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<130> P144494W000

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<151> 2016-07-15

<160> 101

<170> PatentIn version 3.5

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

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<400> 2

Ser Tyr Asp Met Ser
1 5

<210> 3

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

<210> 4

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<400> 4

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

Gly

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<400> 5

Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Thr	Leu	Tyr	Leu	Gln
1				5					10					15	

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

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<400> 6

Val	Gly	Phe	Ser	Gly	Thr	Tyr	Tyr	Ser	Glu	Ser
1				5					10	

<210> 7
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<400> 7

Trp	Gly	Gln	Gly	Thr	Gln	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 8
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<400> 8

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly
20 25 30

<210> 9

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<213> llama glama

<400> 9

Ser Tyr Phe Met Ser
1 5

<210> 10

<211> 14

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<400> 10

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

<210> 11

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<400> 11

Gly Ile His Ile Ser Gly Gly Ile Thr Tyr Tyr Leu Asp Ser Val Lys
1 5 10 15

Gly

<210> 12

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<213> llama glama

<400> 12

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Val Thr
20 25 30

<210> 13
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<400> 13

Pro Pro Gly Pro Phe Lys Ala His Tyr Asn Gly Met Lys Tyr
1 5 10

<210> 14
<211> 11
<212> PRT
<213> llama glama

<400> 14

Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 15
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<400> 15

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

Thr Ala Lys Ile Thr Cys
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<210> 16
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<213> llama glama

<400> 16

Gln Gly Gly Tyr Tyr Ala His

1 5

<210> 17
<211> 15
<212> PRT
<213> llama glama

<400> 17

Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
1 5 10 15

<210> 18
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<400> 18

Gly Asn Asn Asn Arg Pro Ser
1 5

<210> 19
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<400> 19

Asn Thr Ala Thr Leu Thr Ile Ser Gly Ala Gln Ala Glu Asp Glu Ala
1 5 10 15

Glu Tyr Tyr Cys
20

<210> 20
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<213> llama glama

<400> 20

Gln Ser Gly Ser Ser Ser Ala Asn Ala Val
1 5 10

<210> 21
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<213> llama glama

<400> 21

Phe Gly Gly Gly Thr His Leu Thr Val Leu
1 5 10

<210> 22

<211> 22

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<213> llama glama

<400> 22

Asn Phe Met Leu Thr Gln Pro Pro Ser Val Ser Gly Thr Leu Gly Lys
1 5 10 15

Thr Val Thr Ile Ser Cys
20

<210> 23

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<400> 23

Thr Gly Thr Ser Arg Asp Ile Gly Asp Tyr Asn Tyr Val Ser
1 5 10

<210> 24

<211> 15

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<213> llama glama

<400> 24

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

<210> 25

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<212> PRT

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<400> 25

Lys Val Asn Thr Arg Ser Ser
1 5

<210> 26
<211> 20
<212> PRT
<213> llama glama

<400> 26

Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu Gln Ser Glu Asp Glu Ala
1 5 10 15

Asp Tyr Tyr Cys
20

<210> 27
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<213> llama glama

<400> 27

Ala Ser Tyr Arg Leu Tyr Ala Asp Tyr Val
1 5 10

<210> 28
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<400> 28

Phe Gly Gly Gly Thr His Leu Thr Val Leu
1 5 10

<210> 29
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<213> llama glama

<400> 29

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

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

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

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

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

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

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

Gly Thr Gln Val Thr Val Ser Ser
115 120

<210> 30
<211> 103
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<213> llama glama

<400> 30

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

Thr Ala Lys Ile Thr Cys Gln Gly Gly Tyr Tyr Ala His Trp Tyr Gln
20 25 30

Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Asn Asn Asn
35 40 45

Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser Ser Ser Gly Asn
50 55 60

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

Tyr Tyr Cys Gln Ser Gly Ser Ser Ser Ala Asn Ala Val Phe Gly Gly
85 90 95

Gly Thr His Leu Thr Val Leu
100

<210> 31
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<213> llama glama

<400> 31

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

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

Phe Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
35 40 45

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

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

Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Val Thr Pro Pro Gly Pro Phe Lys Ala His Tyr Asn Gly Met Lys Tyr
100 105 110

Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 32
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<212> PRT
<213> llama glama

