

3314040AWO\_SequenceListing\_ST25.txt  
SEQUENCE LISTING

<110> Memorial Sloan-Kettering Cancer Center  
Sadelain, Michel  
Kloss, Christopher C

<120> Compositions and Methods for Immunotherapy

<130> 3314.040AWO

<150> US61/709,072

<151> 2012-10-02

<160> 11

<170> PatentIn version 3.5

<210> 1

<211> 164

<212> PRT

<213> Homo sapiens

<400> 1

Met Lys Trp Lys Ala Leu Phe Thr Ala Ala Ile Leu Gln Ala Gln Leu  
1 5 10 15

Pro Ile Thr Glu Ala Gln Ser Phe Gly Leu Leu Asp Pro Lys Leu Cys  
20 25 30

Tyr Leu Leu Asp Gly Ile Leu Phe Ile Tyr Gly Val Ile Leu Thr Ala  
35 40 45

Leu Phe Leu Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr  
50 55 60

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg  
65 70 75 80

Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met  
85 90 95

Gly Gly Lys Pro Gln Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn  
100 105 110

Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met  
115 120 125

Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly  
130 135 140

Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala  
145 150 155 160

Leu Pro Pro Arg

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<210> 2
<211> 235
<212> PRT
<213> Homo sapiens

<400> 2
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro Ser Gln Phe Arg Val Ser Pro Leu Asp Arg Thr
20 25 30

Trp Asn Leu Gly Glu Thr Val Glu Leu Lys Cys Gln Val Leu Leu Ser
35 40 45

Asn Pro Thr Ser Gly Cys Ser Trp Leu Phe Gln Pro Arg Gly Ala Ala
50 55 60

Ala Ser Pro Thr Phe Leu Leu Tyr Leu Ser Gln Asn Lys Pro Lys Ala
65 70 75 80

Ala Glu Gly Leu Asp Thr Gln Arg Phe Ser Gly Lys Arg Leu Gly Asp
85 90 95

Thr Phe Val Leu Thr Leu Ser Asp Phe Arg Arg Glu Asn Glu Gly Tyr
100 105 110

Tyr Phe Cys Ser Ala Leu Ser Asn Ser Ile Met Tyr Phe Ser His Phe
115 120 125

Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg
130 135 140

Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg
145 150 155 160

Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly
165 170 175

Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr
180 185 190

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

Arg Asn Arg Arg Arg Val Cys Lys Cys Pro Arg Pro Val Val Lys Ser
210 215 220

Gly Asp Lys Pro Ser Leu Ser Ala Arg Tyr Val
225 230 235

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<210> 3

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<211> 220  
 <212> PRT  
 <213> Homo sapiens

<400> 3

Met Leu Arg Leu Leu Leu Ala Leu Asn Leu Phe Pro Ser Ile Gln Val  
 1 5 10 15

Thr Gly Asn Lys Ile Leu Val Lys Gln Ser Pro Met Leu Val Ala Tyr  
 20 25 30

Asp Asn Ala Val Asn Leu Ser Cys Lys Tyr Ser Tyr Asn Leu Phe Ser  
 35 40 45

Arg Glu Phe Arg Ala Ser Leu His Lys Gly Leu Asp Ser Ala Val Glu  
 50 55 60

Val Cys Val Val Tyr Gly Asn Tyr Ser Gln Gln Leu Gln Val Tyr Ser  
 65 70 75 80

Lys Thr Gly Phe Asn Cys Asp Gly Lys Leu Gly Asn Glu Ser Val Thr  
 85 90 95

Phe Tyr Leu Gln Asn Leu Tyr Val Asn Gln Thr Asp Ile Tyr Phe Cys  
 100 105 110

Lys Ile Glu Val Met Tyr Pro Pro Tyr Leu Asp Asn Glu Lys Ser  
 115 120 125

Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro  
 130 135 140

Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly  
 145 150 155 160

Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile  
 165 170 175

Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met  
 180 185 190

Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro  
 195 200 205

Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser  
 210 215 220

<210> 4  
 <211> 255  
 <212> PRT  
 <213> Homo sapiens

<400> 4

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Met Gly Asn Ser Cys Tyr Asn Ile Val Ala Thr Leu Leu Leu Val Leu  
1 5 10 15

