Thr His Arg Ser Ala Tyr Ser Asn His Ser Phe
1 5 10

<210> 116
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 116

Thr Asn Arg Ser Leu Tyr Ala Asn Phe His Gly
1 5 10

<210> 117
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 117

Thr Asn Arg Ser Ser Tyr Ser Asn Leu Pro Gly
1 5 10

<210> 118
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 118

Ser Ser Pro Tyr Val His
1 5

<210> 119
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 119

Asp Gln Ile Tyr Val His
1 5

<210> 120
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 120

Ser Ala Ala Ile Tyr Val His
1 5

<210> 121
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 121

Asn Ser Pro Tyr Val His
1 5

<210> 122
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 122

Asn Asn Ile Tyr Val His
1 5

<210> 123
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 123

Asn Gln Pro Tyr Val His
1 5

<210> 124
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 124

Arg Gln Pro Tyr Val His
1 5

<210> 125
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 125

Glu Leu Tyr Val His
1 5

<210> 126
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 126

Asn Thr Pro Tyr Val His
1 5

<210> 127
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 127

Glu Gln Val Tyr Val His
1 5

<210> 128
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 128

Asn Gln Val Tyr Val His
1 5

<210> 129
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic construct

<400> 129

Leu Thr Thr Asp Gly Thr Tyr Ser Asn Pro Ala
1 5 10

<210> 130
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 130

Leu Thr Thr Asp Gly Thr Tyr Asn Asn Pro Ala
1 5 10

<210> 131
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 131

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

<210> 132
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 132

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

<210> 133
<211> 585
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 133

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

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
20 25 30

```
Gln Ser Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
        35                  40                  45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
    50                  55                  60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65                  70                  75                  80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
                85                  90                  95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
            100                 105                 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
        115                 120                 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145                 150                 155                 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
                165                 170                 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
            180                 185                 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
    210                 215                 220

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300
```

```
Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575
```

Ala Ala Ser Gln Ala Ala Leu Gly Leu
580 585

<210> 134
<211> 680
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 134

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

Trp Ser Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His
35 40 45

His Ala His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Arg Ser Gly Asp Met Ser Ser Asn Pro Ala Lys
65 70 75 80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp
85 90 95

Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu
100 105 110

Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln
115 120 125

Ser Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe
130 135 140

Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser
145 150 155 160

Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg
165 170 175

Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu
180 185 190

Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro
195 200 205

Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp
210 215 220

```
Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg
225                 230                 235                 240

His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr
                245                 250                 255

Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys
            260                 265                 270

Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser
        275                 280                 285

Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg
    290                 295                 300

Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys
305                 310                 315                 320

Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val
                325                 330                 335

His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg
            340                 345                 350

Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser
        355                 360                 365

Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys
    370                 375                 380

Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu
385                 390                 395                 400

Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu
                405                 410                 415

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

His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr
        435                 440                 445

Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys
    450                 455                 460

Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln
465                 470                 475                 480

Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr
                485                 490                 495
```

```
Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln
            500                 505                 510

Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val
        515                 520                 525

Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala
    530                 535                 540

Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu
545                 550                 555                 560

Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu
                565                 570                 575

Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr
            580                 585                 590

Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile
        595                 600                 605

Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu
    610                 615                 620

Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys
625                 630                 635                 640

Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala
                645                 650                 655

Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala
            660                 665                 670

Ala Ser Gln Ala Ala Leu Gly Leu
        675                 680


<210>  135
<211>  785
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  135

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

Trp Ser Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly
            20                  25                  30
```

```
Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His
        35                  40                  45

His Ala His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Arg Ser Gly Asp Met Ser Ser Asn Pro Ala Lys
65                  70                  75                  80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                85                  90                  95

Gly Gly Gly Ser Arg Leu Asp Ala Pro Ser Gln Ile Glu Val Lys Asp
            100                 105                 110

Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser Asp Asp Phe Gly Glu
        115                 120                 125

Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys Asp Val Pro Gly Asp
    130                 135                 140

Arg Thr Thr Ile Asp Leu Trp Tyr His His Ala His Tyr Ser Ile Gly
145                 150                 155                 160

Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser Leu Ile Cys Arg Ser
                165                 170                 175

Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ala His Lys Ser Glu Val Ala
        195                 200                 205

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
    210                 215                 220

Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ser Pro Phe Glu Asp His Val
225                 230                 235                 240

Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
                245                 250                 255

Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
            260                 265                 270

Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
        275                 280                 285

Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
    290                 295                 300
```

```
His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
305                 310                 315                 320

Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
                325                 330                 335

Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
            340                 345                 350

Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
        355                 360                 365

Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
    370                 375                 380

Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
385                 390                 395                 400

Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
                405                 410                 415

Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
            420                 425                 430

Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
        435                 440                 445

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
    450                 455                 460

Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
465                 470                 475                 480

Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
                485                 490                 495

Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
            500                 505                 510

Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
        515                 520                 525

Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
    530                 535                 540

Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
545                 550                 555                 560

Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
                565                 570                 575
```

```
Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
            580                 585                 590

Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
        595                 600                 605

Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
    610                 615                 620

Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
625                 630                 635                 640

Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
                645                 650                 655

Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
            660                 665                 670

Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
        675                 680                 685

Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
    690                 695                 700

Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
705                 710                 715                 720

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
                725                 730                 735

Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
            740                 745                 750

Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
        755                 760                 765

Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
    770                 775                 780

Leu
785


<210>  136
<211>  7
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  136

Glu Asp Val Thr Asp Thr Thr
1               5
```

<210> 137
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 137

Gly Asn Leu Lys Pro Asp Thr Lys
1 5

<210> 138
<211> 585
<212> PRT
<213> Homo sapiens

<400> 138

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

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
20 25 30

Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65 70 75 80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
100 105 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
115 120 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
130 135 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145 150 155 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
165 170 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser

180 185 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
195 200 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
210 215 220

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225 230 235 240

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
245 250 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
260 265 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
275 280 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
290 295 300

Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305 310 315 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
325 330 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
340 345 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
355 360 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
370 375 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385 390 395 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
405 410 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
420 425 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
435 440 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His

```
    450                 455                 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu
            580                 585


<210>  139
<211>  10
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  139

Arg Ser Gly Asp Met Ser Ser Asn Pro Ala
1               5                   10


<210>  140
<211>  10
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct


<220>
<221>  MISC_FEATURE
<222>  (5)..(5)
<223>  Xaa  is any of Ala, Gly, Leu, Ile and Val

<220>
<221>  MISC_FEATURE
<222>  (10)..(10)
<223>  Xaa  is any of Ala, Gly, Leu, Ile and Val
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<400> 140

Gly Gly Gly Gly Xaa Gly Gly Gly Gly Xaa
1 5 10

<210> 141
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is any of Ala, Gly, Leu, Ile and Val

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Xaa is any of Ala, Gly, Leu, Ile and Val

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> Xaa is any of Ala, Gly, Leu, Ile and Val

<400> 141

Gly Gly Gly Gly Xaa Gly Gly Gly Gly Xaa Gly Gly Gly Gly Xaa
1 5 10 15

<210> 142
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 142

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

<210> 143
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 143

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

<210> 144
<211> 680
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 144

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

Trp Ser Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His
        35                  40                  45

His Ala His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Arg Ser Gly Asp Met Ser Ser Asn Pro Ala Lys
65                  70                  75                  80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Asp
                85                  90                  95

Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu
            100                 105                 110

Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln
        115                 120                 125

Ser Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe
    130                 135                 140

Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser
145                 150                 155                 160

Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg
                165                 170                 175

Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu
            180                 185                 190

Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro
        195                 200                 205

Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp
    210                 215                 220

Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg
225                 230                 235                 240

His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr
                245                 250                 255
```

```
Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys
            260                 265                 270

Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser
        275                 280                 285

Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg
    290                 295                 300

Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys
305                 310                 315                 320

Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val
                325                 330                 335

His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg
            340                 345                 350

Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser
        355                 360                 365

Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys
    370                 375                 380

Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu
385                 390                 395                 400

Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu
                405                 410                 415

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

His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr
        435                 440                 445

Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys
    450                 455                 460

Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln
465                 470                 475                 480

Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr
                485                 490                 495

Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln
            500                 505                 510

Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val
        515                 520                 525
```

```
Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala
    530                 535                 540

Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu
545                 550                 555                 560

Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu
                565                 570                 575

Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr
            580                 585                 590

Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile
        595                 600                 605

Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu
    610                 615                 620

Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys
625                 630                 635                 640

Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala
                645                 650                 655

Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala
            660                 665                 670

Ala Ser Gln Ala Ala Leu Gly Leu
        675                 680
```

<210> 145
<211> 785
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 145

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

Trp Ser Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His
        35                  40                  45

His Ala His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60
```

```
Val Ser Leu Ile Cys Arg Ser Gly Asp Met Ser Ser Asn Pro Ala Lys
65                  70                  75                  80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
                85                  90                  95

Gly Gly Gly Gly Arg Leu Asp Ala Pro Ser Gln Ile Glu Val Lys Asp
            100                 105                 110

Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser Asp Asp Phe Gly Glu
        115                 120                 125

Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys Asp Val Pro Gly Asp
    130                 135                 140

Arg Thr Thr Ile Asp Leu Trp Tyr His His Ala His Tyr Ser Ile Gly
145                 150                 155                 160

Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser Leu Ile Cys Arg Ser
                165                 170                 175

Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly
            180                 185                 190

Gly Gly Gly Gly Gly Gly Gly Gly Asp Ala His Lys Ser Glu Val Ala
        195                 200                 205

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
    210                 215                 220

Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ser Pro Phe Glu Asp His Val
225                 230                 235                 240

Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
                245                 250                 255

Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
            260                 265                 270

Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
        275                 280                 285

Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
    290                 295                 300

His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
305                 310                 315                 320

Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
                325                 330                 335
```

```
Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
            340                 345                 350

Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
        355                 360                 365

Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
    370                 375                 380

Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
385                 390                 395                 400

Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
                405                 410                 415

Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
            420                 425                 430

Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
        435                 440                 445

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
    450                 455                 460

Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
465                 470                 475                 480

Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
                485                 490                 495

Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
            500                 505                 510

Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
        515                 520                 525

Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
    530                 535                 540

Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
545                 550                 555                 560

Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
                565                 570                 575

Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
            580                 585                 590

Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
        595                 600                 605
```

Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
610 615 620

Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
625 630 635 640

Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
645 650 655

Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
660 665 670

Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
675 680 685

Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
690 695 700

Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
705 710 715 720

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
725 730 735

Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
740 745 750

Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
755 760 765

Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
770 775 780

Leu
785

<210> 146
<211> 83
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 146

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His His Ala
35 40 45

His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Ser Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

<210> 147
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is any of Ser, Ala, Gly, Leu, Ile, and Val

<400> 147

Gly Gly Gly Gly Xaa
1 5

<210> 148
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 148

Gly Gly Gly Gly Ser
1 5

<210> 149
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 149

Gly Gly Gly Gly Gly
1 5

<210> 150
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic construct

<400> 150

Gly Gly Gly Gly Ala
1 5

<210> 151
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 151

His His His His His His His His
1 5

<210> 152
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 152

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

<210> 153
<211> 584
<212> PRT
<213> mus muscus

<400> 153

Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1 5 10 15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
20 25 30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65 70 75 80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu

100 105 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
115 120 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
130 135 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145 150 155 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
165 170 175

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

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
195 200 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
210 215 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225 230 235 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
245 250 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
260 265 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
275 280 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
290 295 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305 310 315 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
325 330 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
340 345 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
355 360 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro

370 375 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385 390 395 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
405 410 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
420 425 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
435 440 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
450 455 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465 470 475 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
485 490 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
500 505 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
515 520 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
530 535 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545 550 555 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
565 570 575

Thr Arg Cys Lys Asp Ala Leu Ala
580

<210> 154
<211> 584
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 154

Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1 5 10 15

```
Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
            20                  25                  30

Lys Ser Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
        35                  40                  45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
    50                  55                  60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65                  70                  75                  80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
                85                  90                  95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
            100                 105                 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115                 120                 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

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

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285
```

```
Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560
```

```
Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575


Thr Arg Ser Lys Asp Ala Leu Ala
            580


<210>  155
<211>  84
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  155

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp His
1               5                   10                  15


Asp Ala Phe Gly Tyr Asp Phe Gly Cys Glu Leu Thr Tyr Gly Ile Lys
            20                  25                  30


Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His Phe His
        35                  40                  45


Asn Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
    50                  55                  60


Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Asn Pro Ala Lys Glu
65                  70                  75                  80


Thr Phe Thr Thr



<210>  156
<211>  84
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  156

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp His
1               5                   10                  15


Asp Ala Phe Gly Tyr Asp Phe Gly Cys Glu Leu Thr Tyr Gly Ile Lys
            20                  25                  30


Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His Phe His
        35                  40                  45


Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
    50                  55                  60
```

```
Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Asn Pro Ala Lys Glu
65                  70                  75                  80


Thr Phe Thr Thr



<210>  157
<211>  183
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  157

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


Trp His Asp Ala Phe Gly Tyr Asp Phe Gly Cys Glu Leu Thr Tyr Gly
            20                  25                  30


Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His
        35                  40                  45


Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60


Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Asn Pro Ala
65                  70                  75                  80


Lys Glu Thr Phe Thr Thr Thr Gly Gly Gly Gly Ser Arg Leu Asp Ala
                85                  90                  95


Pro Ser Gln Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile
            100                 105                 110


Thr Trp His Asp Ala Phe Gly Tyr Asp Phe Gly Cys Glu Leu Thr Tyr
        115                 120                 125


Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp
    130                 135                 140


His Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
145                 150                 155                 160


Glu Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Asn Pro
                165                 170                 175


Ala Lys Glu Thr Phe Thr Thr
            180


<210>  158
```

<211> 685
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 158

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

Trp His Asp Ala Phe Gly Tyr Asp Phe Gly Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His
        35                  40                  45

Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Asn Pro Ala
65                  70                  75                  80

Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                85                  90                  95

Gly Gly Gly Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr
            100                 105                 110

Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe
        115                 120                 125

Ser Gln Tyr Leu Gln Lys Ser Ser Tyr Asp Glu His Ala Lys Leu Val
    130                 135                 140

Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala
145                 150                 155                 160

Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys
                165                 170                 175

Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys
            180                 185                 190

Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp
        195                 200                 205

Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met
    210                 215                 220

Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu
225                 230                 235                 240
```

```
His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu
                245                 250                 255

Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu
            260                 265                 270

Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu
        275                 280                 285

Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met
    290                 295                 300

Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu
305                 310                 315                 320

Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala
                325                 330                 335

Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu
            340                 345                 350

Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn
        355                 360                 365

Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu
    370                 375                 380

Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met Pro
385                 390                 395                 400

Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val
                405                 410                 415

Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu
            420                 425                 430

Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu
        435                 440                 445

Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu
    450                 455                 460

Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro
465                 470                 475                 480

Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr
                485                 490                 495

Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr
            500                 505                 510
```

```
Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala
        515                 520                 525

Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp
    530                 535                 540

Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg
545                 550                 555                 560

Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr Lys
                565                 570                 575

Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu
            580                 585                 590

Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe
        595                 600                 605

Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile
    610                 615                 620

Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala
625                 630                 635                 640

Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu
                645                 650                 655

Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu
            660                 665                 670

Gly Pro Asn Leu Val Thr Arg Ser Lys Asp Ala Leu Ala
        675                 680                 685


<210>  159
<211>  782
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  159

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

Trp His Asp Ala Phe Gly Tyr Asp Phe Gly Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His
        35                  40                  45

Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
```

50 55 60

Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Asn Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr Thr Gly Gly Gly Gly Ser Arg Leu Asp Ala
85 90 95

Pro Ser Gln Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile
100 105 110

Thr Trp His Asp Ala Phe Gly Tyr Asp Phe Gly Cys Glu Leu Thr Tyr
115 120 125

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp
130 135 140

His Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
145 150 155 160

Glu Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Asn Pro
165 170 175

Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
180 185 190

Ser Gly Gly Gly Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg
195 200 205

Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
210 215 220

Phe Ser Gln Tyr Leu Gln Lys Ser Ser Tyr Asp Glu His Ala Lys Leu
225 230 235 240

Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
245 250 255

Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
260 265 270

Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
275 280 285

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
290 295 300

Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
305 310 315 320

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr

325 330 335

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
340 345 350

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
355 360 365

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

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
385 390 395 400

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
405 410 415

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
420 425 430

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
435 440 445

Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
450 455 460

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
465 470 475 480

Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
485 490 495

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
500 505 510

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
515 520 525

Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
530 535 540

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
545 550 555 560

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
565 570 575

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
580 585 590

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg

595 600 605

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
610 615 620

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
625 630 635 640

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
645 650 655

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
660 665 670

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
675 680 685

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
690 695 700

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
705 710 715 720

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
725 730 735

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
740 745 750

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
755 760 765

Glu Gly Pro Asn Leu Val Thr Arg Ser Lys Asp Ala Leu Ala
770 775 780

<210> 160
<211> 84
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 160

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp His
1 5 10 15

Asp Pro Ser Gly Tyr Asp Phe Trp Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His Phe His
35 40 45

```
Asn Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
    50                  55                  60

Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Tyr Pro Ala Lys Glu
65                  70                  75                  80

Thr Phe Thr Thr
```

<210> 161
<211> 84
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 161

```
Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp His
1               5                   10                  15

Asp Pro Ser Gly Tyr Asp Phe Trp Cys Glu Leu Thr Tyr Gly Ile Lys
            20                  25                  30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His Phe His
        35                  40                  45

Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
    50                  55                  60

Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Tyr Pro Ala Lys Glu
65                  70                  75                  80

Thr Phe Thr Thr
```

<210> 162
<211> 183
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 162

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

Trp His Asp Pro Ser Gly Tyr Asp Phe Trp Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His
        35                  40                  45
```

```
Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Tyr Pro Ala
65                  70                  75                  80

Lys Glu Thr Phe Thr Thr Thr Gly Gly Gly Gly Ser Arg Leu Asp Ala
                85                  90                  95

Pro Ser Gln Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile
            100                 105                 110

Thr Trp His Asp Pro Ser Gly Tyr Asp Phe Trp Cys Glu Leu Thr Tyr
        115                 120                 125

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp
    130                 135                 140

His Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
145                 150                 155                 160

Glu Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Tyr Pro
                165                 170                 175

Ala Lys Glu Thr Phe Thr Thr
            180
```

<210> 163
<211> 685
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 163

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

Trp His Asp Pro Ser Gly Tyr Asp Phe Trp Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His
        35                  40                  45

Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Tyr Pro Ala
65                  70                  75                  80

Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
```

85 90 95

Gly Gly Gly Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr
100 105 110

Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe
115 120 125

Ser Gln Tyr Leu Gln Lys Ser Ser Tyr Asp Glu His Ala Lys Leu Val
130 135 140

Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala
145 150 155 160

Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys
165 170 175

Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys
180 185 190

Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp
195 200 205

Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met
210 215 220

Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu
225 230 235 240

His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu
245 250 255

Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu
260 265 270

Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu
275 280 285

Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met
290 295 300

Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu
305 310 315 320

Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala
325 330 335

Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu
340 345 350

Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn

355 360 365

Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu
370 375 380

Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met Pro
385 390 395 400

Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val
405 410 415

Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu
420 425 430

Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu
435 440 445

Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu
450 455 460

Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro
465 470 475 480

Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr
485 490 495

Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr
500 505 510

Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala
515 520 525

Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp
530 535 540

Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg
545 550 555 560

Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr Lys
565 570 575

Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu
580 585 590

Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe
595 600 605

Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile
610 615 620

Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala

625 630 635 640

Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu
645 650 655

Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu
660 665 670

Gly Pro Asn Leu Val Thr Arg Ser Lys Asp Ala Leu Ala
675 680 685

<210> 164
<211> 782
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 164

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

Trp His Asp Pro Ser Gly Tyr Asp Phe Trp Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp His
35 40 45

Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Tyr Pro Ala
65 70 75 80

Lys Glu Thr Phe Thr Thr Thr Gly Gly Gly Gly Ser Arg Leu Asp Ala
85 90 95

Pro Ser Gln Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile
100 105 110

Thr Trp His Asp Pro Ser Gly Tyr Asp Phe Trp Cys Glu Leu Thr Tyr
115 120 125

Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Pro Asp
130 135 140

His Phe His Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr
145 150 155 160