<400> 32

Asn Phe Met Leu Thr Gln Pro Pro Ser Val Ser Gly Thr Leu Gly Lys
1 5 10 15

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

Asn Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Leu Ala Pro Lys Leu
35 40 45

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

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

Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Tyr Arg Leu Tyr
85 90 95

Ala Asp Tyr Val Phe Gly Gly Gly Thr His Leu Thr Val Leu
100 105 110

<210> 33
<211> 30
<212> PRT
<213> llama glama

<400> 33

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

<210> 34
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<400> 34

Ser Tyr Asp Met Asn
1 5

<210> 35
<211> 14
<212> PRT
<213> llama glama

<400> 35

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

<210> 36
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<212> PRT
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<220>
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<400> 36

Ser Ile Tyr Asn Asp Ala Ser Asn Thr Ala Tyr Ser Asp Ser Val Lys
1 5 10 15

Gly

<210> 37
<211> 32
<212> PRT
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<220>
<223> Germlined antibody sequence

<400> 37

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

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

<210> 38
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Germlined antibody sequence

<400> 38

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 39

<211> 30

<212> PRT

<213> llama glama

<400> 39

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

<210> 40

<211> 14

<212> PRT

<213> llama glama

<400> 40

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

<210> 41

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 41

Gly Ile His Ile Ser Gly Gly Ile Thr Tyr Tyr Thr Asp Ser Val Lys
1 5 10 15

Gly

<210> 42

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 42

Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Thr	Leu	Tyr	Leu	Gln
1				5					10					15	

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

<210> 43

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 43

Pro	Pro	Gly	Pro	Phe	Lys	Ala	His	Tyr	Asn	Gly	Ala	Lys	Tyr
1				5					10				

<210> 44

<211> 11

<212> PRT

<213> llama glama

<400> 44

Trp	Gly	Lys	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 45

<211> 22

<212> PRT

<213> llama glama

<400> 45

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

Thr	Ala	Arg	Ile	Thr	Cys
			20		

<210> 46
<211> 15
<212> PRT
<213> llama glama

<400> 46

Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ala	Pro	Val	Leu	Val	Ile	Tyr
1				5					10					15

<210> 47
<211> 7
<212> PRT
<213> llama glama

<400> 47

Gly	Gln	Asn	Asn	Arg	Pro	Ser
1				5		

<210> 48
<211> 20
<212> PRT
<213> llama glama

<400> 48

Asn	Thr	Ala	Thr	Leu	Thr	Ile	Ser	Gly	Ala	Gln	Ala	Glu	Asp	Glu	Ala
1				5					10					15	

Glu	Tyr	Tyr	Cys
			20

<210> 49
<211> 10
<212> PRT
<213> llama glama

<400> 49

Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu
1				5					10

<210> 50
<211> 22
<212> PRT
<213> Artificial Sequence

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<223> Germlined antibody sequence

<400> 50

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

Thr Ala Arg Ile Thr Cys
20

<210> 51

<211> 15

<212> PRT

<213> llama glama

<400> 51

Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
1 5 10 15

<210> 52

<211> 360

<212> PRT

<213> llama glama

<400> 52

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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305                      310                      315                      320
Thr Gly Ala Ala Thr Cys Ala Thr Gly Gly Gly Gly Cys Cys Ala Gly
      325                      330                      335

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

Thr Gly Thr Cys Cys Thr Cys Ala
      355                      360

<210> 53
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Germlined antibody sequence

<400> 53

Asn Thr Ala Thr Leu Thr Ile Ser Arg Ala Gln Ala Glu Asp Glu Ala
1          5                  10                15

Asp Tyr Tyr Cys
      20

<210> 54
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Germlined antibody sequence

<400> 54

Gln Ser Gly Ser Ser Ser Ser Asn Ala Val
1          5                  10

<210> 55
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Germlined antibody sequence

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<400> 55

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
1 5 10

<210> 56

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 56

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

Ser Val Thr Ile Ser Cys
20

<210> 57

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 57

Thr Gly Thr Ser Ser Asp Ile Gly Ser Tyr Asn Tyr Val Ser
1 5 10

<210> 58

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 58

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

<210> 59

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

<220>
<223> Germlined antibody sequence

<400> 59

Glu Val Asn Lys Arg Ser Ser
1 5

<210> 60
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Germlined antibody sequence

