

eolf-seq1.txt
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<110> Sanofi
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<130> DE2015/080WOPCT
<150> EP 15 306 106.4
<151> July 7, 2015
<160> 186
<170> PatentIn version 3.5
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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
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Val Val Gly Leu Ala Gly Asn Ala Ile Leu Arg Glu Asp Lys Asp Pro
35 40 45

Gln Lys Met Tyr Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Ser Val Leu Phe Arg Lys Lys Lys Cys Asp Tyr Trp Ile
65 70 75 80

Arg Thr Phe Val Pro Gly Cys Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Leu Thr Ser Tyr Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Ser Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

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Asp Gly

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

Asp Gly

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Thr Ala Gly Asn Gly Phe Leu Arg Glu Asp Lys Asp Pro
35 40 45

Leu Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Ser Val Trp Phe Ala Leu Lys Lys Cys Tyr Tyr Asp Ile
65 70 75 80

Gly Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ile
85 90 95

Ile Lys Ser Glu Pro Gly His Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Trp Val Asn Gln
115 120 125

Asn Arg Glu Asn Phe Gln Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr

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

Asp Gly

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 Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 20 25 30
 Val Val Gly Phe Ala Gly Asn Asn Arg Leu Arg Glu Asp Lys Asp Pro
 35 40 45
 Pro Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

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Asn Val Thr Asp Val Thr Phe Glu Ala Lys Lys Cys Arg Tyr Arg Ile
65 70 75 80

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Tyr
85 90 95

Ile Lys Ser Lys Pro Gly Pro Thr Ser Phe Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ser Val Thr Gln
115 120 125

Asn Arg Glu Trp Phe Gly Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Leu Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro
35 40 45

Val Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Val Val Asp Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp
85 90 95

Ile Lys Ser Phe Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser
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100

105

110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln
115 120 125

Asn Arg Glu Trp Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Phe Phe Leu Arg Glu Asp Lys Asp Pro
35 40 45

Ala Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Trp Phe Leu Asn Lys Lys Cys Gln Tyr Glu Ile
65 70 75 80

His Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Tyr
85 90 95

Ile Lys Ser Tyr Pro Gly Tyr Thr Ser His Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Val Val His Gln
115 120 125

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

eof-seq1.txt

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Trp Ala Gly Asn Thr Thr Leu Arg Glu Asp Lys Asp Pro
35 40 45

Pro Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Asp Val Gln Phe Pro Glu Lys Lys Cys Ile Tyr Ser Thr
65 70 75 80

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly
85 90 95

Ile Lys Ser Ser Pro Gly Gln Thr Ser His Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Tyr Val Ile Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

eof-seq1.txt

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 20 25 30

Val Val Gly Trp Ala Gly Asn Thr Thr Leu Arg Glu Asp Lys Asp Pro
 35 40 45

Pro Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Asn Val Thr Asp Val Gln Phe Pro Asp Lys Lys Cys Ile Tyr Ser Ile
 65 70 75 80

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly
 85 90 95

Ile Lys Ser Asn Pro Gly Asp Thr Ser His Leu Val Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Tyr Val Val Gln
 115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

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

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          20          25          30

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eo1f-seq1.txt

Val Val Gly Trp Ala Gly Asn Thr Thr Leu Arg Glu Asp Lys Asp Pro
35 40 45

Pro Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Asp Val Gln Phe Pro Asp Lys Lys Cys Val Tyr Ser Ile
65 70 75 80

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly
85 90 95

Ile Lys Ser Asn Pro Gly Asn Thr Ser His Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Tyr Val Val Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Leu Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro
35 40 45

Leu Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Val Val Asp Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile

eolf-seq1.txt															
65				70				75				80			
Glu	Thr	Phe	Val	Pro ₈₅	Gly	Ser	Gln	Pro	Gly ₉₀	Glu	Phe	Thr	Leu	Gly ₉₅	Asp
Ile	Lys	Ser	Ser ₁₀₀	Pro	Gly	Trp	Thr	Ser ₁₀₅	Gln	Leu	Val	Arg	Val ₁₁₀	Val	Ser
Thr	Asn	Tyr ₁₁₅	Asn	Gln	His	Ala	Met ₁₂₀	Val	Phe	Phe	Lys	Gly ₁₂₅	Val	Tyr	Gln
Asn	Arg ₁₃₀	Glu	Trp	Phe	His	Ile ₁₃₅	Thr	Leu	Tyr	Gly	Arg ₁₄₀	Thr	Lys	Glu	Leu
Thr ₁₄₅	Ser	Glu	Leu	Lys	Glu ₁₅₀	Asn	Phe	Ile	Arg	Phe ₁₅₅	Ser	Lys	Ser	Leu	Gly ₁₆₀
Leu	Pro	Glu	Asn	His ₁₆₅	Ile	Val	Phe	Pro	Val ₁₇₀	Pro	Ile	Asp	Gln	Cys ₁₇₅	Ile

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Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Tyr Val Thr Gln
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Asn Arg Glu Gly Phe Asn Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

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Asp Gly

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Val Val Gly Leu Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro
35 40 45

Leu Lys Met Met Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Val Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr
65 70 75 80

Glu Thr Phe Val Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp
85 90 95

Ile Lys Ser Ser Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln
115 120 125

Asn Arg Glu Trp Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly

eo1f-seq1.txt

145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
20 25 30

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

Pro Lys Met Pro Ala Val Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Gln Phe Pro Glu Lys Glu Cys Ile Tyr Ser Thr
65 70 75 80

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly
85 90 95

Ile Lys Ser Ser Pro Gly Gln Thr Ser His Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Tyr Val Thr Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

eo1f-seq1.txt

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 20 25 30

Val Val Gly Trp Ala Gly Asn Thr Ala Leu Arg Glu Asp Lys Asp Pro
 35 40 45

Pro Lys Met Pro Ala Val Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Asp Val Thr Asp Val Gln Phe Pro Glu Lys Glu Cys Ile Tyr Ser Thr
 65 70 75 80

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly
 85 90 95

Ile Lys Ser Ser Pro Gly Gln Thr Ser His Leu Val Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Tyr Val Thr Gln
 115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

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eof-seq1.txt

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

Asp Gly

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Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30
Val Val Gly Leu Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro
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eof-seq1.txt

35

40

45

Leu Lys Met Met Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Val Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr
65 70 75 80

Glu Thr Phe Val Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp
85 90 95

Ile Lys Ser Ser Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln
115 120 125

Asn Arg Glu Trp Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Glu Val Leu Arg Glu Asp Lys Asp Pro
35 40 45

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

Asn Val Thr Glu Val Arg Phe His Asn Lys Lys Cys Asn Tyr Ser Ile
65 70 75 80

eof-seq1.txt

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Asn Pro Gly Gln Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Lys Gln
115 120 125

Asn Arg Glu Gly Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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20 25 30

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

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

Asn Val Thr Asp Val Arg Phe Ile Met Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ile
85 90 95

Ile Lys Ser Asn Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
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eof-seq1.txt

115

120

125

Asn Arg Glu Met Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

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

Asn Val Thr Glu Val Arg Phe Ala Pro Lys Lys Cys Ile Tyr Ser Ile
65 70 75 80

Ser Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Met
85 90 95

Ile Lys Ser Ser Pro Gly Gly Thr Ser Ala Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Ser Gln
115 120 125

Asn Arg Glu Val Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

eof-seq1.txt

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Ala Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Arg Phe Ser Gln Lys Lys Cys Met Tyr Ala Ile
65 70 75 80

Tyr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Arg
85 90 95

Ile Lys Ser Pro Pro Gly Thr Thr Ser Ile Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Met Gln
115 120 125

Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 23

eo1f-seq1.txt

<211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> S449.5 M1.1_E8

<400> 23

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 20 25 30

Val Val Gly Leu Ala Gly Asn His Ile Leu Arg Glu Asp Lys Asp Pro
 35 40 45

Ala Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Asn Val Thr Glu Val Arg Phe Gly Arg Lys Lys Cys His Tyr Trp Ile
 65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Arg
 85 90 95

Ile Lys Ser Asp Pro Gly Met Thr Ser Phe Leu Val Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ala Val Asp Gln
 115 120 125

Asn Arg Glu Asn Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

<210> 24
 <211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> S437.1 M1.1_P2

<400> 24

Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
 Page 20

eof-seq1.txt

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

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Asp Gly

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<210> 25
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S449.1 M1.1_I7

<400> 25

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

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eof-seq1.txt

Gly Lys Met Gly Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Arg Phe Gly Arg Lys Lys Cys Gly Tyr Trp Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala
85 90 95

Ile Lys Ser Trp Pro Gly Ile Thr Ser Gly Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Asn Gln
115 120 125

Asn Arg Glu Val Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 26
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0475.06L06

<400> 26

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Glu Val Leu Arg Asp Asp Lys Asp Pro
35 40 45

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

Asn Val Thr Glu Val Arg Phe His Asn Lys Lys Cys Asn Tyr Ser Ile
65 70 75 80

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

eof-seq1.txt

85

90

95

Ile Lys Ser Asn Pro Gly Val Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Asn Val Lys Gln
115 120 125

Asn Arg Glu Gly Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 27
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0475.08G23

<400> 27

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

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

Asn Val Thr Glu Val Arg Phe His Asn Lys Lys Cys Asn Tyr Ser Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Gln Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Lys Gln
115 120 125

eo1f-seq1.txt

Asn Arg Glu Val Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 28
<211> 178
<212> PRT
<213> Artificial sequence

<220>
<223> S0475.06G17

<400> 28

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

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

Asn Val Thr Glu Val Arg Phe His Lys Lys Lys Cys Asn Tyr Phe Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Lys
85 90 95

Ile Lys Ser His Pro Gly Gln Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Lys Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
Page 24

Asp Gly

<210> 29
 <211> 178
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> S0475.03N20

<400> 29

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

Asp Gly

<210> 30
 <211> 178
 <212> PRT

<213> Artificial sequence

<220>

<223> S0474.05F20

<400> 30

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

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

Asn Val Thr Asp Val Arg Phe Ile Phe Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Met Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 31

<211> 178

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22

<400> 31

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

eof-seq1.txt

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

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

Asn Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 32
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0475.06L06_N65D_S79F

<400> 32

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Glu Val Leu Arg Asp Asp Lys Asp Pro
35 40 45

Gly Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
Page 27

eof-seq1.txt

50

55

60

Asp Val Thr Glu Val Arg Phe His Asn Lys Lys Cys Asn Tyr Phe Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Lys
85 90 95

Ile Lys Ser Asn Pro Gly Val Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Asn Val Lys Gln
115 120 125

Asn Arg Glu Gly Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 33
<211> 178
<212> PRT
<213> Artificial sequence

<220>
<223> S0475.06L06_N65Q_S79F

<400> 33

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Glu Val Leu Arg Asp Asp Lys Asp Pro
35 40 45

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

Gln Val Thr Glu Val Arg Phe His Asn Lys Lys Cys Asn Tyr Phe Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Lys
85 90 95

eof-seq1.txt

Ile Lys Ser Asn Pro Gly Val Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Asn Val Lys Gln
115 120 125

Asn Arg Glu Gly Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 34
<211> 178
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22_T54A_N65D

<400> 34

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu

ecdf-seq1.txt
140

130

135

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 35
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22_T54A_N65Q

<400> 35

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

eof-seq1.txt

Asp Gly

<210> 36
 <211> 178
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> S0474.01H22_H28Q_T54A_N65D

<400> 36

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
 20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
 65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
 85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
 115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

<210> 37
 <211> 178
 <212> PRT
 <213> Artificial Sequence

eof-seq1.txt

<220>

<223> S0474.01H22_N65Q

<400> 37

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

Asp Gly

<210> 38

<211> 178

<212> PRT

<213> Artificial Sequence

<220>

<223> S0466.14D07

<400> 38

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr

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

Asp Gly

<210> 39
 <211> 178
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> S0466.05N20

<400> 39

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

eof-seq1.txt

Asn Val Thr Gln Val Asn Phe Trp Leu Lys Lys Cys Ala Tyr Ser Ile
65 70 75 80

Ser Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Arg
85 90 95

Ile Lys Ser Ile Pro Gly Pro Thr Ser Glu Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Thr Val Ile Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 40
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0466.16B14

<400> 40

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Phe Ala Gly Asn Leu Leu Leu Arg Glu Asp Lys Asp Pro
35 40 45

Arg Lys Met Arg Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Asp Val Arg Phe Leu Tyr Lys Lys Cys Ile Tyr Ser Ile
65 70 75 80

Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly
85 90 95

Ile Lys Ser Ala Pro Gly Phe Thr Ser Glu Leu Val Arg Val Val Ser
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Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Trp Val Ala Gln
 115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

<210> 41
 <211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> S0466.15E20

<400> 41

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 20 25 30

Val Val Gly Phe Ala Gly Asn Trp Arg Leu Arg Glu Asp Lys Asp Pro
 35 40 45

Pro Lys Met Ser Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Asn Val Thr Asn Val Arg Phe Trp Pro Lys Lys Cys Arg Tyr Ser Ile
 65 70 75 80

Ser Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Met
 85 90 95

Ile Lys Ser Pro Pro Gly Gly Thr Ser Glu Leu Val Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Trp Val Phe Gln
 115 120 125

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

eof-seq1.txt

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 42
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0466.13C10

<400> 42

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asp Pro
35 40 45

Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Gln Tyr Asp Ile
65 70 75 80

Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

eof-seq1.txt

<210> 43
 <211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> S0510.11H24

<400> 43

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asp Pro
 35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Asn Val Thr Glu Val Arg Phe Arg Gln Lys Lys Cys Lys Tyr Asp Ile
 65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
 85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
 115 120 125

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

<210> 44
 <211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> S0512.01M12_x103Q

eof-seq1.txt

<400> 44

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

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Asp Gly

<210> 45

<211> 178

<212> PRT

<213> Artificial sequence

<220>

<223> S0512.01F10_x103Q

<400> 45

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Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
1          5          10
Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
          20          25          30

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eof-seq1.txt

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asp Pro
35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Lys Tyr Asp Ile
65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 46
<211> 174
<212> PRT
<213> Artificial sequence

<220>
<223> S0510.10A04_x103Q

<400> 46

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asp Pro
35 40 45

Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Arg Phe Arg Tyr Lys Lys Cys Gln Tyr Asp Ile

co1f-seq1.txt

65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Ser Glu
85 90 95

Pro Gly Gln Thr Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn
100 105 110

Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Phe
115 120 125

Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
130 135 140

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
145 150 155 160

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
165 170

<210> 47
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0530.07G09

<400> 47

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Arg Arg Glu Asp Lys Asp Pro
35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Lys Tyr Asp Ile
65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

eo1f-seq1.txt

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 48
<211> 178
<212> PRT
<213> Artificial sequence

<220>
<223> S0530.07K20

<400> 48

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asn Pro
35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Lys Tyr Asp Ile
65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Pro Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
Page 41

Asp Gly

<210> 49
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0530.07K21

<400> 49

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

Asp Gly

<210> 50
<211> 178
<212> PRT

<213> Artificial sequence

<220>

<223> S0530.07G09_N65D

<400> 50

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Arg Arg Glu Asp Lys Asp Pro
35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Lys Tyr Asp Ile
65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 51

<211> 178

<212> PRT

<213> Artificial sequence

<220>

<223> S0530.07K20_N65D

<400> 51

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

eo1f-seq1.txt

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asn Pro
35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Lys Tyr Asp Ile
65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Pro Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 52
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0530.07K21_N65D

<400> 52

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Gly Arg Asp Pro
35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr

eof-seq1.txt

50

55

60

Asp Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Lys Tyr Asp Ile
65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 53

<211> 178

<212> PRT

<213> Artificial sequence

<220>

<223> S0530.07G09_H28Q_N65D

<400> 53

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
20 25 30

Val Val Gly Glu Ala Gly Asn Leu Ala Arg Arg Glu Asp Lys Asp Pro
35 40 45

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Lys Tyr Asp Ile
65 70 75 80

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
85 90 95

eof-seq1.txt

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
115 120 125

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 54
<211> 178
<212> PRT
<213> Artificial sequence

<220>
<223> S0455.04F12
<400> 54

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

His Lys Met Leu Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr His Val Thr Phe Lys Trp Lys Lys Cys Tyr Tyr Ala Ile
65 70 75 80

Arg Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Met
85 90 95

Ile Lys Ser Glu Pro Gly His Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Trp Val Asp Gln
115 120 125

Asn Arg Glu Glu Phe Leu Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
Page 46

eo1f-seq1.txt
140

130

135

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 55
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0455.04F23

<400> 55

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu Asp Lys Asp Pro
35 40 45

Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys His Tyr Arg Ile
65 70 75 80

Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val Ile Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

eof-seq1.txt

Asp Gly

<210> 56
 <211> 178
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> S0455.04F09

<400> 56

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

Asp Gly

<210> 57
 <211> 178
 <212> PRT
 <213> Artificial Sequence

eof-seq1.txt

<220>

<223> S0455.04M08

<400> 57

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Tyr Trp Leu Arg Glu Asp Lys Asp Pro
35 40 45

Ala Lys Met Tyr Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Asp Val Arg Phe Trp Arg Lys Lys Cys Arg Tyr Asp Ile
65 70 75 80

Trp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Pro
85 90 95

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

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Leu Val Arg Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 58

<211> 178

<212> PRT

<213> Artificial Sequence

<220>

<223> S0522.15K24

<400> 58

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr

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

Asp Gly

<210> 59
 <211> 178
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> S0527.05N11

<400> 59

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

eof-seq1.txt

Asn Val Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Thr
65 70 75 80

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala
85 90 95

Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Ser Lys Gly Val Trp Gln
115 120 125

Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 60
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0522.05A05

<400> 60

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu Gly Arg Asp Pro
35 40 45

Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asn Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys Leu Tyr Arg Ile
65 70 75 80

Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val Arg Val Val Ser
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Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val Ile Gln
 115 120 125
 Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140
 Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160
 Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

<210> 61
 <211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> S0522.05M06

<400> 61

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

eo1f-seq1.txt

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

<210> 62
<211> 178
<212> PRT
<213> Artificial Sequence

<220>
<223> S0522.05A05_H28Q_N65D

<400> 62

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
20 25 30

Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu Gly Arg Asp Pro
35 40 45

Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys Leu Tyr Arg Ile
65 70 75 80

Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val Ile Gln
115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly

eof-seq1.txt

<210> 63
 <211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> S0522.05M06_N65D

<400> 63

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 20 25 30

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

Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Asp Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys His Tyr Arg Ile
 65 70 75 80

Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Phe Gly Asn
 85 90 95

Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val Ile Gln
 115 120 125

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

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly

<210> 64
 <211> 178
 <212> PRT
 <213> Artificial sequence

<220>
 <223> 3004wt = NGAL98

eof-seq1.txt

<400> 64

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

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Asp Gly

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eof-seq1.txt

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eolf-seq1.txt

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eof-seq1.txt

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eof-seq1.txt

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<220>
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eof-seq1.txt

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tcagagttgg tccgcgtcgt gagcaccaac tacaaccagc atgccatggt gttcttcaag	360
aaggtggtgc agaaccgcga gtttttttgg atcacactgt acgggcgcac gaaagaactg	420
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gtgttcttca agaaggtggt ccagaaccgc gagtattttt ggatcacact gtacgggcgc	420
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eolf-seq1.txt

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tggtatgtcg	
tgggcgaggc	
cggaaatctt	
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tttaggcata	
agaaatgcaa	
gtacgatatt	
gttacctttg	300
tgccggggag	
ccagccgggc	
gagtttactt	
taggccttat	
taaaagtgat	
ccggggccaga	360
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ggtccgcgtc	
gtgagcacca	
actacaacca	
gcatgccatg	
gtgttcttca	420
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gcttttccaa	
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taaaagtgat	
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gcatgccatg	
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eof-seq1.txt

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acgaaagaac tgccaagcga gctgaaggaa aattttatcc gcttttccaa atctctgggc	480
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acgaaagaac tgacaagcga gctgaaggaa aattttatcc gcttttccaa atctctgggc	480
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<210> 116

<211> 534

<212> DNA

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<220>

<223> S0530.07G09_H28Q_N65D

<400> 116

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gctcggcgtg aggataagga tccgatgaaa atgatggcga ccatttacga gttgaaagaa	180
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eolf-seq1.txt

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acgaaagaac	tgacaagcga	gctgaaggaa	aattttatcc	gcttttccaa	atctctgggc	480
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gtgttcttca	agtgggtgga ccagaaccgc gaggagtttc tgatcacact gtacgggcgc 420
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ccgggaggaa	catcaggatt ggtccgcgtc gtgagcacca actacaacca gcatgccatg 360
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<210> 119

eof-seq1.txt

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<210> 121
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eolf-seq1.txt

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eolf-seq1.txt

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<220>
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 <212> DNA
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<220>
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<400> 126

eolf-seq1.txt

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<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> C-terminal sequence of muteins

<400> 127

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<210> 128
<211> 8
<212> PRT
<213> Artificial sequence

<220>
<223> SA linker and the Strep Tag II

<400> 128

Trp Ser His Pro Gln Phe Glu Lys
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<210> 129
<211> 200
<212> PRT
<213> Artificial sequence

<220>
<223> Expressed protein amino acid sequence

<400> 129

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20 25 30

Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln
35 40 45

eof-seq1.txt

Phe His Gly Lys Trp Tyr Val Val Gly Val Ala Gly Asn Thr Ile Leu
50 55 60

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

Lys Glu Asp Lys Ser Tyr Asn Val Thr Asp Val Arg Phe Ile Arg Lys
85 90 95

Lys Cys His Tyr Tyr Ile Asp Thr Phe Val Pro Gly Ser Gln Pro Gly
100 105 110

Glu Phe Thr Leu Gly Asn Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln
115 120 125

Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe
130 135 140

Phe Lys Ile Val Arg Gln Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr
145 150 155 160

Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg
165 170 175

Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val
180 185 190

Pro Ile Asp Gln Cys Ile Asp Gly
195 200

<210> 130
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<213> Artificial sequence

<220>
<223> positions 95-98

<400> 130

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<210> 131
<211> 6
<212> PRT
<213> Artificial sequence

<220>
<223> examples of albumin binding peptides

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<222> (2)..(2)
<223> Xaa can be any of Asp, Asn, Ser, Thr, or Trp

eof-seq1.txt

<220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> Xaa can be any of Asn, Gln, His, Ile, Leu, or Lys

<220>
 <221> MISC_FEATURE
 <222> (4)..(4)
 <223> Xaa can be any of Ala, Asp, Phe, Trp, or Tyr

<220>
 <221> MISC_FEATURE
 <222> (5)..(5)
 <223> Xaa can be any of Asp, Gly, Leu, Phe, Ser, or Thr

<400> 131

Cys Xaa Xaa Xaa Xaa Cys
 1 5

<210> 132
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Linker

<400> 132

Asp Tyr Asp Ile Pro Thr Thr
 1 5

<210> 133
 <211> 7
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<220>
 <223> protease cleavage site

<400> 133

Glu Asn Leu Tyr Phe Gln Gly
 1 5

<210> 134
 <211> 742
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<220>
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 S0530.07G09_H28Q_N65D_(G4S)2 S0522.05A05_H28Q_N65D

<400> 134

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
 20 25 30

eo1f-seq1.txt

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

eof-seq1.txt

Gln His Ala Met Val Phe Phe Lys Tyr Val Thr Gln Asn Arg Glu Gly
305 310 315 320

Phe Asn Ile Ala Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

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

Ala Arg Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
435 440 445

His Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Pro Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

eof-seq1.txt

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln
580 585 590

Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu
595 600 605

Gly Arg Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys
625 630 635 640

Leu Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly
740

<210> 135
<211> 742
<212> PRT
<213> Artificial sequence

<220>
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S0530.07G09_N65D_(G4S)2 S0522.05M06_N65D

<400> 135

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

eof-seq1.txt

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly ser Gly Gly Gly Gly Ser Gln Asp ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val
260 265 270

Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

ecolf-seq1.txt

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Arg Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
435 440 445

His Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Pro Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

eof-seq1.txt

Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Gly
595 600 605

Asp Tyr Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys
625 630 635 640

His Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Phe Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly
740

<210> 136
<211> 980
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22_H28Q_T54A_N65D(G4S)2S0544.04C04_H28Q_N65D(G4S)2
S0530.07G09_H28Q_N65D_(G4S)2 S0522.05A05_H28Q_N65D_(G4S)2
huIgG4Fc

<400> 136

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

eof-seq1.txt

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

eof-seq1.txt

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

eo1f-seq1.txt

Gly Arg Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys
625 630 635 640

Leu Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
740 745 750

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
755 760 765

Glu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
770 775 780

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
785 790 795 800

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
805 810 815

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
820 825 830

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
835 840 845

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
850 855 860

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
865 870 875 880

eof-seq1.txt

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
885 890 895

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
900 905 910

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
915 920 925

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
930 935 940

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
945 950 955 960

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
965 970 975

Leu Ser Leu Gly
980

<210> 137
<211> 980
<212> PRT
<213> Artificial sequence

<220>
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S0530.07G09_N65D_(G4S)2_ S0522.05M06_N65D_(G4S)2_hIgG4Fc