Glu Val Ser Leu Ile Cys Ala Asn Asp His Gly Phe Asp Ser Tyr Pro
165 170 175

```
Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
            180                 185                 190

Ser Gly Gly Gly Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg
        195                 200                 205

Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
    210                 215                 220

Phe Ser Gln Tyr Leu Gln Lys Ser Ser Tyr Asp Glu His Ala Lys Leu
225                 230                 235                 240

Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
                245                 250                 255

Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
            260                 265                 270

Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
        275                 280                 285

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
    290                 295                 300

Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
305                 310                 315                 320

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
                325                 330                 335

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
            340                 345                 350

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
        355                 360                 365

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

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
385                 390                 395                 400

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
                405                 410                 415

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
            420                 425                 430

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
        435                 440                 445
```

```
Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
    450                 455                 460

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
465                 470                 475                 480

Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
                485                 490                 495

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
            500                 505                 510

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
        515                 520                 525

Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
    530                 535                 540

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
545                 550                 555                 560

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
                565                 570                 575

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
            580                 585                 590

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
        595                 600                 605

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
    610                 615                 620

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
625                 630                 635                 640

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
                645                 650                 655

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
            660                 665                 670

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
        675                 680                 685

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
    690                 695                 700

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
705                 710                 715                 720
```

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
725 730 735

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
740 745 750

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
755 760 765

Glu Gly Pro Asn Leu Val Thr Arg Ser Lys Asp Ala Leu Ala
770 775 780

<210> 165
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 165

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1 5 10 15

Pro Gly Glu Arg Ile Trp Met Phe Thr Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Thr Glu Asp
35 40 45

Glu Asn Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Pro Asn Tyr Glu Arg Ile Ser Asn Pro Ala Lys
65 70 75 80

Glu Thr Phe Thr Thr Thr
85

<210> 166
<211> 784
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 166

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

Trp Ser Pro Gly Glu Arg Ile Trp Met Phe Thr Gly Cys Glu Leu Thr
20 25 30

```
Tyr Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Thr
        35                  40                  45

Glu Asp Glu Asn Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu
    50                  55                  60

Tyr Glu Val Ser Leu Ile Cys Pro Asn Tyr Glu Arg Ile Ser Asn Pro
65                  70                  75                  80

Ala Lys Glu Thr Phe Thr Thr Thr Gly Gly Gly Gly Ser Arg Leu Asp
                85                  90                  95

Ala Pro Ser Gln Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu
            100                 105                 110

Ile Thr Trp Ser Pro Gly Glu Arg Ile Trp Met Phe Thr Gly Cys Glu
        115                 120                 125

Leu Thr Tyr Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp
    130                 135                 140

Leu Thr Glu Asp Glu Asn Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp
145                 150                 155                 160

Thr Glu Tyr Glu Val Ser Leu Ile Cys Pro Asn Tyr Glu Arg Ile Ser
                165                 170                 175

Asn Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Glu Ala His Lys Ser Glu Ile Ala
        195                 200                 205

His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu
    210                 215                 220

Ile Ala Phe Ser Gln Tyr Leu Gln Lys Ser Ser Tyr Asp Glu His Ala
225                 230                 235                 240

Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp
                245                 250                 255

Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
            260                 265                 270

Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala
        275                 280                 285

Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
    290                 295                 300
```

```
His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala
305                 310                 315                 320

Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly
                325                 330                 335

His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
            340                 345                 350

Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys
        355                 360                 365

Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly
    370                 375                 380

Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys
385                 390                 395                 400

Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
                405                 410                 415

Ala Arg Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr
            420                 425                 430

Lys Leu Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly
        435                 440                 445

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met
    450                 455                 460

Cys Glu Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp
465                 470                 475                 480

Lys Pro Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp
                485                 490                 495

Thr Met Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp
            500                 505                 510

Gln Glu Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
        515                 520                 525

Thr Phe Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser
    530                 535                 540

Leu Leu Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys
545                 550                 555                 560

Cys Ala Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu
                565                 570                 575
```

```
Phe Gln Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys
            580                 585                 590

Asp Leu Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu
        595                 600                 605

Val Arg Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val
    610                 615                 620

Glu Ala Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu
625                 630                 635                 640

Pro Glu Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile
                645                 650                 655

Leu Asn Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His
            660                 665                 670

Val Thr Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe
        675                 680                 685

Ser Ala Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala
    690                 695                 700

Glu Thr Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu
705                 710                 715                 720

Lys Gln Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys
                725                 730                 735

Pro Lys Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala
            740                 745                 750

Gln Phe Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe
        755                 760                 765

Ser Thr Glu Gly Pro Asn Leu Val Thr Arg Ser Lys Asp Ala Leu Ala
    770                 775                 780


<210>  167
<211>  83
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  167

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser
1               5                   10                  15

Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys
```

20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His His Ala
35 40 45

His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Ser Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

<210> 168
<211> 83
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
<222> (16)..(16)
<223> Xaa is Ser or Leu

<220>
<221> MISC_FEATURE
<222> (18)..(18)
<223> Xaa is Asp or Glu

<220>
<221> MISC_FEATURE
<222> (19)..(19)
<223> Xaa is any of His, Ile, Val, Phe or Trp

<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> Xaa is any of Ala, Gly, Glu or Asp

<220>
<221> MISC_FEATURE
<222> (21)..(21)
<223> Xaa is any of Glu, Leu, Gln, Ser, Asp or Asn

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> Xaa is any of Phe or Tyr

<220>
<221> MISC_FEATURE
<222> (23)..(23)
<223> Xaa is any of Ile, Val, His, Glu or Asp

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> Xaa is any of Gly, Trp or Val

<220>
<221> MISC_FEATURE
<222> (45)..(45)
<223> Xaa is any of Trp, Phe or Tyr

<220>
<221> MISC_FEATURE
<222> (47)..(47)
<223> Xaa is any of Ser, Gln, Met or His

<220>
<221> MISC_FEATURE
<222> (49)..(49)
<223> Xaa is any Trp or His

<220>
<221> MISC_FEATURE
<222> (69)..(69)
<223> Xaa is any of Arg or Ser

<400> 168

Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Xaa
1 5 10 15

Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Glu Leu Thr Tyr Gly Ile Lys
20 25 30

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Xaa His Xaa Ala
35 40 45

Xaa Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
50 55 60

Leu Ile Cys Arg Xaa Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr
65 70 75 80

Phe Thr Thr

<210> 169
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa is any of Ser or Leu

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa is any of Asp or Glu

<220>
<221> MISC_FEATURE
<222> (4)..(4)

<223> Xaa is any of His, Ile, Val, Phe or Trp

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa is any of Ala, Gly, Glu or Asp

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa is any of Glu, Leu, Gln, Ser, Asp or Asn

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa is any of Phe or Tyr

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa is any of Ile, Val, His, Glu or Asp