<400> 60

Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu Gln Ala Glu Asp Glu Ala
1 5 10 15

Asp Tyr Tyr Cys
20

<210> 61
<211> 10
<212> PRT
<213> llama glama

<400> 61

Phe Gly Gly Gly Thr Gln Leu Thr Val Leu
1 5 10

<210> 62
<211> 103
<212> PRT
<213> llama glama

<400> 62

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

Thr Ala Arg Ile Thr Cys Gln Gly Gly Tyr Tyr Ala His Trp Tyr Gln

20

25

30

Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Gln Asn Asn
 35 40 45

Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser Gly Ala Gly Asn
 50 55 60

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

Tyr Tyr Cys Gln Ser Gly Ser Ser Ser Ala Asn Ala Val Phe Gly Gly
 85 90 95

Gly Thr Lys Leu Thr Val Leu
 100

<210> 63

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 63

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

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

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

Ser Ser Ile Tyr Asn Asp Ala Ser Asn Thr Ala Tyr Ser Asp Ser Val
 50 55 60

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

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

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

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 64

<211> 103

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 64

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

Thr Ala Arg Ile Thr Cys Gln Gly Gly Tyr Tyr Ala His Trp Tyr Gln
 20 25 30

Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Gln Asn Asn
 35 40 45

Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser Gly Ala Gly Asn
 50 55 60

Thr Ala Thr Leu Thr Ile Ser Arg Ala Gln Ala Glu Asp Glu Ala Asp
 65 70 75 80

Tyr Tyr Cys Gln Ser Gly Ser Ser Ser Ser Asn Ala Val Phe Gly Gly
 85 90 95

Gly Thr Lys Leu Thr Val Leu
 100

<210> 65

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 65

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

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

Phe Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
35 40 45

Ser Gly Ile His Ile Ser Gly Gly Ile Thr Tyr Tyr Thr Asp Ser Val
50 55 60

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

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

Val Thr Pro Pro Gly Pro Phe Lys Ala His Tyr Asn Gly Ala Lys Tyr
100 105 110

Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 66

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 66

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

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

Asn Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Lys Ala Pro Lys Leu
35 40 45

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

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

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Tyr Arg Leu Tyr
85 90 95

Ala Asp Tyr Val Phe Gly Gly Gly Thr Gln Leu Thr Val Leu
100 105 110

<210> 67

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 67

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

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

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

Ser Ser Ile Tyr Asn Asp Ala Ser Asn Thr Ala Tyr Ser Asp Ser Val
50 55 60

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys

305		310		315		320
Glu Tyr Lys Cys	Lys Val Ser Asn Lys	Ala Leu Pro Ala	Pro Ile Glu			
	325	330	335			
Lys Thr Ile Ser	Lys Ala Lys Gly	Gln Pro Arg Glu	Pro Gln Val Tyr			
	340	345	350			
Thr Leu Pro Pro	Ser Arg Asp Glu	Leu Thr Lys Asn	Gln Val Ser Leu			
	355	360	365			
Thr Cys Leu Val	Lys Gly Phe Tyr	Pro Ser Asp Ile	Ala Val Glu Trp			
	370	375	380			
Glu Ser Asn Gly	Gln Pro Glu Asn	Asn Tyr Lys Thr	Thr Pro Pro Val			
385	390	395	400			
Leu Asp Ser Asp	Gly Ser Phe Phe	Leu Tyr Ser Lys	Leu Thr Val Asp			
	405	410	415			
Lys Ser Arg Trp	Gln Gln Gly Asn	Val Phe Ser Cys	Ser Val Met His			
	420	425	430			
Glu Ala Leu His	Asn His Tyr Thr	Gln Lys Ser Leu	Ser Leu Ser Pro			
	435	440	445			
Gly Lys						
450						

<210> 68
 <211> 209
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Germlined antibody sequence

<400> 68

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

Thr Ala Arg Ile Thr Cys Gln Gly Gly Tyr Tyr Ala His Trp Tyr Gln

20

25

30

Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Gln Asn Asn
 35 40 45

Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser Gly Ser Gly Ala Gly Asn
 50 55 60

Thr Ala Thr Leu Thr Ile Ser Arg Ala Gln Ala Glu Asp Glu Ala Asp
 65 70 75 80

Tyr Tyr Cys Gln Ser Gly Ser Ser Ser Ser Asn Ala Val Phe Gly Gly
 85 90 95

Gly Thr Lys Leu Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val
 100 105 110