<400> 137

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
Page 93

eolf-seql.txt

115

120

125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
 180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
 195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
 210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
 225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val
 245 250 255

Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val
 260 265 270

Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
 275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
 290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
 305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
 325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
 340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
 355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
 370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
 Page 94

eolf-seq1.txt

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385                390                395                400
Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
              405              410              415
Ala Arg Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
              420              425              430
Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
              435              440              445
His Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
              450              455              460
Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
              465              470              475
Pro Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
              485              490              495
Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
              500              505              510
Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
              515              520              525
Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
              530              535              540
Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
              545              550              555
Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
              565              570              575
Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
              580              585              590
Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Gly
              595              600              605
Asp Tyr Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
              610              615              620
Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys
              625              630              635
His Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
              645              650              655
Thr Phe Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala

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Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 675 680 685
 Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
 690 695 700
 Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 705 710 715 720
 Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 725 730 735
 Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 740 745 750
 Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
 755 760 765
 Glu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 770 775 780
 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 785 790 795 800
 Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 805 810 815
 Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 820 825 830
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 835 840 845
 Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
 850 855 860
 Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 865 870 875 880
 Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
 885 890 895
 Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 900 905 910
 Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 915 920 925
 Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
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co1f-seq1.txt
940

930

935

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
945 950 955 960

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
965 970 975

Leu Ser Leu Gly
980

<210> 138

<211> 980

<212> PRT

<213> Artificial Sequence

<220>

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2_S0530.07G09_N65D_(G4S)2_ S0522.05M06_N65D

<400> 138

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Glu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

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

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
165 170 175

eof-seq1.txt

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
180 185 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
195 200 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
210 215 220

Leu Ser Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp
225 230 235 240

Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
245 250 255

Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
260 265 270

Gly Val Ala Gly Asn Thr Ile Leu Arg Glu Asp Lys Asp Pro Gly Lys
275 280 285

Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val
290 295 300

Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile Asp Thr
305 310 315 320

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn Ile Lys
325 330 335

Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn
340 345 350

Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln Asn Arg
355 360 365

Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
370 375 380

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
385 390 395 400

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
405 410 415

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp
420 425 430

Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe
435 440 445

eof-seq1.txt

Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly
450 455 460

Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met Ala Ala
465 470 475 480

Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val Val Asp
485 490 495

Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val Pro Gly
500 505 510

Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser Pro Gly
515 520 525

Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His
530 535 540

Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His
545 550 555 560

Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu
565 570 575

Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile
580 585 590

Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly
595 600 605

Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala
610 615 620

Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln
625 630 635 640

Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Arg
645 650 655

Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr Glu Leu
660 665 670

Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg His Lys
675 680 685

Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln Pro Gly
690 695 700

Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Pro Glu
705 710 715 720

eo1f-seq1.txt

Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe
 725 730 735
 Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr
 740 745 750
 Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg
 755 760 765
 Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val
 770 775 780
 Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly
 785 790 795 800
 Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser
 805 810 815
 Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys
 820 825 830
 Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Gly Asp Tyr
 835 840 845
 Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys
 850 855 860
 Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys His Tyr
 865 870 875 880
 Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Phe
 885 890 895
 Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala Arg Val
 900 905 910
 Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val
 915 920 925
 Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg Thr Lys
 930 935 940
 Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser
 945 950 955 960
 Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
 965 970 975
 Cys Ile Asp Gly
 980

eo1f-seq1.txt

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<210> 139
<211> 980
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22_T54A_N65D_(G4S)2S0530.04N16_N65D_(G4S)2_hIgG4Fc_S0530
      .07G09_N65D_(G4S)2 S0522.05M06_N65D

<400> 139

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
      20      25      30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
      50      55      60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
      65      70      75      80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
      85      90      95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
      100     105     110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
      115     120     125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
      130     135     140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
      145     150     155     160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
      165     170     175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
      180     185     190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
      195     200     205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
      210     215     220

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eof-seq1.txt

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val
260 265 270

Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Glu Ser Lys Tyr Gly Pro Pro Cys
370 375 380

Pro Pro Cys Pro Ala Pro Glu Phe Glu Gly Gly Pro Ser Val Phe Leu
385 390 395 400

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
405 410 415

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
420 425 430

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
435 440 445

Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu
450 455 460

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
465 470 475 480

Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys
485 490 495

eo1f-seq1.txt

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
500 505 510

Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
515 520 525

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
530 535 540

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
545 550 555 560

Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln
565 570 575

Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
580 585 590

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Gly Gly Gly Gly
595 600 605

Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala
610 615 620

Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln
625 630 635 640

Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Arg
645 650 655

Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr Glu Leu
660 665 670

Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg His Lys
675 680 685

Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln Pro Gly
690 695 700

Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Pro Glu
705 710 715 720

Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe
725 730 735

Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr
740 745 750

Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg
755 760 765

eo1f-seq1.txt

Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val
770 775 780

Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Ser Gly Gly Gly
785 790 795 800

Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser
805 810 815

Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys
820 825 830

Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Gly Asp Tyr
835 840 845

Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys
850 855 860

Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys His Tyr
865 870 875 880

Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Phe
885 890 895

Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala Arg Val
900 905 910

Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val
915 920 925

Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg Thr Lys
930 935 940

Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser
945 950 955 960

Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
965 970 975

Cys Ile Asp Gly
980

<210> 140
<211> 228
<212> PRT
<213> Artificial Sequence

<220>
<223> IgG4-Fc

<400> 140

eof-seq1.txt

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

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

<220>
 <223> Linker

eof-seq1.txt

<400> 141

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

<210> 142

<211> 6

<212> PRT

<213> Artificial sequence

<220>

<223> Linker

<400> 142

Gly Ser Gly Gly Ser Gly
1 5

<210> 143

<211> 980

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(H28Q;T54A;N65D) (G4S)2 S0544.04C04(H28Q;N65D) (G4S)2
(FC;HuIgG4) (G4S)2 S0530.07G09(H28Q;N65D) (G4S)2
S0522.05A05(H28Q;N65D)

<400> 143

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

eof-seq1.txt

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe Gln Gly Lys Trp Tyr Val Val Gly Trp
210 215 220

Ala Gly Asn Thr Ala Leu Arg Glu Asp Lys Asp Pro Pro Lys Met Pro
225 230 235 240

Ala Val Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Asp
245 250 255

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

Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly Ile Lys Ser Ser
275 280 285

Pro Gly Gln Thr Ser His Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Tyr Val Thr Gln Asn Arg Glu Gly
305 310 315 320

Phe Asn Ile Ala Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Glu Ser Lys Tyr Gly Pro Pro Cys
370 375 380

Pro Pro Cys Pro Ala Pro Glu Phe Glu Gly Gly Pro Ser Val Phe Leu
385 390 395 400

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
405 410 415

eo1f-seq1.txt

Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
420 425 430

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
435 440 445

Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu
450 455 460

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
465 470 475 480

Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys
485 490 495

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
500 505 510

Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
515 520 525

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
530 535 540

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
545 550 555 560

Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln
565 570 575

Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
580 585 590

His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Gly Gly Gly
595 600 605

Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala
610 615 620

Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln
625 630 635 640

Phe Gln Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Arg
645 650 655

Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr Glu Leu
660 665 670

Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg His Lys
675 680 685

eo1f-seq1.txt

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

eof-seq1.txt

Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
965 970 975

Cys Ile Asp Gly
980

<210> 144
<211> 752
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(T54A;N65D) GQPKAAPS S0530.04N16(N65D) GQPKAAPS
S0530.07G09(N65Q) GQPKAAPS S0522.05A05(N65D) Cterm StrepII 6His

<400> 144

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gln Pro Lys Ala Ala Pro Ser Gln Asp Ser Thr Ser Asp
180 185 190

Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe
Page 110

195

200

205

Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly
 210 215 220

Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met Ala Ala
 225 230 235 240

Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val Val Asp
 245 250 255

Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val Pro Gly
 260 265 270

Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser Pro Gly
 275 280 285

Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His
 290 295 300

Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His
 305 310 315 320

Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu
 325 330 335

Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile
 340 345 350

Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys
 355 360 365

Ala Ala Pro Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
 370 375 380

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
 385 390 395 400

Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Arg Arg Glu
 405 410 415

Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu
 420 425 430

Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys
 435 440 445

Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
 450 455 460

Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Pro Glu Leu Val
 Page 111

eolf-seq1.txt

465 470 475 480
 Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 485 490 495
 Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg
 500 505 510
 Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 515 520 525
 Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 530 535 540
 Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys Ala Ala Pro Ser Gln Asp
 545 550 555 560
 Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
 565 570 575
 Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
 580 585 590
 Gly His Ala Gly Asn Gln Trp Leu Arg Glu Gly Arg Asp Pro Arg Lys
 595 600 605
 Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val
 610 615 620
 Thr Asp Val Asp Phe Ala Ile Lys Lys Cys Leu Tyr Arg Ile Thr Thr
 625 630 635 640
 Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn Ile Lys
 645 650 655
 Ser His Pro Gly Gly Thr Ser Gly Leu Val Arg Val Val Ser Thr Asn
 660 665 670
 Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val Ile Gln Asn Arg
 675 680 685
 Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
 690 695 700
 Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
 705 710 715 720
 Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
 725 730 735
 Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His His His
 Page 112

<210> 145
<211> 746
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(T54A;N65D) GSGGSG S0530.04N16(N65D) GSGGSG
S0530.07G09(N65Q) GSGGSG S0522.05A05(N65D) Cterm StrepII 6His

<400> 145

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Ser Gly Gly Ser Gly Gln Asp Ser Thr Ser Asp Leu Ile
180 185 190

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
195 200 205

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn Gly
210 215 220

eof-seq1.txt

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

eo1f-seq1.txt

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
500 505 510

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
515 520 525

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
530 535 540

Asp Gly Gly Ser Gly Gly Ser Gly Gln Asp Ser Thr Ser Asp Leu Ile
545 550 555 560

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
565 570 575

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln
580 585 590

Trp Leu Arg Glu Gly Arg Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr
595 600 605

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala
610 615 620

Ile Lys Lys Cys Leu Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln
625 630 635 640

Pro Gly Glu Phe Thr Leu Gly Asn Ile Lys Ser His Pro Gly Gly Thr
645 650 655

Ser Gly Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
660 665 670

Val Phe Phe Lys Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr
675 680 685

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
690 695 700

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
705 710 715 720

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro
725 730 735

Gln Phe Glu Lys His His His His His His
740 745

<210> 146
<211> 758

eo1f-seq1.txt

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<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(T54A;N65D) (G4S)2 S0530.04N16(N65D) (G4S)2
      S0530.07G09(N65Q) (G4S)2 S0522.05A05(N65D) Cterm StrepII 6His