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa is any of Gly, Trp or Val

<400> 169

Xaa Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5

<210> 170
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa is any of Trp, Phe or Tyr

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa is any of Ser, Gln, Met or His

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa is any of Trp or His

<400> 170

Trp Xaa His Xaa Ala Xaa
1   5

<210> 171
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa is Arg or Ser

<400> 171

Arg Xaa Gly Asp Met Ser Ser Asn Pro Ala
1 5 10

<210> 172
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa is Lys or Glu

<220>
<221> MISC_FEATURE
<222> (16)..(16)
<223> Xaa is Thr or Ile

<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> Xaa is Asn or Ala

<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> Xaa is any of Ser, Leu, Ala, Phe and Tyr

<220>
<221> MISC_FEATURE
<222> (21)..(21)
<223> Xaa is any of Tyr, Ala, Gly, Val, Ile and Ser

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> Xaa is any of Tyr, Ser, Ala and His

<220>
<221> MISC_FEATURE
<222> (23)..(23)
<223> Xaa is any of Asn, Asp, His and Tyr

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> Xaa is any of Leu, Phe, His and Tyr

<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> Xaa is any of His, Pro, Ser, Leu and Asp

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> Xaa is any of Gly, Phe, His and Tyr

<220>
<221> MISC_FEATURE
<222> (30)..(30)
<223> Xaa is Ala or Thr

<220>
<221> MISC_FEATURE
<222> (46)..(46)
<223> Xaa is any of Ser, Asn, Glu, Arg and Asp

<220>
<221> MISC_FEATURE
<222> (47)..(47)
<223> Xaa is any of Ser, Gln, Thr, Asn and Ala

<220>
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<222> (48)..(48)
<223> Xaa is absent or is any of Pro, Val, Ile and Ala

<220>
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<222> (49)..(49)
<223> Xaa is absent or is Ile

<220>
<221> MISC_FEATURE
<222> (63)..(63)
<223> Xaa is Glu or Lys

<220>
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<222> (78)..(78)
<223> Xaa is any of

<400> 172

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Ile Glu Val Xaa Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Xaa
1               5                   10                  15


Xaa Arg Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Glu Leu Xaa Tyr Gly
            20                  25                  30


Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Xaa Xaa Xaa
        35                  40                  45


Xaa Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Xaa Tyr
    50                  55                  60


Glu Val Ser Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Xaa Asn Pro
65                  70                  75                  80


Ala Lys Glu Thr Phe Thr Thr
                85
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<210> 173

<211> 7
<212> PRT
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<220>
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<220>
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<222> (4)..(4)
<223> Xaa is Ala or Thr

<400> 173

Cys Glu Leu Xaa Tyr Gly Ile
1 5

<210> 174
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<222> (1)..(1)
<223> Xaa is Lys or Glu

<400> 174

Xaa Asp Val Thr Asp Thr Thr
1 5

<210> 175
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
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<223> Xaa is Thr or Ile

<220>
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<222> (2)..(2)
<223> Xaa is Asn or Ala

<220>
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<223> Xaa is any of Ser, Leu, Ala, Phe and Tyr

<220>
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<222> (6)..(6)
<223> Xaa is any of Tyr, Ala, Gly, Val, Ile and Ser

<220>
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<222> (7)..(7)
<223> Xaa is any of Tyr, Ser, Ala and His

<220>
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<222> (8)..(8)
<223> Xaa is any of Asn, Asp, His and Tyr

<220>
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<222> (9)..(9)
<223> Xaa is any of Leu, Phe, His and Tyr

<220>
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<222> (10)..(10)
<223> Xaa is any of His, Pro, Ser, Leu and Asp

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa is any of Gly, Phe, His and Tyr

<400> 175

Xaa Xaa Arg Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 176
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (1)..(1)
<223> Xaa is any of Ser, Asn, Glu, Arg and Asp

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa is any of Ser, Gln, Thr, Asn and Ala

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa is not present or is any of Pro, Val, Ile and Ala

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa is not present or is Ile

<400> 176

Xaa Xaa Xaa Xaa Tyr Val His
1 5

<210> 177
<211> 8

<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MISC_FEATURE
<222> (8)..()
<223> Xaa is Glu or Lys

<220>
<221> misc_feature
<222> (8)..(8)
<223> Xaa can be any naturally occurring amino acid

<400> 177

Gly Asn Leu Lys Pro Asp Thr Xaa
1 5

<210> 178
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> MISC_FEATURE
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<223> Xaa is Ser or Asn

<400> 178

Leu Thr Thr Asp Gly Thr Tyr Xaa Asn Pro Ala
1 5 10

<210> 179
<211> 69
<212> DNA
<213> Artificial Sequence

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<220>
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<222> (19)..(19)
<223> N is any of G, A, T, and C

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<222> (22)..(22)
<223> N is any of G, A, T, and C

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<223> N is any of G, A, T, and C

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<221> misc_feature
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<223> N is any of G, A, T, and C

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<222> (37)..(37)
<223> N is any of G, A, T, and C

<220>
<221> misc_feature
<222> (40)..(40)
<223> N is any of G, A, T, and C

<400> 179
accgcgctga ttacctggnh tnhtscgnht gstnhtnhtn htggctgtga actgacctat 60

ggcattaaa 69

<210> 180
<211> 75
<212> DNA
<213> Artificial Sequence

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<223> N is any of G, A, T and C

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<222> (22)..(22)
<223> N is any of G, A, T and C

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<223> N is any of G, A, T and C

<220>
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<223> N is any of G, A, T and C

<220>
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<222> (34)..(34)
<223> N is any of G, A, T and C

<220>
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<223> N is any of G, A, T and C

<220>
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<222> (40)..(40)
<223> N is any of G, A, T and C

<220>
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<222> (43)..(43)
<223> N is any of G, A, T and C

<220>
<221> misc_feature
<222> (46)..(46)
<223> N is any of G, A, T and C

<400> 180
accgcgctga ttacctggnh tnhtbstnht nhtnhtnhtn htnhtnhtgg ctgtgaactg 60

acctatggca ttaaa 75

<210> 181
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
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<222> (19)..(19)
<223> N is any of A, G, T and C

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<221> misc_feature
<222> (28)..(28)
<223> N is any of A, G, T and C

<220>
<221> misc_feature
<222> (31)..(31)
<223> N is any of A, G, T and C

<220>
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<222> (34)..(34)
<223> N is any of A, G, T and C

<220>
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<222> (43)..(43)
<223> N is any of A, G, T and C

<220>
<221> misc_feature
<222> (49)..(49)
<223> N is any of A, G, T and C

<400> 181
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ctgacctatg gcattaaa 78

<210> 182
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> (23)..(23)
<223> N is any of A, G, T and C

<220>
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<222> (26)..(26)
<223> N is any of A, G, T and C

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<223> N is any of A, G, T and C