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

Ala Gly Thr Phe Cys Asp Asn Asn Arg Asn Gln Ile Cys Ser Pro Cys  
35 40 45

Pro Pro Asn Ser Phe Ser Ser Ala Gly Gly Gln Arg Thr Cys Asp Ile  
50 55 60

Cys Arg Gln Cys Lys Gly Val Phe Arg Thr Arg Lys Glu Cys Ser Ser  
65 70 75 80

Thr Ser Asn Ala Glu Cys Asp Cys Thr Pro Gly Phe His Cys Leu Gly  
85 90 95

Ala Gly Cys Ser Met Cys Glu Gln Asp Cys Lys Gln Gly Gln Glu Leu  
100 105 110

Thr Lys Lys Gly Cys Lys Asp Cys Cys Phe Gly Thr Phe Asn Asp Gln  
115 120 125

Lys Arg Gly Ile Cys Arg Pro Trp Thr Asn Cys Ser Leu Asp Gly Lys  
130 135 140

Ser Val Leu Val Asn Gly Thr Lys Glu Arg Asp Val Val Cys Gly Pro  
145 150 155 160

Ser Pro Ala Asp Leu Ser Pro Gly Ala Ser Ser Val Thr Pro Pro Ala  
165 170 175

Pro Ala Arg Glu Pro Gly His Ser Pro Gln Ile Ile Ser Phe Phe Leu  
180 185 190

Ala Leu Thr Ser Thr Ala Leu Leu Phe Leu Leu Phe Phe Leu Thr Leu  
195 200 205

Arg Phe Ser Val Val Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe  
210 215 220

Lys Gln Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly  
225 230 235 240

Cys Ser Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu Leu  
245 250 255

<210> 5  
<211> 288  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 5

Met Gly His Thr Arg Arg Gln Gly Thr Ser Pro Ser Lys Cys Pro Tyr  
 1 5 10 15

Leu Asn Phe Phe Gln Leu Leu Val Leu Ala Gly Leu Ser His Phe Cys  
 20 25 30

Ser Gly Val Ile His Val Thr Lys Glu Val Lys Glu Val Ala Thr Leu  
 35 40 45

Ser Cys Gly His Asn Val Ser Val Glu Glu Leu Ala Gln Thr Arg Ile  
 50 55 60

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

Met Asn Ile Trp Pro Glu Tyr Lys Asn Arg Thr Ile Phe Asp Ile Thr  
 85 90 95

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

Thr Tyr Glu Cys Val Val Leu Lys Tyr Glu Lys Asp Ala Phe Lys Arg  
 115 120 125

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

Pro Ser Ile Ser Asp Phe Glu Ile Pro Thr Ser Asn Ile Arg Arg Ile  
 145 150 155 160

Ile Cys Ser Thr Ser Gly Gly Phe Pro Glu Pro His Leu Ser Trp Leu  
 165 170 175

Glu Asn Gly Glu Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp  
 180 185 190

Pro Glu Thr Glu Leu Tyr Ala Val Ser Ser Lys Leu Asp Phe Asn Met  
 195 200 205

Thr Thr Asn His Ser Phe Met Cys Leu Ile Lys Tyr Gly His Leu Arg  
 210 215 220

Val Asn Gln Thr Phe Asn Trp Asn Thr Thr Lys Gln Glu His Phe Pro  
 225 230 235 240

Asp Asn Leu Leu Pro Ser Trp Ala Ile Thr Leu Ile Ser Val Asn Gly  
 245 250 255

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Ile Phe Val Ile Cys Cys Leu Thr Tyr Cys Phe Ala Pro Arg Cys Arg  
260 265 270

Glu Arg Arg Arg Asn Glu Arg Leu Arg Arg Glu Ser Val Arg Pro Val  
275 280 285

<210> 6  
<211> 182  
<212> PRT  
<213> Homo sapiens  
<400> 6

Met Glu Arg Val Gln Pro Leu Glu Glu Asn Val Gly Asn Ala Ala Arg  
1 5 10 15

Pro Arg Phe Glu Arg Asn Lys Leu Leu Leu Val Ala Ser Val Ile Gly  
20 25 30

Gly Leu Gly Leu Leu Leu Cys Phe Thr Tyr Ile Cys Leu His Phe Ser  
35 40 45

Ala Leu Gln Val Ser His Arg Tyr Pro Arg Ile Gln Ser Ile Lys Val  
50 55 60

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

Lys Glu Asp Glu Ile Met Lys Val Gln Asn Asn Ser Val Ile Ile Asn  
85 90 95

Cys Asp Gly Phe Tyr Leu Ile Ser Leu Lys Gly Tyr Phe Ser Gln Glu  
100 105 110

Val Asn Ile Ser Leu His Tyr Gln Asp Glu Glu Pro Leu Phe Gln Leu  
115 120 125

Lys Lys Val Arg Ser Val Asn Ser Leu Met Val Ala Ser Leu Thr Tyr  
130 135 140

Lys Asp Lys Val Tyr Leu Asn Tyr Thr Thr Asp Asn Thr Ser Leu Asp  
145 150 155 160