Thr Leu Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr
 115 120 125

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

Trp Lys Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr
 145 150 155 160

Pro Ser Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser
 165 170 175

Leu Thr Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val
 180 185 190

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

Ser

<210> 69

<211> 453

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 69

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

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

Phe Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
35 40 45

Ser Gly Ile His Ile Ser Gly Gly Ile Thr Tyr Tyr Thr Asp Ser Val
50 55 60

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

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

Val Thr Pro Pro Gly Pro Phe Lys Ala His Tyr Asn Gly Ala Lys Tyr
100 105 110

Trp Gly Lys Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125

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

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

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

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
180 185 190

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

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

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

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

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

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

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

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

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

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

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

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

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

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu

405

410

415

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

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

Leu Ser Pro Gly Lys
 450

<210> 70

<211> 216

<212> PRT

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 70

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

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

Asn Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Lys Ala Pro Lys Leu
 35 40 45

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

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

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Tyr Arg Leu Tyr
 85 90 95

Ala Asp Tyr Val Phe Gly Gly Gly Thr Gln Leu Thr Val Leu Gly Gln
 100 105 110

Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu Glu

115

120

125

Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe Tyr
 130 135 140

Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val Lys
 145 150 155 160

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

Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser His
 180 185 190

Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu Lys
 195 200 205

Thr Val Ala Pro Thr Glu Cys Ser
 210 215

<210> 71
 <211> 574
 <212> PRT
 <213> homo sapiens

<400> 71

Met Arg Thr Leu Leu Thr Ile Leu Thr Val Gly Ser Leu Ala Ala His
 1 5 10 15

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

Ser Asn Phe Glu Asn Ile Leu Thr Trp Asp Ser Gly Pro Glu Gly Thr
 35 40 45

Pro Asp Thr Val Tyr Ser Ile Glu Tyr Lys Thr Tyr Gly Glu Arg Asp
 50 55 60

Trp Val Ala Lys Lys Gly Cys Gln Arg Ile Thr Arg Lys Ser Cys Asn
 65 70 75 80

Leu Thr Val Glu Thr Gly Asn Leu Thr Glu Leu Tyr Tyr Ala Arg Val
85 90 95

Thr Ala Val Ser Ala Gly Gly Arg Ser Ala Thr Lys Met Thr Asp Arg
100 105 110

Phe Ser Ser Leu Gln His Thr Thr Leu Lys Pro Pro Asp Val Thr Cys
115 120 125

Ile Ser Lys Val Arg Ser Ile Gln Met Ile Val His Pro Thr Pro Thr
130 135 140

Pro Ile Arg Ala Gly Asp Gly His Arg Leu Thr Leu Glu Asp Ile Phe
145 150 155 160

His Asp Leu Phe Tyr His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln
165 170 175

Met His Leu Gly Gly Lys Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr
180 185 190

Pro Asp Thr Glu Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp
195 200 205