<400> 146

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

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eof-seq1.txt

Ala Ala Val Tyr Glu₂₄₅ Leu Arg Glu Asp₂₅₀ Lys Ser Tyr Asp Val₂₅₅ Thr Val

Val Asp Phe Glu₂₆₀ Leu Glu Glu Cys Arg₂₆₅ Tyr Met Thr Glu Thr₂₇₀ Phe Val

Pro Gly Asn₂₇₅ Gln Pro Gly Glu Phe₂₈₀ Thr Leu Gly Asp Ile₂₈₅ Lys Ser Ser

Pro Gly Trp Thr Ser Gln Leu₂₉₅ Val Arg Val Val Ser₃₀₀ Thr Asn Tyr Asn

Gln His Ala Met Val Phe₃₁₀ Phe Lys Gly Val Tyr₃₁₅ Gln Asn Arg Glu Trp₃₂₀

Phe His Ile Thr Leu₃₂₅ Tyr Gly Arg Thr Lys₃₃₀ Glu Leu Thr Ser Glu₃₃₅ Leu

Lys Glu Asn Phe₃₄₀ Ile Arg Phe Ser Lys₃₄₅ Ser Leu Gly Leu Pro Glu Asn

His Ile Val₃₅₅ Phe Pro Val Pro Ile₃₆₀ Asp Gln Cys Ile Asp₃₆₅ Gly Gly Gly

Gly Gly Ser Gly Gly Gly Gly₃₇₅ Ser Gln Asp Ser Thr₃₈₀ Ser Asp Leu Ile

Pro Ala Pro Pro Leu Ser₃₉₀ Lys Val Pro Leu Gln₃₉₅ Gln Asn Phe Gln Asp₄₀₀

Asn Gln Phe His Gly₄₀₅ Lys Trp Tyr Val Val₄₁₀ Gly Glu Ala Gly Asn₄₁₅ Leu

Ala Arg Arg Glu₄₂₀ Asp Lys Asp Pro Met₄₂₅ Lys Met Met Ala Thr₄₃₀ Ile Tyr

Glu Leu Lys₄₃₅ Glu Asp Lys Ser Tyr₄₄₀ Gln Val Thr Glu Val₄₄₅ Arg Phe Arg

His Lys₄₅₀ Lys Cys Lys Tyr Asp₄₅₅ Ile Val Thr Phe Val₄₆₀ Pro Gly Ser Gln

Pro Gly Glu Phe Thr Leu₄₇₀ Gly Leu Ile Lys Ser₄₇₅ Asp Pro Gly Gln Thr₄₈₀

Pro Glu Leu Val Arg₄₈₅ Val Val Ser Thr Asn₄₉₀ Tyr Asn Gln His Ala Met₄₉₅

Val Phe Phe Lys₅₀₀ Lys Val Val Gln Asn₅₀₅ Arg Glu Tyr Phe Trp₅₁₀ Ile Thr

eo1f-seq1.txt

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
 515 520 525
 Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
 530 535 540
 Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
 545 550 555 560
 Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
 565 570 575
 Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
 580 585 590
 Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu
 595 600 605
 Gly Arg Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
 610 615 620
 Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys
 625 630 635 640
 Leu Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
 645 650 655
 Thr Leu Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val
 660 665 670
 Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 675 680 685
 Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
 690 695 700
 Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 705 710 715 720
 Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 725 730 735
 Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
 740 745 750
 His His His His His His
 755

<210> 147
 <211> 758
 <212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(N65Q;T54A) (G4S)2 S0530.04N16(N65Q) (G4S)2
S0530.07K20(N65Q) (G4S)2 S0522.15K24(N65Q) Cterm StrepII His

<400> 147

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

eof-seq1.txt

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Gln Val Thr Val
245 250 255

Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val
260 265 270

Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Leu Arg Glu Asp Lys Asn Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg
435 440 445

His Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Pro Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

eof-seq1.txt

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

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Leu Gly Met Ala Gly Asn Phe His Leu Arg Glu
595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Gln Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
625 630 635 640

Ala Tyr Lys Thr Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Ser Lys
675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
690 695 700

Ala Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 148
<211> 758
<212> PRT
<213> Artificial sequence

eo1f-seq1.txt

<220>

<223> S0474.01H22(N65Q;T54A) (G4S)2 S0530.04N16(N65Q) (G4S)2
S0530.07K20(N65Q) (G4S)2 S0522.05M06 (N65Q) Cterm StrepII His

<400> 148

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Gln Val Thr Val
Page 122

eo1f-seq1.txt
250

245

255

Val Asp Phe Glu₂₆₀ Leu Glu Glu Cys Arg₂₆₅ Tyr Met Thr Glu Thr₂₇₀ Phe Val
Pro Gly Asn₂₇₅ Gln Pro Gly Glu Phe₂₈₀ Thr Leu Gly Asp Ile₂₈₅ Lys Ser Ser
Pro Gly₂₉₀ Trp Thr Ser Gln Leu₂₉₅ Val Arg Val Val Ser₃₀₀ Thr Asn Tyr Asn
Gln His Ala Met Val Phe₃₁₀ Phe Lys Gly Val Tyr₃₁₅ Gln Asn Arg Glu Trp₃₂₀
Phe His Ile Thr Leu₃₂₅ Tyr Gly Arg Thr Lys₃₃₀ Glu Leu Thr Ser Glu₃₃₅ Leu
Lys Glu Asn Phe₃₄₀ Ile Arg Phe Ser Lys₃₄₅ Ser Leu Gly Leu Pro₃₅₀ Glu Asn
His Ile Val₃₅₅ Phe Pro Val Pro Ile₃₆₀ Asp Gln Cys Ile Asp₃₆₅ Gly Gly Gly
Gly Gly₃₇₀ Ser Gly Gly Gly Gly₃₇₅ Ser Gln Asp Ser Thr₃₈₀ Ser Asp Leu Ile
Pro Ala Pro Pro Leu Ser₃₉₀ Lys Val Pro Leu Gln₃₉₅ Gln Asn Phe Gln Asp₄₀₀
Asn Gln Phe His Gly₄₀₅ Lys Trp Tyr Val Val₄₁₀ Gly Glu Ala Gly Asn₄₁₅ Leu
Ala Leu Arg Glu₄₂₀ Asp Lys Asn Pro Met₄₂₅ Lys Met Met Ala Thr₄₃₀ Ile Tyr
Glu Leu Lys₄₃₅ Glu Asp Lys Ser Tyr₄₄₀ Gln Val Thr Glu Val₄₄₅ Arg Phe Arg
His Lys₄₅₀ Lys Cys Lys Tyr Asp₄₅₅ Ile Val Thr Phe Val₄₆₀ Pro Gly Ser Gln
Pro Gly Glu Phe Thr Leu₄₇₀ Gly Leu Ile Lys Ser₄₇₅ Asp Pro Gly Gln Thr₄₈₀
Pro Glu Leu Val Arg₄₈₅ Val Val Ser Thr Asn₄₉₀ Tyr Asn Gln His Ala₄₉₅ Met
Val Phe Phe Lys₅₀₀ Lys Val Val Gln Asn₅₀₅ Arg Glu Tyr Phe Trp₅₁₀ Ile Thr
Leu Tyr Gly Arg Thr Lys Glu Leu Pro Ser Glu Leu Lys Glu Asn Phe

eof-seq1.txt

515

520

525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Gly
595 600 605

Asp Tyr Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Gln Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys
625 630 635 640

His Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Phe Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His
755

<210> 149
<211> 758
<212> PRT
<213> Artificial Sequence

eof-seq1.txt

<220>

<223> S0474.01H22(N65Q;T54A) (G4S)2 S0530.04N16(N65Q) (G4S)2
S0530.07G09(N65Q) (G4S)2 S0522.15K24(N65Q) Cterm StrepII His

<400> 149

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Gln Val Thr Val
245 250 255

eo1f-seq1.txt

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

eo1f-seq1.txt

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Leu Gly Met Ala Gly Asn Phe His Leu Arg Glu
595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Gln Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
625 630 635 640

Ala Tyr Lys Thr Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Ser Lys
675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
690 695 700

Ala Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His
755

<210> 150
<211> 758
<212> PRT
<213> Artificial Sequence

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eof-seq1.txt

<223> S0474.01H22(N65D;T54A) (G4S)2 S0530.04N16(N65D) (G4S)2
S0530.07K20(N65D) (G4S)2 S0522.15K24(N65D) Cterm StrepII His

<400> 150

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

eof-seq1.txt

Val Asp Phe Glu₂₆₀ Leu Glu Glu Cys Arg₂₆₅ Tyr Met Thr Glu Thr₂₇₀ Phe Val

Pro Gly Asn₂₇₅ Gln Pro Gly Glu Phe₂₈₀ Thr Leu Gly Asp Ile₂₈₅ Lys Ser Ser

Pro Gly₂₉₀ Trp Thr Ser Gln Leu₂₉₅ Val Arg Val Val Ser₃₀₀ Thr Asn Tyr Asn

Gln His Ala Met Val Phe₃₁₀ Phe Lys Gly Val Tyr₃₁₅ Gln Asn Arg Glu Trp₃₂₀

Phe His Ile Thr Leu₃₂₅ Tyr Gly Arg Thr Lys₃₃₀ Glu Leu Thr Ser Glu₃₃₅ Leu

Lys Glu Asn Phe₃₄₀ Ile Arg Phe Ser Lys₃₄₅ Ser Leu Gly Leu Pro Glu Asn

His Ile Val₃₅₅ Phe Pro Val Pro Ile₃₆₀ Asp Gln Cys Ile Asp₃₆₅ Gly Gly Gly

Gly Gly₃₇₀ Ser Gly Gly Gly Gly₃₇₅ Ser Gln Asp Ser Thr₃₈₀ Ser Asp Leu Ile

Pro Ala Pro Pro Leu Ser₃₉₀ Lys Val Pro Leu Gln₃₉₅ Gln Asn Phe Gln Asp₄₀₀

Asn Gln Phe His Gly₄₀₅ Lys Trp Tyr Val Val₄₁₀ Gly Glu Ala Gly Asn₄₁₅ Leu

Ala Leu Arg Glu₄₂₀ Asp Lys Asn Pro Met₄₂₅ Lys Met Met Ala Thr₄₃₀ Ile Tyr

Glu Leu Lys₄₃₅ Glu Asp Lys Ser Tyr₄₄₀ Asp Val Thr Glu Val₄₄₅ Arg Phe Arg

His Lys₄₅₀ Lys Cys Lys Tyr Asp₄₅₅ Ile Val Thr Phe Val₄₆₀ Pro Gly Ser Gln

Pro Gly Glu Phe Thr Leu₄₇₀ Gly Leu Ile Lys Ser₄₇₅ Asp Pro Gly Gln Thr₄₈₀

Pro Glu Leu Val Arg₄₈₅ Val Val Ser Thr Asn₄₉₀ Tyr Asn Gln His Ala Met₄₉₅

Val Phe Phe Lys₅₀₀ Lys Val Val Gln Asn₅₀₅ Arg Glu Tyr Phe Trp₅₁₀ Ile Thr

Leu Tyr Gly₅₁₅ Arg Thr Lys Glu Leu₅₂₀ Pro Ser Glu Leu Lys₅₂₅ Glu Asn Phe

eof-seq1.txt

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Leu Gly Met Ala Gly Asn Phe His Leu Arg Glu
595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
625 630 635 640

Ala Tyr Lys Thr Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Ser Lys
675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
690 695 700

Ala Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His
755

<210> 151
<211> 758
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0530.04N16(N65D) (G4S)2

eof-seq1.txt

S0530.07K20(N65D) (G4S)2 S0522.05M06 (N65D) Cterm StrepII His

<400> 151

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

eof-seq1.txt

Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val
260 265 270

Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Leu Arg Glu Asp Lys Asn Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
435 440 445

His Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Pro Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

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

eof-seq1.txt

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Gly
595 600 605

Asp Tyr Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys
625 630 635 640

His Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Phe Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 152
<211> 758
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0530.04N16(N65D) (G4S)2
S0530.07G09(N65D) (G4S)2 S0522.15K24(N65D) Cterm StrepII His

eof-seq1.txt

<400> 152

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val
Page 134

Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
 275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
 290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
 305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
 325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
 340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
 355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
 370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
 385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
 405 410 415

Ala Arg Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
 420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
 435 440 445

His Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
 450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
 465 470 475 480

Pro Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
 485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
 500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
 515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
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530

535

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Leu Gly Met Ala Gly Asn Phe His Leu Arg Glu
595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
625 630 635 640

Ala Tyr Lys Thr Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Ser Lys
675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
690 695 700

Ala Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 153
<211> 758
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0530.04N16(N65D) (G4S)2
S0530.07G09(N65D) (G4S)2 S0522.05M06 (N65D) Cterm StrepII His

eof-seq1.txt

<400> 153

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Glu Asp Pro Leu Lys Met Met
225 230 235 240

Ala Ala Val Tyr Glu Leu Arg Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

Val Asp Phe Glu Leu Glu Glu Cys Arg Tyr Met Thr Glu Thr Phe Val
260 265 270

eo1f-seq1.txt

Pro Gly Asn Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Arg Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
435 440 445

His Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Pro Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

eof-seq1.txt

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Gly
595 600 605

Asp Tyr Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Glu Lys Cys
625 630 635 640

His Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Phe Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Ala
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 154
<211> 752
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65Q;T54A) GQPKAAPS S0466.09E05(N65Q) GQPKAAPS
S0466.13C10(N65Q) GQPKAAPS S0455.04F09(N65Q) StrepII, His6

<400> 154

eof-seq1.txt

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

eo1f-seq1.txt

Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly
275 280 285

Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His
290 295 300

Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His
305 310 315 320

Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu
325 330 335

Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile
340 345 350

Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys
355 360 365

Ala Ala Pro Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
370 375 380

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
385 390 395 400

Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu
405 410 415

Asp Lys Asp Pro Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu
420 425 430

Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys
435 440 445

Gln Tyr Asp Ile Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
450 455 460

Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val
465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
530 535 540

eof-seq1.txt

Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys Ala Ala Pro Ser Gln Asp
545 550 555 560

Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
565 570 575

Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
580 585 590

Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys
595 600 605

Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val
610 615 620

Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr
625 630 635 640

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys
645 650 655

Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn
660 665 670

Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg
675 680 685

Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
690 695 700

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
705 710 715 720

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
725 730 735

Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His His His
740 745 750

<210> 155

<211> 752

<212> PRT

<213> Artificial Sequence

<220>

<223> S0474.01H22(N65Q;T54A) GQPKAAPS S0466.09E05(N65Q) GQPKAAPS
S0466.13C10(N65Q) GQPKAAPS S0455.04F09(N65Q) StrepII, His6

<400> 155

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

eof-seq1.txt

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gln Pro Lys Ala Ala Pro Ser Gln Asp Ser Thr Ser Asp
180 185 190

Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe
195 200 205

Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly
210 215 220

Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr
225 230 235 240

Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp
245 250 255

Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly
260 265 270

Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly
275 280 285

eo1f-seq1.txt

Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His
290 295 300

Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His
305 310 315 320

Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu
325 330 335

Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile
340 345 350

Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys
355 360 365

Ala Ala Pro Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
370 375 380

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
385 390 395 400

Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu
405 410 415

Asp Lys Asp Pro Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu
420 425 430

Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys
435 440 445

Gln Tyr Asp Ile Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
450 455 460

Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val
465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
530 535 540

Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys Ala Ala Pro Ser Gln Asp
545 550 555 560

eof-seq1.txt

Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
565 570 575

Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
580 585 590

Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys
595 600 605

Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val
610 615 620

Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr
625 630 635 640

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys
645 650 655

Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn
660 665 670

Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg
675 680 685

Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
690 695 700

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
705 710 715 720

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
725 730 735

Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His His His
740 745 750

<210> 156

<211> 746

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(N65Q;T54A) ASTKGP S0466.09E05(N65Q) ASTKGP
S0466.13C10(N65Q) ASTKGP S0455.04F09(N65Q) StrepII, His6

<400> 156

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Thr Ile Leu Arg Glu Asp Lys Asp Pro
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eolf-seql.txt

35

40

45

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
 65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
 85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
 115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly Ala Ser Thr Lys Gly Pro Gln Asp Ser Thr Ser Asp Leu Ile
 180 185 190

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
 195 200 205

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn Gly
 210 215 220

Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr Ile Tyr
 225 230 235 240

Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp Phe Glu
 245 250 255

Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly Ser Gln
 260 265 270

Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly Trp Thr
 275 280 285

Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
 290 295 300

Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His Ile Thr
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eolf-seq1.txt

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

Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr His Val Pro Phe Trp
610 615 620

Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln
625 630 635 640

Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr
645 650 655

Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
660 665 670

Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr
675 680 685

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
690 695 700

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
705 710 715 720

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro
725 730 735

Gln Phe Glu Lys His His His His His His
740 745

<210> 157
<211> 749
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65Q;T54A) ASTKGPS S0466.09E05(N65Q) ASTKGPS
S0466.13C10(N65Q) ASTKGPS S0455.04F09(N65Q) StrepII, His6
<400> 157

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

eof-seq1.txt

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Ala Ser Thr Lys Gly Pro Ser Gln Asp Ser Thr Ser Asp Leu
180 185 190

Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln
195 200 205

Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn
210 215 220

Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr Ile
225 230 235 240

Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp Phe
245 250 255

Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly Ser
260 265 270

Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly Trp
275 280 285

Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala
290 295 300

Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His Ile
305 310 315 320

Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn
325 330 335

eo1f-seq1.txt

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

eof-seq1.txt

Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr His Val
610 615 620

Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro
625 630 635 640

Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro
645 650 655

Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln
660 665 670

His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe
675 680 685

Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys
690 695 700

Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His
705 710 715 720

Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp
725 730 735

Ser His Pro Gln Phe Glu Lys His His His His His His
740 745

<210> 158
<211> 746
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65Q;T54A) QPKAAP S0466.09E05(N65Q) QPKAAP
S0466.13C10(N65Q) QPKAAP S0455.04F09(N65Q) StrepII, His6

<400> 158

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

eof-seq1.txt

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gln Pro Lys Ala Ala Pro Gln Asp Ser Thr Ser Asp Leu Ile
180 185 190

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
195 200 205

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn Gly
210 215 220

Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr Ile Tyr
225 230 235 240

Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp Phe Glu
245 250 255

Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly Ser Gln
260 265 270

Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly Trp Thr
275 280 285

Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
290 295 300

Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His Ile Thr
305 310 315 320

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
325 330 335

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
340 345 350

eof-seq1.txt

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Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gln Pro Lys Ala Ala Pro
  355          360          365

Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
  370          375          380

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
  385          390          395          400

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asp Pro
          405          410          415

Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
          420          425          430

Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Gln Tyr Asp Ile
          435          440          445

Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
          450          455          460

Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val Val Ser
  465          470          475          480

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
          485          490          495

Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
          500          505          510

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
          515          520          525

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
          530          535          540

Asp Gly Gln Pro Lys Ala Ala Pro Gln Asp Ser Thr Ser Asp Leu Ile
  545          550          555          560

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
          565          570          575

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe
          580          585          590

His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr
          595          600          605

Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr His Val Pro Phe Trp
  610          615          620

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eof-seq1.txt

Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln
625 630 635 640

Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr
645 650 655

Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
660 665 670

Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr
675 680 685

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
690 695 700

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
705 710 715 720

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro
725 730 735

Gln Phe Glu Lys His His His His His His
740 745

<210> 159

<211> 749

<212> PRT

<213> Artificial Sequence

<220>

<223> S0474.01H22(N65Q;T54A) GQPKAAP S0466.09E05(N65Q) GQPKAAP
S0466.13C10(N65Q) GQPKAAP S0455.04F09(N65Q) StrepII, His6

<400> 159

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

eof-seq1.txt

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gln Pro Lys Ala Ala Pro Gln Asp Ser Thr Ser Asp Leu
180 185 190

Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln
195 200 205

Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn
210 215 220

Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr Ile
225 230 235 240

Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp Phe
245 250 255

Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly Ser
260 265 270

Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly Trp
275 280 285

Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala
290 295 300

Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His Ile
305 310 315 320

Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn
325 330 335

Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val
340 345 350

Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys Ala
355 360 365

eof-seq1.txt

Ala Pro Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser
370 375 380

Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys
385 390 395 400

Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys
405 410 415

Asp Pro Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys
420 425 430

Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Gln Tyr
435 440 445

Asp Ile Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu
450 455 460

Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val
465 470 475 480

Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val
485 490 495

Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys
500 505 510

Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser
515 520 525

Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
530 535 540

Cys Ile Asp Gly Gly Gln Pro Lys Ala Ala Pro Gln Asp Ser Thr Ser
545 550 555 560

Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn
565 570 575

Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala
580 585 590

Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala
595 600 605

Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr His Val
610 615 620

Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro
625 630 635 640

eof-seq1.txt

Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro
645 650 655

Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln
660 665 670

His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe
675 680 685

Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys
690 695 700

Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His
705 710 715 720

Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp
725 730 735

Ser His Pro Gln Phe Glu Lys His His His His His His
740 745

<210> 160
<211> 752
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65Q;T54A) GQPKAAPS S0466.09E05(N65Q) GQPKAAPS
S0466.13C10(N65Q) GQPKAAPS S0455.04F09(N65Q) StrepII, His6

<400> 160

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
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eolf-seql.txt

115

120

125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly Gly Gln Pro Lys Ala Ala Pro Ser Gln Asp Ser Thr Ser Asp
 180 185 190

Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe
 195 200 205

Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly
 210 215 220

Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr
 225 230 235 240

Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp
 245 250 255

Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly
 260 265 270

Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly
 275 280 285

Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His
 290 295 300

Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His
 305 310 315 320

Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu
 325 330 335

Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile
 340 345 350

Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys
 355 360 365

Ala Ala Pro Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
 370 375 380

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
 Page 158

co1f-seq1.txt

385 390 395 400

Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu
 405 410 415

Asp Lys Asp Pro Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu
 420 425 430

Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys
 435 440 445

Gln Tyr Asp Ile Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
 450 455 460

Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val
465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
 500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 530 535 540

Asp Gln Cys Ile Asp Gly Gly Gln Pro Lys Ala Ala Pro Ser Gln Asp
545 550 555 560

Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
 565 570 575

Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
 580 585 590

Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys
 595 600 605

Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val
610 615 620

Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr
625 630 635 640

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys
 645 650 655

Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn

Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg
675 680 685

Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
690 695 700

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
705 710 715 720

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
725 730 735

Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His His His
740 745 750

<210> 161

<211> 743

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(N65Q;T54A) GGSGG S0466.09E05(N65Q) GGSGG
S0466.13C10(N65Q) GGSGG S0455.04F09(N65Q) StrepII, His6

<400> 161

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

eof-seq1.txt

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

eo1f-seq1.txt

Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val
420 425 430

Thr Glu Val Arg Phe Arg His Lys Lys Cys Gln Tyr Asp Ile Ala Thr
435 440 445

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys
450 455 460

Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val Val Ser Thr Asn
465 470 475 480

Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln Asn Arg
485 490 495

Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
500 505 510

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
515 520 525

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
530 535 540

Gly Gly Ser Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro
545 550 555 560

Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe
565 570 575

His Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg
580 585 590

Glu Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys
595 600 605

Glu Asp Lys Ser Tyr Gln Val Thr His Val Pro Phe Trp Ala Lys Lys
610 615 620

Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu
625 630 635 640

Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu
645 650 655

Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe
660 665 670

Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly
675 680 685

eof-seq1.txt

Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe
690 695 700

Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro
705 710 715 720

Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu
725 730 735

Lys His His His His His His
740

<210> 162
<211> 749
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65Q;T54A)SGGSG S0466.09E05(N65Q) SGGSG
S0466.13C10(N65Q) SGGSG S0455.04F09(N65Q) StrepII, His6

<400> 162

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

eof-seq1.txt

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

eof-seq1.txt

Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Gln Tyr
435 440 445

Asp Ile Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu
450 455 460

Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val
465 470 475 480

Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val
485 490 495

Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys
500 505 510

Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser
515 520 525

Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
530 535 540

Cys Ile Asp Gly Gly Gly Gly Ser Gly Gly Gly Gln Asp Ser Thr Ser
545 550 555 560

Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn
565 570 575

Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala
580 585 590

Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala
595 600 605

Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr His Val
610 615 620

Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro
625 630 635 640

Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro
645 650 655

Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln
660 665 670

His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe
675 680 685

Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys
690 695 700

eof-seq1.txt

Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His
705 710 715 720

Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp
725 730 735

Ser His Pro Gln Phe Glu Lys His His His His His His
740 745

<210> 163
<211> 749
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65Q;T54A) GGGSGGG S0466.09E05(N65Q) GGGSGGG
S0466.13C10(N65Q) GGGSGGG S0455.04F09(N65Q) StrepII, His6

<400> 163

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

eof-seq1.txt

Asp Gly Gly Gly Gly Ser Gly Gly Gly Gln Asp Ser Thr Ser Asp Leu
180 185 190

Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln
195 200 205

Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn
210 215 220

Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr Ile
225 230 235 240

Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp Phe
245 250 255

Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly Ser
260 265 270

Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly Trp
275 280 285

Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala
290 295 300

Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His Ile
305 310 315 320

Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn
325 330 335

Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val
340 345 350

Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Ser Gly
355 360 365

Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser
370 375 380

Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys
385 390 395 400

Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys
405 410 415

Asp Pro Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys
420 425 430

Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys Gln Tyr
435 440 445

eo1f-seq1.txt

Asp Ile Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu
 450 455 460
 Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val
 465 470 475 480
 Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val
 485 490 495
 Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys
 500 505 510
 Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser
 515 520 525
 Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
 530 535 540
 Cys Ile Asp Gly Gly Gly Gly Ser Gly Gly Gly Gln Asp Ser Thr Ser
 545 550 555 560
 Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn
 565 570 575
 Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala
 580 585 590
 Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala
 595 600 605
 Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr His Val
 610 615 620
 Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro
 625 630 635 640
 Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro
 645 650 655
 Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln
 660 665 670
 His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe
 675 680 685
 Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys
 690 695 700
 Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His
 705 710 715 720

eof-seq1.txt

Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp
725 730 735

Ser His Pro Gln Phe Glu Lys His His His His His His
740 745

<210> 164
<211> 752
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65Q;T54A)GGSGGSGG S0466.09E05(N65Q) GGSGGSGG
S0466.13C10(N65Q)GGSGGSGG S0455.04F09(N65Q) StrepII, His6