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

Gly Glu Phe Cys Val Leu  
180

<210> 7  
<211> 451  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 7

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu  
1 5 10 15

His Ala Glu Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro  
20 25 30

Gly Ser Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser  
35 40 45

Ser Tyr Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu  
50 55 60

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

Lys Phe Lys Gly Gln Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr  
85 90 95

Ala Tyr Met Gln Leu Ser Gly Leu Thr Ser Glu Asp Ser Ala Val Tyr  
100 105 110

Glu Cys Ala Arg Lys Thr Ile Ser Ser Val Val Asp Phe Tyr Phe Asp  
115 120 125

Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly  
130 135 140

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr  
145 150 155 160

Gln Ser Pro Lys Phe Met Ser Thr Ser Val Gly Asp Arg Val Ser Val  
165 170 175

Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Ala Trp Tyr Gln  
180 185 190

Gln Lys Pro Gly Gln Ser Pro Lys Pro Leu Ile Tyr Ser Ala Thr Tyr  
195 200 205

Arg Asn Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr  
210 215 220

Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser Lys Asp Leu Ala Asp  
225 230 235 240

Tyr Phe Cys Gln Gln Tyr Asn Arg Tyr Pro Tyr Thr Ser Gly Gly Gly  
245 250 255

Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala Pro Thr Thr Thr Pro Ala  
260 265 270

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Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser  
275 280 285

Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr  
290 295 300

Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala  
305 310 315 320

Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys  
325 330 335

Asn Phe Ile Arg Val Lys Glu Ser Arg Ser Ala Glu Pro Pro Ala Tyr  
340 345 350

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg  
355 360 365

Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met  
370 375 380

Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu  
385 390 395 400

Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys  
405 410 415

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu  
420 425 430

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu  
435 440 445

Pro Pro Arg  
450

<210> 8  
<211> 478  
<212> PRT  
<213> Homo sapiens

<400> 8

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu  
1 5 10 15

His Ala Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro  
20 25 30

Gly Thr Ser Val Arg Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr  
35 40 45

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Glu Tyr Thr Ile His Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu  
 50 55 60  
 Trp Ile Gly Asn Ile Asn Pro Asn Asn Gly Gly Thr Thr Tyr Asn Gln  
 65 70 75 80  
 Lys Phe Glu Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr  
 85 90 95  
 Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr  
 100 105 110  
 Tyr Cys Ala Ala Gly Trp Asn Phe Asp Tyr Trp Gly Gln Gly Thr Thr  
 115 120 125  
 Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
 130 135 140  
 Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser  
 145 150 155 160  
 Thr Ser Val Gly Asp Arg Val Ser Ile Ile Cys Lys Ala Ser Gln Asp  
 165 170 175  
 Val Gly Thr Ala Val Asp Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro  
 180 185 190  
 Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp  
 195 200 205  
 Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr  
 210 215 220  
 Asn Val Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Asn  
 225 230 235 240  
 Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Met Leu Asp Leu Lys Arg  
 245 250 255  
 Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu  
 260 265 270  
 Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro  
 275 280 285  
 Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val  
 290 295 300  
 Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Glu  
 305 310 315 320

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Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp  
325 330 335

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr  
340 345 350

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val  
355 360 365

Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn  
370 375 380

Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val  
385 390 395 400

Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg  
405 410 415

Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys  
420 425 430

Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg  
435 440 445

Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys  
450 455 460

Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg  
465 470 475

<210> 9  
<211> 245  
<212> PRT  
<213> Homo sapiens

<400> 9

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

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Glu Ser Ser Tyr  
20 25 30

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

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

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

3314040AWO\_SequenceListing\_ST25.txt

Met Gln Leu Ser Gly<sub>85</sub> Leu Thr Ser Glu<sub>90</sub> Asp Ser Ala Val Tyr Phe<sub>95</sub> Cys

Ala Arg Lys Thr<sub>100</sub> Ile Ser Ser Val Val<sub>105</sub> Asp Phe Tyr Phe Asp<sub>110</sub> Tyr Trp

Gly Gln Gly<sub>115</sub> Thr Thr Val Thr Val<sub>120</sub> Ser Ser Gly Gly<sub>125</sub> Gly Ser Gly

Gly Gly<sub>130</sub> Gly Ser Gly Gly<sub>135</sub> Gly Ser Asp Ile Glu<sub>140</sub> Leu Thr Gln Ser