Ala Lys Glu Ser Ala Pro Tyr Met Cys Arg Val Lys Thr Leu Pro Asp
210 215 220

Arg Thr Trp Thr Tyr Ser Phe Ser Gly Ala Phe Leu Phe Ser Met Gly
225 230 235 240

Phe Leu Val Ala Val Leu Cys Tyr Leu Ser Tyr Arg Tyr Val Thr Lys
245 250 255

Pro Pro Ala Pro Pro Asn Ser Leu Asn Val Gln Arg Val Leu Thr Phe
260 265 270

Gln Pro Leu Arg Phe Ile Gln Glu His Val Leu Ile Pro Val Phe Asp
275 280 285

Leu Ser Gly Pro Ser Ser Leu Ala Gln Pro Val Gln Tyr Ser Gln Ile
290 295 300

Arg Val Ser Gly Pro Arg Glu Pro Ala Gly Ala Pro Gln Arg His Ser
305 310 315 320

Leu Ser Glu Ile Thr Tyr Leu Gly Gln Pro Asp Ile Ser Ile Leu Gln
325 330 335

Pro Ser Asn Val Pro Pro Pro Gln Ile Leu Ser Pro Leu Ser Tyr Ala
340 345 350

Pro Asn Ala Ala Pro Glu Val Gly Pro Pro Ser Tyr Ala Pro Gln Val
355 360 365

Thr Pro Glu Ala Gln Phe Pro Phe Tyr Ala Pro Gln Ala Ile Ser Lys
370 375 380

Val Gln Pro Ser Ser Tyr Ala Pro Gln Ala Thr Pro Asp Ser Trp Pro
385 390 395 400

Pro Ser Tyr Gly Val Cys Met Glu Gly Ser Gly Lys Asp Ser Pro Thr
405 410 415

Gly Thr Leu Ser Ser Pro Lys His Leu Arg Pro Lys Gly Gln Leu Gln
420 425 430

Lys Glu Pro Pro Ala Gly Ser Cys Met Leu Gly Gly Leu Ser Leu Gln
435 440 445

Glu Val Thr Ser Leu Ala Met Glu Glu Ser Gln Glu Ala Lys Ser Leu
450 455 460

His Gln Pro Leu Gly Ile Cys Thr Asp Arg Thr Ser Asp Pro Asn Val
465 470 475 480

Leu His Ser Gly Glu Glu Gly Thr Pro Gln Tyr Leu Lys Gly Gln Leu
485 490 495

Pro Leu Leu Ser Ser Val Gln Ile Glu Gly His Pro Met Ser Leu Pro
500 505 510

Leu Gln Pro Pro Ser Arg Pro Cys Ser Pro Ser Asp Gln Gly Pro Ser
515 520 525

Pro Trp Gly Leu Leu Glu Ser Leu Val Cys Pro Lys Asp Glu Ala Lys
530 535 540

Ser Pro Ala Pro Glu Thr Ser Asp Leu Glu Gln Pro Thr Glu Leu Asp
545 550 555 560

Ser Leu Phe Arg Gly Leu Ala Leu Thr Val Gln Trp Glu Ser
565 570

<210> 72
<211> 1725
<212> DNA
<213> homo sapiens

<400> 72
atgaggacgc tgctgaccat cttgactgtg ggatccctgg ctgctcacgc ccctgaggac 60
ccctcggatc tgctccagca cgtgaaattc cagtccagca actttgaaaa catcctgacg 120
tgggacagcg ggccggaggg caccacagac acgggtctaca gcatcgagta taagacgtac 180
ggagagaggg actgggtggc aaagaagggc tgtcagcgga tcacccgga gtcctgcaac 240
ctgacgggtgg agacgggcaa cctcacggag ctctactatg ccagggtcac cgctgtcagt 300
gcgggaggcc ggtcagccac caagatgact gacaggttca gctctctgca gcacactacc 360
ctcaagccac ctgatgtgac ctgtatctcc aaagttagat cgattcagat gattgttcat 420
cctaccccca cgcccatccg tgcaggcgat ggccaccggc taaccctgga agacatcttc 480
catgacctgt tctaccactt agagctccag gtcaaccgca cctaccaa at gcaccttgga 540
gggaagcaga gagaatatga gttcttcggc ctgaccctg acacagagtt ctttggcacc 600
atcatgattt gcgttccac ctgggccaag gagagtgcc cctacatgtg ccgagtgaag 660
aactgccag accggacatg gacctactcc ttctccggag ctttctgtt ctccatgggc 720
ttctcgtcg cagtactctg ctacctgagc tacagatatg tcaccaagcc gcctgcacct 780
cccaactccc tgaacgtcca gcgagtcctg actttccagc cgctgcgctt catccaggag 840
cacgtcctga tccctgtctt tgacctcagc ggccccagca gtctggcca gcctgtccag 900
tactcccaga tcagggtgtc tggaccagg gagcctgcag gagctccaca gcggcatagc 960