<400> 164

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Ser Gly Gly Ser Gly Gly Gln Asp Ser Thr Ser Asp
180 185 190

Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe
Page 169

195

200

205

Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly
 210 215 220

Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met Ala Thr
 225 230 235 240

Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val Val Asp
 245 250 255

Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly
 260 265 270

Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe Pro Gly
 275 280 285

Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His
 290 295 300

Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His
 305 310 315 320

Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu
 325 330 335

Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile
 340 345 350

Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Ser Gly
 355 360 365

Gly Ser Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
 370 375 380

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
 385 390 395 400

Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu
 405 410 415

Asp Lys Asp Pro Lys Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu
 420 425 430

Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg His Lys Lys Cys
 435 440 445

Gln Tyr Asp Ile Ala Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
 450 455 460

Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val
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eolf-seq1.txt

465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
530 535 540

Asp 545 Gln Cys Ile Asp 550 Gly Gly Gly Ser Gly 555 Ser Gly Gly Gln Asp 560

Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
565 570 575

Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
580 585 590

Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys
595 600 605

Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val
610 615 620

Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr
625 630 635 640

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys
645 650 655

Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn
660 665 670

Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg
675 680 685

Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
690 695 700

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
705 710 715 720

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
725 730 735

Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His His His
 Page 171

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<210> 165
<211> 755
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65Q;T54A) GGGSGGSGGG S0466.09E05(N65Q) GGGSGGSGGG
      S0466.13C10(N65Q) GGGSGGSGGG S0455.04F09(N65Q) StrepII, His6

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

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eof-seq1.txt

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

eo1f-seq1.txt

Phe Lys Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr
 500 505 510
 Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg
 515 520 525
 Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val
 530 535 540
 Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Ser Gly Gly Ser Gly Gly
 545 550 555 560
 Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys
 565 570 575
 Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp
 580 585 590
 Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp
 595 600 605
 Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser
 610 615 620
 Tyr Gln Val Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys
 625 630 635 640
 Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly
 645 650 655
 Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val
 660 665 670
 Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp
 675 680 685
 Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu
 690 695 700
 Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu
 705 710 715 720
 Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys
 725 730 735
 Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His
 740 745 750
 His His His
 755

eof-seq1.txt

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<210> 166
<211> 755
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65Q;T54A)GGGSGGSGGG S0466.09E05(N65Q) GGGSGGSGGG
      S0466.13C10(N65Q)GGGSGGSGGG S0455.04F09(N65Q) StrepII, His6

<400> 166

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

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eof-seq1.txt

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

eof-seq1.txt

Phe Lys Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr
 500 505 510
 Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg
 515 520 525
 Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val
 530 535 540
 Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Ser Gly Gly Ser Gly Gly
 545 550 555 560
 Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys
 565 570 575
 Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp
 580 585 590
 Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp
 595 600 605
 Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser
 610 615 620
 Tyr Gln Val Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys
 625 630 635 640
 Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly
 645 650 655
 Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val
 660 665 670
 Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp
 675 680 685
 Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu
 690 695 700
 Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu
 705 710 715 720
 Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys
 725 730 735
 Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His
 740 745 750
 His His His
 755