<220>
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<222> (32)..(32)
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<220>
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<222> (35)..(35)
<223> N is any of A, G, T and C

<220>
<221> misc_feature
<222> (38)..(38)
<223> N is any of A, G, T and C

<400> 182
cgatcgcacc accatagatc tgnhtnhtnh tnhtnhtnht tatagcattg gtaacctgaa 60

accg 64

<210> 183
<211> 73
<212> DNA
<213> Artificial Sequence

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<220>
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<222> (31)..(31)
<223> N is any of A, G, T and C

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<222> (34)..(34)
<223> N is any of A, G, T and C

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<223> N is any of A, G, T and C

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<222> (43)..(43)
<223> N is any of A, G, T and C

<220>
<221> misc_feature
<222> (46)..(46)
<223> N is any of A, G, T and C

<400> 183
gaatatgaag tgagcctgat ttgcnhtams nhtnhtggtn htnhtnhtkc gaaagaaacc 60

tttaccaccg gtg 73

<210> 184
<211> 76
<212> DNA
<213> Artificial Sequence

<220>
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<223> N is any of A, G, T and C

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<223> N is any of A, G, T and C

<220>
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<222> (37)..(37)
<223> N is any of A, G, T and C

<220>
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<222> (40)..(40)
<223> N is any of A, G, T and C

<220>
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<223> N is any of A, G, T and C

<400> 184
gaatatgaag tgagcctgat ttgcnhtams nhtnhtnhtn htrgcnhtcc ggcgaaagaa 60

acctttacca ccggtg 76

<210> 185
<211> 79
<212> DNA
<213> Artificial Sequence

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<220>
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<222> (25)..(25)

<223> N is any of A, G, T and C

<220>
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<222> (31)..(31)
<223> N is any of A, G, T and C

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<222> (34)..(34)
<223> N is any of A, G, T and C

<220>
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<222> (40)..(40)
<223> N is any of A, G, T and C

<220>
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<222> (43)..(43)
<223> N is any of A, G, T and C

<400> 185
gaatatgaag tgagcctgat ttgcnhtams nhtnhtggtn htnhtagcaa cccggcgaaa 60

gaaaccttta ccaccggtg 79

<210> 186
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
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<400> 186
cagatctatg gtggtgcgat cgcccggcac atctttaatg ccataggtca gttcaca 57

<210> 187
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
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<400> 187
gcaaatcagg ctcacttcat attcggtatc cggtttcagg ttaccaatgc tat 53

<210> 188
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
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<400> 188
cgggtcggtt ggggtaccgc caccggtggt aaaggtttct tt 42

<210> 189
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 189
cgggtcggtt ggggta 16

<210> 190
<211> 67
<212> DNA
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<220>
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<400> 190
ggcccagccg gccatggccg ccattgaagt gaaagatgtg accgatacca ccgcgctgat 60

tacctgg 67

<210> 191
<211> 73
<212> DNA
<213> Artificial Sequence

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<220>
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<223> NNN encodes for all amino acids except Cys

<220>
<221> misc_feature
<222> (25)..(27)
<223> NNN encodes for Ala or Pro

<220>
<221> misc_feature
<222> (28)..(30)
<223> NNN encodes for all amino acids except Cys

<220>
<221> misc_feature
<222> (31)..(33)
<223> NNN encodes for Ala or Gly

<220>
<221> misc_feature
<222> (34)..(36)
<223> NNN encodes for all amino acids except Cys

<220>
<221> misc_feature
<222> (37)..(39)
<223> NNN encodes for all amino acids except Cys

<220>
<221> misc_feature
<222> (40)..(42)
<223> NNN encodes for all amino acids except Cys

<400> 191
accgcgctga ttacctggtc tnnnnnnnnn nnnnnnnnnn nnggctgtga actgacctat 60

ggcattaaag atg 73

<210> 192
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic construct

<220>
<221> misc_feature
<222> (19)..(20)
<223> each N is any of A, G, T and C

<220>
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<222> (22)..(23)
<223> each N is any of A, G, T and C

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<222> (34)..(35)
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<222> (37)..(38)
<223> each N is any of A, G, T and C

<220>
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<222> (40)..(41)
<223> each N is any of A, G, T and C

<400> 192
accgcgctga ttacctggnn knnksmgnnk gstnnknnkn nkggctgtga actgacctat 60

ggcattaaa 69

<210> 193
<211> 69
<212> DNA
<213> Artificial Sequence

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<220>
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<222> (19)..(20)
<223> each N is any of A, T, C or T

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<222> (22)..(23)
<223> each N is any of G, A, C and T

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<222> (40)..(41)
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<400> 193
accgcgctga ttacctggnn knnknnknnk nnknnknhtn nknnktgtga actgacctat 60

ggcattaaa 69

<210> 194
<211> 76
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<223> NNN encodes for all amino acids except Cys

<220>
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<222> (37)..(39)
<223> NNN encodes for all amino acids except Cys

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<222> (40)..(42)
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<222> (50)..(51)
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<400> 194
gatgtgccgg gcgatcgcac caccatagat ctgnnnnnnn nnnnnnnnnn ntatagcatt 60

ggtaacctga aaccgg 76

<210> 195
<211> 23
<212> DNA
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<220>
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<400> 195
ccaggtaatc agcgcggtgg tat 23

<210> 196
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
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<400> 196
cagatctatg gtggtgcgat cgc 23

<210> 197
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<212> DNA
<213> Artificial Sequence

<220>
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<400> 197
tgtgaactga cctatggcat taaagatgt 29

<210> 198
<211> 75
<212> DNA
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<220>
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<220>
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<222> (22)..(22)
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<222> (26)..(26)
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<221> misc_feature
<222> (38)..(38)
<223> N is any of G, A, T and C

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<220>
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<400> 198
accgcgctga ttacctggnh tnhtvntnht nhtnhtnhtn htnhtnhtgg ctgtgaactg 60

acctatggca ttaaa 75

<210> 199
<211> 75
<212> DNA
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<222> (40)..(40)
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<222> (43)..(43)
<223> N is any of G, A, T and C

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<222> (46)..(46)
<223> N is any of G, A, T and C

<220>
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<400> 199
accgcgctga ttacctggnh tnhtvntnht nhtnhtnhtn htnhtnhtnh ttgtgaactg 60

acctatggca ttaaa 75

<210> 200
<211> 67
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 200
ggcccagccg gccatggccg ccattgaagt ggaagatgtg accgatacca ccgcgctgat 60

tacctgg 67

<210> 201
<211> 585
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 201

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

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
20 25 30

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

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65 70 75 80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
100 105 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
115 120 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
130 135 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145 150 155 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
165 170 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
180 185 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
195 200 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
210 215 220

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Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300

Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Asn His
    450                 455                 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495
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Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Leu Lys Gln Thr Ala
        515                 520                 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu
            580                 585
```

<210> 202
<211> 683
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 202

```
Ser Gln Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr
1               5                   10                  15

Trp Thr Asn Arg Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Ala
            20                  25                  30

Tyr Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn
        35                  40                  45

Gln Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu
    50                  55                  60

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

Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly
                85                  90                  95

Gly Ser Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu
            100                 105                 110

Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr
        115                 120                 125
```

```
Leu Gln Gln Ser Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val
    130                 135                 140

Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys
145                 150                 155                 160

Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala
                165                 170                 175

Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln
            180                 185                 190

Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro
        195                 200                 205

Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala
    210                 215                 220

Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile
225                 230                 235                 240

Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala
                245                 250                 255

Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys
            260                 265                 270

Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys
        275                 280                 285

Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe
    290                 295                 300

Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg
305                 310                 315                 320

Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu
                325                 330                 335

Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala
            340                 345                 350

Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser
        355                 360                 365

Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys
    370                 375                 380

Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu
385                 390                 395                 400
```

```
Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn
                405                 410                 415

Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr
            420                 425                 430

Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala
        435                 440                 445

Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro
    450                 455                 460

His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu
465                 470                 475                 480

Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu
                485                 490                 495

Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys
            500                 505                 510

Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu
        515                 520                 525

Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met
    530                 535                 540

Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val
545                 550                 555                 560

Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr
                565                 570                 575

Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp
            580                 585                 590

Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His
        595                 600                 605

Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln
    610                 615                 620

Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
625                 630                 635                 640

Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys
                645                 650                 655

Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys
            660                 665                 670
```

Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
675 680

<210> 203
<211> 683
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 203

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

Trp Thr Asn Arg Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Thr
20 25 30

Tyr Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn
35 40 45

Gln Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu
50 55 60

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

Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Gly Gly Gly Gly
85 90 95

Gly Gly Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu
100 105 110

Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr
115 120 125

Leu Gln Gln Ser Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val
130 135 140

Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys
145 150 155 160

Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala
165 170 175

Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln
180 185 190

Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro
195 200 205

Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala
210 215 220

```
Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile
225                 230                 235                 240

Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala
                245                 250                 255

Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys
            260                 265                 270

Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys
        275                 280                 285

Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe
    290                 295                 300

Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg
305                 310                 315                 320

Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu
                325                 330                 335

Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala
            340                 345                 350

Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser
        355                 360                 365

Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys
    370                 375                 380

Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu
385                 390                 395                 400

Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn
                405                 410                 415

Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr
            420                 425                 430

Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala
        435                 440                 445

Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro
    450                 455                 460

His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu
465                 470                 475                 480

Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu
                485                 490                 495
```

```
Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys
            500                 505                 510

Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu
        515                 520                 525

Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met
    530                 535                 540

Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val
545                 550                 555                 560

Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr
                565                 570                 575

Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp
            580                 585                 590

Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His
        595                 600                 605

Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln
    610                 615                 620

Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
625                 630                 635                 640

Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys
                645                 650                 655

Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys
            660                 665                 670

Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
        675                 680


<210>  204
<211>  791
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  204

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

Trp Thr Asn Arg Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Ala
            20                  25                  30
```

```
Tyr Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn
        35                  40                  45

Gln Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu
    50                  55                  60

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

Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly
                85                  90                  95

Gly Ser Gly Gly Gly Gly Ser Arg Leu Asp Ala Pro Ser Gln Ile Glu
            100                 105                 110

Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr Asn Arg
        115                 120                 125

Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Ala Tyr Gly Ile Lys
    130                 135                 140

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln Pro Tyr Val
145                 150                 155                 160

His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
                165                 170                 175

Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Asn Asn Pro Ala Lys Glu
            180                 185                 190

Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ala
        195                 200                 205

His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn
    210                 215                 220

Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ser
225                 230                 235                 240

Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala
                245                 250                 255

Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu
            260                 265                 270

His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu
        275                 280                 285

Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg
    290                 295                 300
```

```
Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg
305                 310                 315                 320

Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn
                325                 330                 335

Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His
            340                 345                 350

Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys
        355                 360                 365

Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu
    370                 375                 380

Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala
385                 390                 395                 400

Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala
                405                 410                 415

Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala
            420                 425                 430

Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His
        435                 440                 445

Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala
    450                 455                 460

Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys
465                 470                 475                 480

Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile
                485                 490                 495

Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala
            500                 505                 510

Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala
        515                 520                 525

Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His
    530                 535                 540

Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu
545                 550                 555                 560

Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr
                565                 570                 575
```

```
Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn
            580                 585                 590

Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys
        595                 600                 605

Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val
    610                 615                 620

Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly
625                 630                 635                 640

Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu
                645                 650                 655

Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys
            660                 665                 670

Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val
        675                 680                 685

Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val
    690                 695                 700

Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys
705                 710                 715                 720

Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val
                725                 730                 735

Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala
            740                 745                 750

Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp
        755                 760                 765

Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala
    770                 775                 780

Ser Gln Ala Ala Leu Gly Leu
785                 790


<210>  205
<211>  791
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  205

Ser Gln Ile Glu Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr
1               5                   10                  15
```

```
Trp Thr Asn Arg Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Thr
            20                  25                  30

Tyr Gly Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn
        35                  40                  45

Gln Pro Tyr Val His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu
    50                  55                  60

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

Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly Gly Gly Gly Gly Gly Gly
                85                  90                  95

Gly Gly Gly Gly Gly Gly Gly Arg Leu Asp Ala Pro Ser Gln Ile Glu
            100                 105                 110

Val Glu Asp Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Thr Asn Arg
        115                 120                 125

Ser Ser Tyr Ser Asn Leu His Gly Cys Glu Leu Ala Tyr Gly Ile Lys
    130                 135                 140

Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Asn Gln Pro Tyr Val
145                 150                 155                 160

His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser
                165                 170                 175

Leu Ile Cys Leu Thr Thr Asp Gly Thr Tyr Asn Asn Pro Ala Lys Glu
            180                 185                 190

Thr Phe Thr Thr Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Asp Ala
        195                 200                 205

His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn
    210                 215                 220

Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ser
225                 230                 235                 240

Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala
                245                 250                 255

Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu
            260                 265                 270

His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu
        275                 280                 285
```

```
Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg
    290                 295                 300

Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg
305                 310                 315                 320

Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn
                325                 330                 335

Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His
            340                 345                 350

Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys
        355                 360                 365

Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu
    370                 375                 380

Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala
385                 390                 395                 400

Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala
                405                 410                 415

Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala
            420                 425                 430

Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His
        435                 440                 445

Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala
    450                 455                 460

Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys
465                 470                 475                 480

Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile
                485                 490                 495

Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala
            500                 505                 510

Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala
        515                 520                 525

Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His
    530                 535                 540

Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu
545                 550                 555                 560
```

```
Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr
                565                 570                 575

Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn
            580                 585                 590

Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys
        595                 600                 605

Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val
    610                 615                 620

Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly
625                 630                 635                 640

Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu
                645                 650                 655

Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys
            660                 665                 670

Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val
        675                 680                 685

Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val
    690                 695                 700

Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys
705                 710                 715                 720

Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val
                725                 730                 735

Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala
            740                 745                 750

Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp
        755                 760                 765

Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala
    770                 775                 780

Ser Gln Ala Ala Leu Gly Leu
785                 790
```

<210> 206
<211> 190
<212> PRT
<213> Artificial Sequence

<220>

<223> synthetic construct

<400> 206

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

Trp Ser Asp Glu Phe Gly His Tyr Asp Gly Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His
35 40 45

Ser Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Tyr Thr Asp Gln Glu Ala Gly Asn Pro Ala Lys
65 70 75 80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
85 90 95

Gly Gly Gly Ser Arg Leu Asp Ala Pro Ser Gln Ile Glu Val Lys Asp
100 105 110

Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser Asp Glu Phe Gly His
115 120 125

Tyr Asp Gly Cys Glu Leu Thr Tyr Gly Ile Lys Asp Val Pro Gly Asp
130 135 140

Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala Trp Tyr Ser Ile Gly
145 150 155 160

Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser Leu Ile Cys Tyr Thr
165 170 175

Asp Gln Glu Ala Gly Asn Pro Ala Lys Glu Thr Phe Thr Thr
180 185 190

<210> 207
<211> 680
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic construct

<400> 207

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

Trp Ser Asp Glu Phe Gly His Tyr Asp Gly Cys Glu Leu Thr Tyr Gly
20 25 30

```
Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His
        35                  40                  45

Ser Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Tyr Thr Asp Gln Glu Ala Gly Asn Pro Ala Lys
65                  70                  75                  80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp
                85                  90                  95

Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu
            100                 105                 110

Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln
        115                 120                 125

Ser Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe
    130                 135                 140

Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser
145                 150                 155                 160

Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg
                165                 170                 175

Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu
            180                 185                 190

Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro
        195                 200                 205

Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp
    210                 215                 220

Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg
225                 230                 235                 240

His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr
                245                 250                 255

Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys
            260                 265                 270

Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser
        275                 280                 285

Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg
    290                 295                 300
```

```
Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys
305                 310                 315                 320

Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val
                325                 330                 335

His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg
            340                 345                 350

Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser
        355                 360                 365

Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys
    370                 375                 380

Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu
385                 390                 395                 400

Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu
                405                 410                 415

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

His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr
        435                 440                 445

Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys
    450                 455                 460

Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln
465                 470                 475                 480

Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr
                485                 490                 495

Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln
            500                 505                 510

Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val
        515                 520                 525

Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala
    530                 535                 540

Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu
545                 550                 555                 560

Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu
                565                 570                 575
```

```
Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr
            580                 585                 590

Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile
        595                 600                 605

Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu
    610                 615                 620

Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys
625                 630                 635                 640

Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala
                645                 650                 655

Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala
            660                 665                 670

Ala Ser Gln Ala Ala Leu Gly Leu
        675                 680


<210>  208
<211>  785
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  synthetic construct

<400>  208

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

Trp Ser Asp Glu Phe Gly His Tyr Asp Gly Cys Glu Leu Thr Tyr Gly
            20                  25                  30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Trp His
        35                  40                  45

Ser Ala Trp Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
    50                  55                  60

Val Ser Leu Ile Cys Tyr Thr Asp Gln Glu Ala Gly Asn Pro Ala Lys
65                  70                  75                  80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                85                  90                  95

Gly Gly Gly Ser Arg Leu Asp Ala Pro Ser Gln Ile Glu Val Lys Asp
            100                 105                 110
```

```
Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser Asp Glu Phe Gly His
        115                 120                 125

Tyr Asp Gly Cys Glu Leu Thr Tyr Gly Ile Lys Asp Val Pro Gly Asp
    130                 135                 140

Arg Thr Thr Ile Asp Leu Trp Trp His Ser Ala Trp Tyr Ser Ile Gly
145                 150                 155                 160

Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser Leu Ile Cys Tyr Thr
                165                 170                 175

Asp Gln Glu Ala Gly Asn Pro Ala Lys Glu Thr Phe Thr Thr Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ala His Lys Ser Glu Val Ala
        195                 200                 205

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
    210                 215                 220

Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ser Pro Phe Glu Asp His Val
225                 230                 235                 240

Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
                245                 250                 255

Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
            260                 265                 270

Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
        275                 280                 285

Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
    290                 295                 300

His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
305                 310                 315                 320

Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
                325                 330                 335

Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
            340                 345                 350

Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
        355                 360                 365

Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
    370                 375                 380
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Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys
385                 390                 395                 400

Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
                405                 410                 415

Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
            420                 425                 430

Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
        435                 440                 445

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
    450                 455                 460

Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
465                 470                 475                 480

Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
                485                 490                 495

Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser
            500                 505                 510

Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
        515                 520                 525

Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
    530                 535                 540

Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
545                 550                 555                 560

Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
                565                 570                 575

Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
            580                 585                 590

Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
        595                 600                 605

Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
    610                 615                 620

Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
625                 630                 635                 640

Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val
                645                 650                 655
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Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
660 665 670

Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe
675 680 685

Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
690 695 700

Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
705 710 715 720

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
725 730 735

Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
740 745 750

Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
755 760 765

Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
770 775 780

Leu
785

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<213> Artificial Sequence

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<223> synthetic construct

<400> 209

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

Trp Ser Asp Asp Phe Gly Glu Tyr Val Trp Cys Glu Leu Thr Tyr Gly
20 25 30

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Trp Tyr His
35 40 45

His Ala His Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
50 55 60

Val Ser Leu Ile Cys Arg Ser Gly Asp Met Ser Ser Asn Pro Ala Lys
65 70 75 80

Glu Thr Phe Thr Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
85 90 95

```
Gly Gly Gly Ser Arg Leu Asp Ala Pro Ser Gln Ile Glu Val Lys Asp
            100                 105                 110

Val Thr Asp Thr Thr Ala Leu Ile Thr Trp Ser Asp Asp Phe Gly Glu
        115                 120                 125

Tyr Val Trp Cys Glu Leu Thr Tyr Gly Ile Lys Asp Val Pro Gly Asp
    130                 135                 140

Arg Thr Thr Ile Asp Leu Trp Tyr His His Ala His Tyr Ser Ile Gly
145                 150                 155                 160

Asn Leu Lys Pro Asp Thr Glu Tyr Glu Val Ser Leu Ile Cys Arg Ser
                165                 170                 175

Gly Asp Met Ser Ser Asn Pro Ala Lys Glu Thr Phe Thr Thr
            180                 185                 190
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Met Thr Asn Ile Thr Lys Arg Ser Leu Val Ala Ala Gly Val Leu Ala
1               5                   10                  15

Ala Leu Met Ala Gly Asn Val Ala Met Ala
            20                  25
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