Pro Lys Phe Met Ser Thr<sub>150</sub> Ser Val Gly Asp Arg<sub>155</sub> Val Ser Val Thr Cys<sub>160</sub>

Lys Ala Ser Gln Asn<sub>165</sub> Val Gly Thr Asn Val<sub>170</sub> Ala Trp Tyr Gln Gln<sub>175</sub> Lys

Pro Gly Gln Ser<sub>180</sub> Pro Lys Pro Leu Ile<sub>185</sub> Tyr Ser Ala Thr Tyr<sub>190</sub> Arg Asn

Ser Gly Val<sub>195</sub> Pro Asp Arg Glu Thr<sub>200</sub> Gly Ser Gly Ser Gly<sub>205</sub> Thr Asp Phe

Thr Leu<sub>210</sub> Thr Ile Thr Asn Val<sub>215</sub> Gln Ser Lys Asp Leu<sub>220</sub> Ala Asp Tyr Phe

Cys Gln Gln Tyr Asn<sub>230</sub> Arg Tyr Pro Tyr Thr Ser<sub>235</sub> Gly Gly Gly Thr Lys<sub>240</sub>

Leu Glu Ile Lys Arg<sub>245</sub>

<210> 10  
<211> 257  
<212> PRT  
<213> Homo sapiens

<400> 10

Met Met Ala Leu Pro Val Thr Ala Leu Leu<sub>10</sub> Leu Pro Leu Ala Leu<sub>15</sub> Leu

Leu His Ala Glu<sub>20</sub> Val Gln Leu Gln Gln<sub>25</sub> Ser Gly Pro Glu Leu<sub>30</sub> Val Lys

Pro Gly Thr<sub>35</sub> Ser Val Arg Ile Ser Cys Lys Thr Ser Gly<sub>45</sub> Tyr Thr Phe

Thr Glu<sub>50</sub> Tyr Thr Ile His Trp<sub>55</sub> Val Lys Gln Ser His Gly Lys Ser Leu

Glu Trp Ile Gly Asn Ile Asn Pro Asn Asn Gly Gly Thr Thr Tyr Asn

65

70

75

80

Gln Lys Phe Glu Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser  
85 90 95

Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val  
100 105 110

Tyr Tyr Cys Ala Ala Gly Trp Asn Phe Asp Tyr Trp Gly Gln Gly Thr  
115 120 125

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
130 135 140

Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser His Lys Phe Met  
145 150 155 160

Ser Thr Ser Val Gly Asp Arg Val Ser Ile Ile Cys Lys Ala Ser Gln  
165 170 175

Asp Val Gly Thr Ala Val Asp Trp Tyr Gln Gln Lys Pro Gly Gln Ser  
180 185 190

Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro  
195 200 205

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
210 215 220

Thr Asn Val Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr  
225 230 235 240

Asn Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Met Leu Asp Leu Lys  
245 250 255

Arg

<210> 11  
<211> 412  
<212> PRT  
<213> Homo sapiens

<400> 11

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu  
1 5 10 15

His Ala Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro  
20 25 30

Gly Thr Ser Val Arg Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr  
35 40 45

3314040AWO\_SequenceListing\_ST25.txt

Glu Tyr Thr Ile His Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu  
 50 55 60  
 Trp Ile Gly Asn Ile Asn Pro Asn Asn Gly Gly Thr Thr Tyr Asn Gln  
 65 70 75 80  
 Lys Phe Glu Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr  
 85 90 95  
 Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr  
 100 105 110  
 Tyr Cys Ala Ala Gly Trp Asn Phe Asp Tyr Trp Gly Gln Gly Thr Thr  
 115 120 125  
 Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
 130 135 140  
 Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser  
 145 150 155 160  
 Thr Ser Val Gly Asp Arg Val Ser Ile Ile Cys Lys Ala Ser Gln Asp  
 165 170 175  
 Val Gly Thr Ala Val Asp Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro  
 180 185 190  
 Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp  
 195 200 205  
 Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr  
 210 215 220  
 Asn Val Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Asn  
 225 230 235 240  
 Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Met Leu Asp Leu Lys Arg  
 245 250 255  
 Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu  
 260 265 270  
 Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro  
 275 280 285  
 Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val  
 290 295 300  
 Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe  
 305 310 315 320

3314040AWO\_SequenceListing\_ST25.txt

Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp  
325 330 335

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr  
340 345 350

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Phe  
355 360 365

Ser Val Val Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe Lys Gln  
370 375 380

Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly Cys Ser  
385 390 395 400

Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu  
405 410