ctgtccgaga tcacctactt agggcagcca gacatctcca tcctccagcc ctccaacgtg	1020
ccacctcccc agatcctctc cccactgtcc tatgccccaa acgctgcccc tgaggctggg	1080
cccccatcct atgcacctca ggtgaccccc gaagctcaat tcccattcta cgccccacag	1140
gccatctcta aggtccagcc ttcctcctat gcccctcaag ccactccgga cagctggcct	1200
ccctcctatg gggatatgcat ggaaggttct ggcaaagact cccccactgg gacactttct	1260
agtcctaaac accttaggcc taaaggtcag cttcagaaag agccaccagc tggaagctgc	1320
atgttaggtg gcctttctct gcaggaggtg acctccttgg ctatggagga atcccaagaa	1380
gcaaaatcat tgcaccagcc cctggggatt tgcacagaca gaacatctga cccaaatgtg	1440
ctacacagtg gggaggaagg gacaccacag tacctaaagg gccagctccc cctcctctcc	1500
tcagtccaga tcgagggcca ccccatgtcc ctccctttgc aacctccttc ccgtccatgt	1560
tccccctcgg accaaggtcc aagtccctgg ggcctgctgg agtcccttgt gtgtcccaag	1620
gatgaagcca agagcccagc ccctgagacc tcagacctgg agcagcccac agaactggat	1680
tctcttttca gaggcctggc cctgactgtg cagtgggagt cctga	1725

<210> 73
 <211> 309
 <212> DNA
 <213> llama glama

<400> 73	
aattttatgc tgactcagcc ctccgcggtg tccgtgtctt tgggacagac ggccaagatc	60
acctgccaag ggggctatta tgctcactgg taccagcaga agccaggcca ggcccctgtg	120
ttggtcatct atggaaataa taataggccc tcagggatcc ctgagcgctt ctctggctcc	180
agttctggga acacagccac cctgaccatc agcggggccc aggctgagga cgaggccgag	240
tattactgtc agtcaggaag cagtagtgct aatgctgtgt tcggcggagg gacccatctg	300
accgtcctg	309

<210> 74
 <211> 369
 <212> DNA
 <213> llama glama

<400> 74	
caggtgcagc tggtggagtc tgggggaggc ttggtgcagc ctggggattc tctgagactc	60

tcctgtgcag cctctggatt caccttcgga agctatttca tgagctgggt ccgccaggct	120
ccaggaaagg ggcccagtg ggtctcaggt attcatatta gtggtggtat tacatactac	180
ttagactccg tgaagggccg attcaccatc tccagagaca acgccaagaa cacgctgtat	240
ctgcaaatga acaacctgaa acctgaggac acggccgtgt attattgtgt aacacccccg	300
ggccccctta aggccatta caatggcatg aagtactggg gcaaaggac cctggtcacc	360
gtctcctca	369

<210> 75
 <211> 330
 <212> DNA
 <213> llama glama

<400> 75	
aattttatgc tgactcagcc tccctccgtg tctggaactc tgggaaagac ggtcaccatc	60
tcctgcactg gaaccagtcg tgacattggg gactataact atgtctcctg gtatcaacag	120
ctcccaggat tggcccccaa actcctgac tataaagtca acactcgatc ctcagggacc	180
cctgatcgct tctctggctc caagtcaggc aacacggcct ccctgaccat ctctgggctc	240
cagtctgagg acgaggctga ttattactgt gcctcatata gactgtacgc cgattatgtg	300
ttcggcggag ggacccatct gaccgtcctg	330

<210> 76
 <211> 360
 <212> DNA
 <213> llama glama

<400> 76	
caggtgcagc tcgtggagtc tgggggaggc ttggtgcagc ctgggggttc tctgagactc	60
tcctgtgcag cctctggatt caccttcagt agctacgaca tgagctgggt ccgccaggct	120
ccagggaagg ggctggagtg ggtgtccagt atttataatg acggtagtaa cacagcctat	180
tcagactccg tgaagggccg attcaccatc tccagagaca acgccaagaa cacgttgtat	240
ctgcaaatga acagcttgaa atctgaggac acggccgtgt attactgtgc aaaagttggc	300
tttagtggtta cttactacag tgaatcatgg ggccagggga cccagggtcac cgtgtcctca	360

<210> 77
 <211> 309
 <212> DNA

<213> llama glama

<400> 77

ctgcctgtgc tgactcagcc ctccgcggtg tccgtgtctt tgggacagac ggccaggatc	60
acctgccaag ggggctatta tgctcactgg taccagcaga agccaggcca ggcccctgtg	120
ctggtcatct atggacagaa taataggccc tcagggatcc ctgagcgctt ctctggctcc	180
ggcgctggga acacagccac cctgaccatc agcggggccc aggctgagga cgaggctgag	240
tattactgtc agtcaggaag cagtagtgct aatgctgtgt tcggcggagg gaccaagctg	300
accgtcctc	309