eof-seq1.txt

```

<210> 167
<211> 728
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65D;T54A) S0510.05H10(N65D) S0510.11H24(N65D)
      S0455.04F09(N65D) StrepII His tag

<400> 167
Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
1          5          10
Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20          25          30
Val Val Gly Val Ala Gly Asn Thr Ile Leu Arg Glu Asp Lys Asp Pro
35          40          45
Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50          55          60
Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65          70          75          80
Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85          90          95
Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100         105         110
Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115        120        125
Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130        135        140
Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145        150        155        160
Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165        170        175
Asp Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser
180        185        190
Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys
195        200        205
Trp Tyr Val Val Gly Leu Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys
210        215        220

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eof-seq1.txt

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

eof-seq1.txt

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
500 505 510

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
515 520 525

Asp Gln Cys Ile Asp Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala
530 535 540

Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln
545 550 555 560

Phe His Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu
565 570 575

Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu
580 585 590

Lys Glu Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys
595 600 605

Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly
610 615 620

Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp
625 630 635 640

Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe
645 650 655

Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr
660 665 670

Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg
675 680 685

Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val
690 695 700

Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe
705 710 715 720

Glu Lys His His His His His His
725

<210> 168
<211> 731
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65D;T54A) (G) S0510.05H10(N65D) (G)
S0510.11H24(N65D) (G) S0455.04F09(N65D) StrepII His tag

eof-seq1.txt

<400> 168

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu
180 185 190

Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly
195 200 205

Lys Trp Tyr Val Val Gly Leu Ala Gly Asn Gly Trp Leu Arg Glu Asp
210 215 220

Lys Asp Pro Leu Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp
225 230 235 240

Lys Ser Tyr Asp Val Thr Val Val Asp Phe Glu Leu Lys Lys Cys Arg
245 250 255

Tyr Met Ile Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr
Page 181

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

530

535

Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln
545 550 555 560

Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn
565 570 575

Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile
580 585 590

Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe
595 600 605

Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser
610 615 620

Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met
625 630 635 640

Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala
645 650 655

Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile
660 665 670

Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn
675 680 685

Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val
690 695 700

Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His
705 710 715 720

Pro Gln Phe Glu Lys His His His His His His
725 730

<210> 169

<211> 737

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(N65D;T54A) (G)3 S0510.05H10(N65D) (G)3
S0510.11H24(N65D) (G)3 S0455.04F09(N65D) StrepII His tag

<400> 169

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

eof-seq1.txt

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

eof-seq1.txt

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

eof-seq1.txt

Val Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser
580 585 590

Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp
595 600 605

Val Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile
610 615 620

Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile
625 630 635 640

Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr
645 650 655

Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn
660 665 670

Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr
675 680 685

Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu
690 695 700

Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp
705 710 715 720

Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His His
725 730 735

His

<210> 170
<211> 743
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65D;T54A) (GSGSG) S0510.05H10(N65D) (GSGSG)
S0510.11H24(N65D) (GSGSG) S0455.04F09(N65D) StrepII His tag

<400> 170

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

eof-seq1.txt

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

eof-seq1.txt

Tyr Gly Arg Thr Lys₃₂₅ Glu Leu Thr Ser Glu₃₃₀ Leu Lys Glu Asn Phe₃₃₅ Ile
 Arg Phe Ser Lys₃₄₀ Ser Leu Gly Leu Pro₃₄₅ Glu Asn His Ile Val₃₅₀ Phe Pro
 Val Pro Ile₃₅₅ Asp Gln Cys Ile Asp₃₆₀ Gly Gly Ser Gly Ser₃₆₅ Gly Gln Asp
 Ser Thr₃₇₀ Ser Asp Leu Ile Pro₃₇₅ Ala Pro Pro Leu Ser₃₈₀ Lys Val Pro Leu
 Gln₃₈₅ Gln Asn Phe Gln Asp₃₉₀ Asn Gln Phe His Gly₃₉₅ Lys Trp Tyr Val Val₄₀₀
 Gly Glu Ala Gly Asn₄₀₅ Leu Ala Leu Arg Glu₄₁₀ Asp Lys Asp Pro Met₄₁₅ Lys
 Met Met Ala Thr₄₂₀ Ile Tyr Glu Leu Lys₄₂₅ Glu Asp Lys Ser Tyr₄₃₀ Asp Val
 Thr Glu Val₄₃₅ Arg Phe Arg Gln Lys₄₄₀ Lys Cys Lys Tyr Asp₄₄₅ Ile Val Thr
 Phe Val₄₅₀ Pro Gly Ser Gln Pro₄₅₅ Gly Glu Phe Thr Leu Gly Leu Ile Lys
 Ser₄₆₅ Asp Pro Gly Gln Thr₄₇₀ Ser Glu Leu Val Arg₄₇₅ Val Val Ser Thr Asn₄₈₀
 Tyr Asn Gln His Ala₄₈₅ Met Val Phe Phe Lys₄₉₀ Lys Val Val Gln Asn₄₉₅ Arg
 Glu Tyr Phe Trp₅₀₀ Ile Thr Leu Tyr Gly₅₀₅ Arg Thr Lys Glu Leu₅₁₀ Thr Ser
 Glu Leu Lys₅₁₅ Glu Asn Phe Ile Arg₅₂₀ Phe Ser Lys Ser₅₂₅ Leu Gly Leu Pro
 Glu Asn₅₃₀ His Ile Val Phe Pro₅₃₅ Val Pro Ile Asp Gln₅₄₀ Cys Ile Asp Gly
 Gly₅₄₅ Ser Gly Ser Gly Gln₅₅₀ Asp Ser Thr Ser Asp₅₅₅ Leu Ile Pro Ala Pro₅₆₀
 Pro Leu Ser Lys Val₅₆₅ Pro Leu Gln Gln Asn₅₇₀ Phe Gln Asp Asn Gln₅₇₅ Phe
 His Gly Lys Trp₅₈₀ Tyr Val Val Gly Met₅₈₅ Ala Gly Asn Phe His₅₉₀ Leu Arg

eof-seq1.txt

Glu Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys
595 600 605

Glu Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys Lys
610 615 620

Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu
625 630 635 640

Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu
645 650 655

Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe
660 665 670

Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly
675 680 685

Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe
690 695 700

Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro
705 710 715 720

Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu
725 730 735

Lys His His His His His His
740

<210> 171

<211> 743

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(N65D;T54A) (G2SG2) S0510.05H10(N65D) (G2SG2)
S0510.11H24(N65D) (G2SG2) S0455.04F09(N65D) StrepII His tag

<400> 171

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

eof-seq1.txt

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

eof-seq1.txt

Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro
340 345 350

Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Ser Gly Gly Gln Asp
355 360 365

Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
370 375 380

Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
385 390 395 400

Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asp Pro Met Lys
405 410 415

Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val
420 425 430

Thr Glu Val Arg Phe Arg Gln Lys Lys Cys Lys Tyr Asp Ile Val Thr
435 440 445

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys
450 455 460

Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val Val Ser Thr Asn
465 470 475 480

Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln Asn Arg
485 490 495

Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
500 505 510

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
515 520 525

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
530 535 540

Gly Gly Ser Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro
545 550 555 560

Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe
565 570 575

His Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg
580 585 590

Glu Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys
595 600 605

ecolf-seq1.txt

Glu Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys Lys
610 615 620

Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu
625 630 635 640

Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu
645 650 655

Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe
660 665 670

Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly
675 680 685

Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe
690 695 700

Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro
705 710 715 720

Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu
725 730 735

Lys His His His His His His
740

<210> 172

<211> 746

<212> PRT

<213> Artificial Sequence

<220>

<223> S0474.01H22(N65D;T54A) (GSG2SG) S0510.05H10(N65D) (GSG2SG)
S0510.11H24(N65D) (GSG2SG) S0455.04F09(N65D) StrepII His tag

<400> 172

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
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eolf-seql.txt

85

90

95

Ile Lys Ser Tyr₁₀₀ Pro Gly Thr Thr Ser₁₀₅ Gln Leu Val Arg Val₁₁₀ Val Ser

Thr Asn Tyr₁₁₅ Asn Gln His Ala Met₁₂₀ Val Phe Phe Lys Ile₁₂₅ Val Arg Gln

Asn Arg₁₃₀ Glu Ile Phe Trp Ile₁₃₅ Thr Leu Tyr Gly Arg₁₄₀ Thr Lys Glu Leu

Thr Ser Glu Leu Lys Glu₁₅₀ Asn Phe Ile Arg Phe₁₅₅ Ser Lys Ser Leu Gly₁₆₀

Leu Pro Glu Asn His₁₆₅ Ile Val Phe Pro Val₁₇₀ Pro Ile Asp Gln Cys₁₇₅ Ile

Asp Gly Gly Ser₁₈₀ Gly Gly Ser Gly Gln₁₈₅ Asp Ser Thr Ser Asp₁₉₀ Leu Ile

Pro Ala Pro₁₉₅ Pro Leu Ser Lys Val₂₀₀ Pro Leu Gln Gln Asn₂₀₅ Phe Gln Asp

Asn Gln Phe His Gly Lys Trp₂₁₅ Tyr Val Val Gly Leu₂₂₀ Ala Gly Asn Gly

Trp Leu Arg Glu Asp Lys₂₃₀ Asp Pro Leu Lys Met₂₃₅ Met Ala Thr Ile Tyr₂₄₀

Glu Leu Lys Glu Asp₂₄₅ Lys Ser Tyr Asp Val₂₅₀ Thr Val Val Asp Phe₂₅₅ Glu

Leu Lys Lys Cys₂₆₀ Arg Tyr Met Ile Glu₂₆₅ Thr Phe Val Pro Gly₂₇₀ Ser Gln

Pro Gly Glu₂₇₅ Phe Thr Leu Gly Asp₂₈₀ Ile Lys Ser Ser Pro₂₈₅ Gly Trp Thr

Ser Gln Leu Val Arg Val Val₂₉₅ Ser Thr Asn Tyr Asn₃₀₀ Gln His Ala Met

Val Phe Phe Lys Gly Val₃₁₀ Tyr Gln Asn Arg Glu₃₁₅ Trp Phe His Ile Thr₃₂₀

Leu Tyr Gly Arg Thr₃₂₅ Lys Glu Leu Thr Ser₃₃₀ Glu Leu Lys Glu Asn₃₃₅ Phe

Ile Arg Phe Ser₃₄₀ Lys Ser Leu Gly Leu₃₄₅ Pro Glu Asn His Ile₃₅₀ Val Phe

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Ser Gly Gly ser Gly

eolf-seql.txt

355

360

365

Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
 370 375 380

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 385 390 395 400

Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys Asp Pro
 405 410 415

Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 420 425 430

Asp Val Thr Glu Val Arg Phe Arg Gln Lys Lys Cys Lys Tyr Asp Ile
 435 440 445

Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Leu
 450 455 460

Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val Val Ser
 465 470 475 480

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val Val Gln
 485 490 495

Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 500 505 510

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 515 520 525

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 530 535 540

Asp Gly Gly Ser Gly Gly Ser Gly Gln Asp Ser Thr Ser Asp Leu Ile
 545 550 555 560

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
 565 570 575

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe
 580 585 590

His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr
 595 600 605

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp
 610 615 620

Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln

eof-seq1.txt

625 630 635 640

Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr
645 650 655

Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
660 665 670

Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr
675 680 685

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
690 695 700

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
705 710 715 720

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro
725 730 735

Gln Phe Glu Lys His His His His His His
740 745

<210> 173
<211> 749
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65D;T54A) (G2SGSG2) S0510.05H10(N65D) (G2SGSG2)
S0510.11H24(N65D) (G2SGSG2) S0455.04F09(N65D) StrepII His tag

<400> 173

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

eof-seq1.txt

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Ser Gly Ser Gly Gly Gln Asp Ser Thr Ser Asp Leu
180 185 190

Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln
195 200 205

Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly Asn
210 215 220

Gly Trp Leu Arg Glu Asp Lys Asp Pro Leu Lys Met Met Ala Thr Ile
225 230 235 240

Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Val Val Asp Phe
245 250 255

Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly Ser
260 265 270

Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser Pro Gly Trp
275 280 285

Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala
290 295 300

Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His Ile
305 310 315 320

Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn
325 330 335

Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val
340 345 350

Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Ser Gly Ser
355 360 365

Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser
370 375 380

eo1f-seq1.txt

Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys
 385 390 395 400
 Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys
 405 410 415
 Asp Pro Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys
 420 425 430
 Ser Tyr Asp Val Thr Glu Val Arg Phe Arg Gln Lys Lys Cys Lys Tyr
 435 440 445
 Asp Ile Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu
 450 455 460
 Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val
 465 470 475 480
 Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val
 485 490 495
 Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys
 500 505 510
 Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser
 515 520 525
 Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
 530 535 540
 Cys Ile Asp Gly Gly Gly Ser Gly Ser Gly Gly Gln Asp Ser Thr Ser
 545 550 555 560
 Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn
 565 570 575
 Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala
 580 585 590
 Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala
 595 600 605
 Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr His Val
 610 615 620
 Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro
 625 630 635 640
 Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro
 645 650 655

eof-seq1.txt

Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln
660 665 670

His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe
675 680 685

Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys
690 695 700

Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His
705 710 715 720

Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp
725 730 735

Ser His Pro Gln Phe Glu Lys His His His His His His
740 745

<210> 174

<211> 749

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(N65D;T54A) (G3SG3) S0510.05H10(N65D) (G3SG3)
S0510.11H24(N65D) (G3SG3) S0455.04F09(N65D) StrepII His tag

<400> 174

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

eof-seq1.txt

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

eof-seq1.txt

Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu Asp Lys
405 410 415

Asp Pro Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys
420 425 430

Ser Tyr Asp Val Thr Glu Val Arg Phe Arg Gln Lys Lys Cys Lys Tyr
435 440 445

Asp Ile Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu
450 455 460

Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val Arg Val
465 470 475 480

Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Lys Val
485 490 495

Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys
500 505 510

Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser
515 520 525

Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln
530 535 540

Cys Ile Asp Gly Gly Gly Gly Ser Gly Gly Gly Gln Asp Ser Thr Ser
545 550 555 560

Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn
565 570 575

Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Met Ala
580 585 590

Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys Met Pro Ala
595 600 605

Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr His Val
610 615 620

Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr Phe Val Pro
625 630 635 640

Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys Ser Gly Pro
645 650 655

Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln
660 665 670

eof-seq1.txt

His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg Glu Thr Phe
675 680 685

Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys
690 695 700

Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His
705 710 715 720

Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Ser Ala Trp
725 730 735

Ser His Pro Gln Phe Glu Lys His His His His His
740 745

<210> 175
<211> 752
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65D;T54A) (G2SG2SG2) S0510.05H10(N65D) (G2SG2SG2)
S0510.11H24(N65D) (G2SG2SG2) S0455.04F09(N65D) StrepII His tag

<400> 175

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

eof-seq1.txt

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Ser Gly Gly Ser Gly Gly Gln Asp Ser Thr Ser Asp
180 185 190

Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe
195 200 205

Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu Ala Gly
210 215 220

Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Leu Lys Met Met Ala Thr
225 230 235 240

Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Val Val Asp
245 250 255

Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val Pro Gly
260 265 270

Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser Pro Gly
275 280 285

Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His
290 295 300

Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp Phe His
305 310 315 320

Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu
325 330 335

Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile
340 345 350

Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Ser Gly
355 360 365

Gly Ser Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
370 375 380

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
385 390 395 400

Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu Ala Leu Arg Glu
405 410 415

eo1f-seq1.txt

Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr Glu Leu Lys Glu
420 425 430

Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg Gln Lys Lys Cys
435 440 445

Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
450 455 460

Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr Ser Glu Leu Val
465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
485 490 495

Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr Leu Tyr Gly Arg
500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
530 535 540

Asp Gln Cys Ile Asp Gly Gly Gly Ser Gly Gly Ser Gly Gly Gln Asp
545 550 555 560

Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu
565 570 575

Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val
580 585 590

Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro Ser Lys
595 600 605

Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val
610 615 620

Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile Ile Thr
625 630 635 640

Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala Ile Lys
645 650 655

Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser Thr Asn
660 665 670

Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln Asn Arg
675 680 685

eof-seq1.txt

Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser
690 695 700

Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro
705 710 715 720

Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly
725 730 735

Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His His His
740 745 750

<210> 176

<211> 758

<212> PRT

<213> Artificial sequence

<220>

<223> S0474.01H22(N65D;T54A) (G3SG2SG3) S0510.05H10(N65D) (G3SG2SG3)
S0510.11H24(N65D) (G3SG2SG3) S0455.04F09(N65D) StrepII His tag

<400> 176

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile

eof-seq1.txt

165

170

175

Asp Gly Gly Gly Gly ser Gly Gly Ser Gly Gly Gly Gln Asp ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Leu Lys Met Met
225 230 235 240

Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

Val Asp Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val
260 265 270

Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Ser Gly Gly Ser Gly Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Leu Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
Page 205

eolf-seql.txt

435

440

445

Gln Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
 450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
 465 470 475 480

Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
 485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
 500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
 515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
 530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Ser Gly Gly
 545 550 555 560

Ser Gly Gly Gly Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
 565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
 580 585 590

Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu
 595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
 610 615 620

Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
 625 630 635 640

Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
 645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
 660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
 690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
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eolf-seq1.txt

705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 177
<211> 754
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0512.17L07(N39S_N65D_T136A) (G4S)2
S0510.10A04_stop103Q(N65D) (G4S)2-S0455.04F23(N65D) StrepII His
tag

<400> 177

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
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175

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
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eolf-seq1.txt

435

440

445

Tyr Lys Lys Cys Gln Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
 450 455 460

Pro Gly Glu Phe Thr Leu Ser Glu Pro Gly Gln Thr Ser Glu Leu Val
 465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
 500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 530 535 540

Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 545 550 555 560

Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
 565 570 575

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 580 585 590

Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu Asp Lys Asp Pro
 595 600 605

Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 610 615 620

Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys His Tyr Arg Ile
 625 630 635 640

Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
 645 650 655

Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val Arg Val Val Ser
 660 665 670

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val Ile Gln
 675 680 685

Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 690 695 700

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
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705 710 715 720

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
725 730 735

Asp Gly Ser **Ala** Trp Ser His Pro **Gln** Phe Glu Lys His **His** His His His
740 745 750

His His

<210>	178
<211>	754
<212>	PRT
<213>	Artificial Sequence

<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0512.17L07(N39S_N65D_T136A)
(G4S)2-S0510.10A04_stop103Q(N65D) (G4S)2-S0455.04F09(N65D)StrepII
His tag

<400> 178

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile

175

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
Page 211

eolf-seql.txt

435

440

445

Tyr Lys Lys Cys Gln Tyr Asp Ile Val Thr Phe Val Pro Gly ser Gln
 450 455 460

Pro Gly Glu Phe Thr Leu Ser Glu Pro Gly Gln Thr Ser Glu Leu Val
 465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
 500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 530 535 540

Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 545 550 555 560

Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
 565 570 575

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 580 585 590

Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro
 595 600 605

Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 610 615 620

Asp Val Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile
 625 630 635 640

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala
 645 650 655

Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser
 660 665 670

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln
 675 680 685

Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 690 695 700

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
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705 710 715 720

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
725 730 735

Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His
740 745 750

His His

<210>	179
<211>	754
<212>	PRT
<213>	Artificial Sequence

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<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0510.05H10(N65D) (G4S)2
S0510.10A04_stop103Q(N65D) (G4S)2 S0455.04F23(N65D) StrepII His
tag
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<400> 179

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30Val Val Gly Val Ala Gly Asn Thr Ile Leu Arg Glu Asp Lys Asp Pro
35 40 45

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
Page 213

175

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
Page 214

435

440

445

Tyr Lys Lys Cys Gln Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
 450 455 460

Pro Gly Glu Phe Thr Leu Ser Glu Pro Gly Gln Thr Ser Glu Leu Val
 465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
 500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 530 535 540

Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 545 550 555 560

Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
 565 570 575

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 580 585 590

Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu Asp Lys Asp Pro
 595 600 605

Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 610 615 620

Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys His Tyr Arg Ile
 625 630 635 640

Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
 645 650 655

Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val Arg Val Val Ser
 660 665 670

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Phe Val Ile Gln
 675 680 685

Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 690 695 700

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 Page 215

705

710

715

720

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
725 730 735

Asp Gly Ser **Ala** Trp Ser His Pro **Gln** Phe Glu Lys His **His** His His His
740 745 750

His His

<210>	180
<211>	754
<212>	PRT
<213>	Artificial Sequence

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<220>
<223> S0474.01H22(N65D;T54A) (G4S)2-S0510.05H10(N65D) (G4S)2
S0510.10A04_stop103Q(N65D) (G4S)2-S0455.04F09(N65D) StrepII His
tag
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<400> 180

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile

eolf-seql.txt

165

170

175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
 180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
 195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
 210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Leu Lys Met Met
 225 230 235 240

Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Val
 245 250 255

Val Asp Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val
 260 265 270

Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
 275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
 290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
 305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
 325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
 340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
 355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
 370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
 385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
 405 410 415

Ala Leu Arg Glu Asp Lys Asp Pro Lys Lys Met Met Ala Thr Ile Tyr
 420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
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eolf-seql.txt

435

440

445

Tyr Lys Lys Cys Gln Tyr Asp Ile Val Thr Phe Val Pro Gly ser Gln
 450 455 460

Pro Gly Glu Phe Thr Leu Ser Glu Pro Gly Gln Thr Ser Glu Leu Val
 465 470 475 480

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 485 490 495

Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr Leu Tyr Gly Arg
 500 505 510

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 515 520 525

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 530 535 540

Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 545 550 555 560

Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val
 565 570 575

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 580 585 590

Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu Asp Lys Asp Pro
 595 600 605

Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 610 615 620

Asp Val Thr His Val Pro Phe Trp Ala Lys Lys Cys Ala Tyr Lys Ile
 625 630 635 640

Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Ala
 645 650 655

Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val Arg Val Val Ser
 660 665 670

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Gly Val Trp Gln
 675 680 685

Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 690 695 700

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
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eolf-seq1.txt

705 710 715 720

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
725 730 735

Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys His His His His
740 745 750

His His

<210> 181

<211> 758

<212> PRT

<213> Artificial Sequence

<220>

<223> S0474.01H22(N65D;T54A) (G4S)2 S0512.17L07(N39S_N65D_T136A) (G4S)2
S0510.11H24(N65D) (G4S)2 S0455.04F23(N65D) StrepII His tag

<400> 181

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

eof-seq1.txt

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Trp
210 215 220

Ala Gly Ser Thr Thr Leu Arg Glu Asp Lys Asp Pro Pro Lys Met Pro
225 230 235 240

Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Asp
245 250 255

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

Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Gly Ile Lys Ser Ser
275 280 285

Pro Gly Gln Thr Ser His Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Tyr Val Ile Gln Asn Arg Glu Gly
305 310 315 320

Phe Asn Ile Ala Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Leu Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
435 440 445

eo1f-seq1.txt

Gln Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu
595 600 605

Asp Lys Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys
625 630 635 640

His Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

eof-seq1.txt

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 182
<211> 758
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0512.17L07(N39S_N65D_T136A)
(G4S)2-S0510.11H24(N65D) (G4S)2-S0455.04F09(N65D) StrepII His tag

<400> 182

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

eo1f-seq1.txt

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

eof-seq1.txt

Gln Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu
595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
625 630 635 640

Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

eof-seq1.txt

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 183
<211> 758
<212> PRT
<213> Artificial Sequence

<220>
<223> S0474.01H22(N65D;T54A) (G4S)2 S0510.05H10(N65D) (G4S)2
S0510.11H24(N65D) (G4S)2 S0455.04F23(N65D) StrepII His tag

<400> 183

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

eof-seq1.txt

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Leu Lys Met Met
225 230 235 240

Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Val
245 250 255

Val Asp Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val
260 265 270

Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Ser
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Leu Arg Glu Asp Lys Asp Pro Met Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Asp Val Thr Glu Val Arg Phe Arg
435 440 445

eof-seq1.txt

Gln Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln
450 455 460

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly His Ala Gly Asn Gln Trp Leu Arg Glu
595 600 605

Asp Lys Asp Pro Arg Lys Met Trp Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Asp Val Thr Asp Val Asp Phe Ala Ile Lys Lys Cys
625 630 635 640

His Tyr Arg Ile Thr Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Asn Ile Lys Ser His Pro Gly Gly Thr Ser Gly Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Phe Val Ile Gln Asn Arg Glu Ala Phe Phe Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

eof-seq1.txt

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 184
<211> 758
<212> PRT
<213> Artificial sequence

<220>
<223> S0474.01H22(N65D;T54A)(G4S)2 S0510.05H10(N65D) (G4S)2
S0510.11H24(N65D) (G4S)2 S0455.04F09(N65D)StrepII His tag

<400> 184

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
50 55 60

Asp Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr
Page 228

Ser Asp Leu₁₉₅ Ile Pro Ala Pro Pro₂₀₀ Leu Ser Lys Val Pro₂₀₅ Leu Gln Gln
 Asn Phe₂₁₀ Gln Asp Asn Gln Phe₂₁₅ His Gly Lys Trp Tyr₂₂₀ Val Val Gly Leu
 Ala Gly Asn Gly Trp Leu₂₃₀ Arg Glu Asp Lys Asp₂₃₅ Pro Leu Lys Met Met₂₄₀
 Ala Thr Ile Tyr Glu₂₄₅ Leu Lys Glu Asp Lys₂₅₀ Ser Tyr Asp Val Thr₂₅₅ Val
 Val Asp Phe Glu₂₆₀ Leu Lys Lys Cys Arg₂₆₅ Tyr Met Ile Glu Thr₂₇₀ Phe Val
 Pro Gly Ser₂₇₅ Gln Pro Gly Glu Phe₂₈₀ Thr Leu Gly Asp Ile₂₈₅ Lys Ser Ser
 Pro Gly₂₉₀ Trp Thr Ser Gln Leu₂₉₅ Val Arg Val Val Ser₃₀₀ Thr Asn Tyr Asn
 Gln His Ala Met Val Phe₃₁₀ Phe Lys Gly Val Tyr₃₁₅ Gln Asn Arg Glu Trp₃₂₀
 Phe His Ile Thr Leu₃₂₅ Tyr Gly Arg Thr Lys₃₃₀ Glu Leu Thr Ser Glu₃₃₅ Leu
 Lys Glu Asn Phe₃₄₀ Ile Arg Phe Ser Lys₃₄₅ Ser Leu Gly Leu Pro₃₅₀ Glu Asn
 His Ile Val₃₅₅ Phe Pro Val Pro Ile₃₆₀ Asp Gln Cys Ile Asp₃₆₅ Gly Gly Gly
 Gly Gly Ser Gly Gly Gly Gly₃₇₅ Ser Gln Asp Ser Thr₃₈₀ Ser Asp Leu Ile
 Pro Ala Pro Pro Leu Ser₃₉₀ Lys Val Pro Leu Gln₃₉₅ Gln Asn Phe Gln Asp₄₀₀
 Asn Gln Phe His Gly₄₀₅ Lys Trp Tyr Val Val₄₁₀ Gly Glu Ala Gly Asn₄₁₅ Leu
 Ala Leu Arg Glu₄₂₀ Asp Lys Asp Pro Met₄₂₅ Lys Met Met Ala Thr₄₃₀ Ile Tyr
 Glu Leu Lys₄₃₅ Glu Asp Lys Ser Tyr₄₄₀ Asp Val Thr Glu Val₄₄₅ Arg Phe Arg
 Gln Lys Lys Cys Lys Tyr Asp Ile Val Thr Phe Val Pro Gly Ser Gln

co1f-seq1.txt

450 455 460
 Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
 465 470 475 480
 Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
 485 490 495
 Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Tyr Phe Trp Ile Thr
 500 505 510
 Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
 515 520 525
 Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
 530 535 540
 Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly ser Gly
 545 550 555 560
 Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
 565 570 575
 Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
 580 585 590
 Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu
 595 600 605
 Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
 610 615 620
 Asp Lys Ser Tyr Asp Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
 625 630 635 640
 Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
 645 650 655
 Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
 660 665 670
 Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
 675 680 685
 Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
 690 695 700
 Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
 705 710 715 720
 Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
 Page 230

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
 740 745 750

His His His His His His
 755

<210> 185
 <211> 758
 <212> PRT
 <213> Artificial sequence

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 S0466.13C10(N65Q) (G4S)2 S0455.04F09(N65Q) StrepII, His6

<400> 185

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
 20 25 30

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

Gly Lys Met Asn Ala Ala Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr
 50 55 60

Gln Val Thr Asp Val Arg Phe Ile Arg Lys Lys Cys His Tyr Tyr Ile
 65 70 75 80

Asp Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asn
 85 90 95

Ile Lys Ser Tyr Pro Gly Thr Thr Ser Gln Leu Val Arg Val Val Ser
 100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Ile Val Arg Gln
 115 120 125

Asn Arg Glu Ile Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
 130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
 145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
 165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gln Asp Ser Thr
 180 185 190

eo1f-seq1.txt

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met
225 230 235 240

Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val
245 250 255

Val Asp Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val
260 265 270

Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Leu Arg Glu Asp Lys Asp Pro Lys Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg
435 440 445

His Lys Lys Cys Gln Tyr Asp Ile Ala Thr Phe Val Pro Gly Ser Gln
450 455 460

eo1f-seq1.txt

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu
595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Gln Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
625 630 635 640

Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

eof-seq1.txt

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755

<210> 186
<211> 758
<212> PRT
<213> Artificial Sequence

<220>
<223> S0475.06L06(N65Q;S79F) (G4S)2 S0466.09E05(N65Q) (G4S)2
S0466.13C10(N65Q) (G4S)2 S0455.04F09(N65Q) StrepII His tag

<400> 186

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

Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr
20 25 30

Val Val Gly Val Ala Gly Asn Glu Val Leu Arg Asp Asp Lys Asp Pro
35 40 45

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

Gln Val Thr Glu Val Arg Phe His Asn Lys Lys Cys Asn Tyr Phe Ile
65 70 75 80

Glu Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Lys
85 90 95

Ile Lys Ser Asn Pro Gly Val Thr Ser Met Leu Val Arg Val Val Ser
100 105 110

Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys Asn Val Lys Gln
115 120 125

Asn Arg Glu Gly Phe Trp Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu
130 135 140

Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly
145 150 155 160

Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile
165 170 175

Asp Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gln Asp Ser Thr
180 185 190

eo1f-seq1.txt

Ser Asp Leu Ile Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln
195 200 205

Asn Phe Gln Asp Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Leu
210 215 220

Ala Gly Asn Gly Trp Leu Arg Glu Asp Lys Asp Pro Val Lys Met Met
225 230 235 240

Ala Thr Ile Tyr Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Val
245 250 255

Val Asp Phe Glu Leu Lys Lys Cys Arg Tyr Met Ile Glu Thr Phe Val
260 265 270

Pro Gly Ser Gln Pro Gly Glu Phe Thr Leu Gly Asp Ile Lys Ser Phe
275 280 285

Pro Gly Trp Thr Ser Gln Leu Val Arg Val Val Ser Thr Asn Tyr Asn
290 295 300

Gln His Ala Met Val Phe Phe Lys Gly Val Tyr Gln Asn Arg Glu Trp
305 310 315 320

Phe His Ile Thr Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu
325 330 335

Lys Glu Asn Phe Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn
340 345 350

His Ile Val Phe Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly
355 360 365

Gly Gly Ser Gly Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile
370 375 380

Pro Ala Pro Pro Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp
385 390 395 400

Asn Gln Phe His Gly Lys Trp Tyr Val Val Gly Glu Ala Gly Asn Leu
405 410 415

Ala Leu Arg Glu Asp Lys Asp Pro Lys Lys Met Met Ala Thr Ile Tyr
420 425 430

Glu Leu Lys Glu Asp Lys Ser Tyr Gln Val Thr Glu Val Arg Phe Arg
435 440 445

His Lys Lys Cys Gln Tyr Asp Ile Ala Thr Phe Val Pro Gly Ser Gln
450 455 460

eof-seq1.txt

Pro Gly Glu Phe Thr Leu Gly Leu Ile Lys Ser Asp Pro Gly Gln Thr
465 470 475 480

Ser Glu Leu Val Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met
485 490 495

Val Phe Phe Lys Lys Val Val Gln Asn Arg Glu Phe Phe Trp Ile Thr
500 505 510

Leu Tyr Gly Arg Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe
515 520 525

Ile Arg Phe Ser Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe
530 535 540

Pro Val Pro Ile Asp Gln Cys Ile Asp Gly Gly Gly Gly Gly Ser Gly
545 550 555 560

Gly Gly Gly Ser Gln Asp Ser Thr Ser Asp Leu Ile Pro Ala Pro Pro
565 570 575

Leu Ser Lys Val Pro Leu Gln Gln Asn Phe Gln Asp Asn Gln Phe His
580 585 590

Gly Lys Trp Tyr Val Val Gly Met Ala Gly Asn Phe His Leu Arg Glu
595 600 605

Asp Lys Asp Pro Ser Lys Met Pro Ala Thr Ile Tyr Glu Leu Lys Glu
610 615 620

Asp Lys Ser Tyr Gln Val Thr His Val Pro Phe Trp Ala Lys Lys Cys
625 630 635 640

Ala Tyr Lys Ile Ile Thr Phe Val Pro Gly Ser Gln Pro Gly Glu Phe
645 650 655

Thr Leu Gly Ala Ile Lys Ser Gly Pro Gly Met Thr Ser Trp Leu Val
660 665 670

Arg Val Val Ser Thr Asn Tyr Asn Gln His Ala Met Val Phe Phe Lys
675 680 685

Gly Val Trp Gln Asn Arg Glu Thr Phe Val Ile Thr Leu Tyr Gly Arg
690 695 700

Thr Lys Glu Leu Thr Ser Glu Leu Lys Glu Asn Phe Ile Arg Phe Ser
705 710 715 720

Lys Ser Leu Gly Leu Pro Glu Asn His Ile Val Phe Pro Val Pro Ile
725 730 735

eolf-seq1.txt

Asp Gln Cys Ile Asp Gly Ser Ala Trp Ser His Pro Gln Phe Glu Lys
740 745 750

His His His His His His
755