<210> 78

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 78

caggtgcagc tcgtggagtc tgggggaggc ttggtgcagc ctgggggttc tctgagactc	60
tcctgtgctg cctctggatt caccttcagt agctacgaca tgaactgggt ccgccaggct	120
ccaggaagg ggctggagtg ggtgtccagc atttataacg acgccagtaa cacagcctat	180
tcagactccg tgaagggccg attcaccatc tccagagaca actcaaagaa cacgttgtat	240
ctgcaaatac acagcctgag agctgaggac acggccgtgt attactgtgc gaaagttggc	300
tttagtggtg ctactacag tgaatcatgg ggccagggga ccctcgtcac tgtctcctca	360

<210> 79

<211> 309

<212> DNA

<213> Artificial Sequence

<220>

<223> Germlined antibody sequence

<400> 79

tcctacgaac tgactcagcc ctctcgggtg tccgtggcgt tgggacagac ggccaggatc	60
acctgccaag gaggctatta tgcacactgg taccagcaga agccaggcca ggcccctgtg	120
ctggtcatct atggacagaa taataggccc tcagggatcc ctgagcgctt ctctggctcc	180
ggcgctggga acacagccac cctgacaatc agccgcgccc aggctgagga cgaggctgac	240

tattactgtc agtcaggaag cagtagttct aatgctgtgt tcggcggagg gaccaagctg	300
accgtcctc	309

<210> 80
 <211> 369
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Germlined antibody sequence

<400> 80	
caggtgcagc tcgtggagtc tgggggcggc ttggtgcagc ctggggattc tctgagactc	60
tcctgtgcag cctctggatt caccttcagt agctatttca tgagctgggt ccgccaggct	120
ccaggaaagg ggcccagtg ggtctcaggt attcatatta gtggtggtat tacatactac	180
acggactccg tgaagggccg attcaccatc tccagagaca acgcaaagaa cacgctgtat	240
ctgcaaatga acagcctgag agctgaggac acggccgtgt attattgtgt aacacccccg	300
ggcccccttta aggccatta caatggcgcg aagtactggg gcaaaggac cctggtcact	360
gtctcctca	369

<210> 81
 <211> 330
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Germlined antibody sequence

<400> 81	
cagtctgccc tgactcagcc tccctccgtg tctggatctc ctggacagtc tgtcaccatc	60
tcctgcactg gaaccagtag tgacattggg tcctataact atgtctcctg gtatcaacag	120
ctcccaggaa aggccccaa actcctgata tatgaggatc acaagcgatc ctcaggggctc	180
cctgatcgct tctctggctc caagtcaggc aacacggcct ccctgaccat ctctgggctc	240
caggctgagg acgaggctga ttattactgt gcctcatata gactgtacgc cgattatgtg	300
ttcggcggag ggaccaact gaccgtcctc	330

<210> 82
 <211> 10

<212> PRT
<213> homo sapiens

<400> 82

Glu Pro Lys Ser Cys Asp Lys Thr His Thr
1 5 10

<210> 83
<211> 5
<212> PRT
<213> homo sapiens

<400> 83

Cys Pro Pro Cys Pro
1 5

<210> 84
<211> 8
<212> PRT
<213> homo sapiens

<400> 84

Ala Pro Glu Leu Leu Gly Gly Pro
1 5

<210> 85
<211> 12
<212> PRT
<213> homo sapiens

<400> 85

Glu Leu Lys Thr Pro Leu Gly Asp Thr Thr His Thr
1 5 10

<210> 86
<211> 50
<212> PRT
<213> homo sapiens

<400> 86

Cys Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys
1 5 10 15

Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro

20

25

30

Arg Cys Pro Glu Pro Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg
35 40 45

Cys Pro
50

<210> 87
<211> 8
<212> PRT
<213> homo sapiens

<400> 87

Ala Pro Glu Leu Leu Gly Gly Pro
1 5

<210> 88
<211> 7
<212> PRT
<213> homo sapiens

<400> 88

Glu Ser Lys Tyr Gly Pro Pro
1 5

<210> 89
<211> 5
<212> PRT
<213> homo sapiens

<400> 89

Cys Pro Ser Cys Pro
1 5

<210> 90
<211> 8
<212> PRT
<213> homo sapiens

<400> 90

Ala Pro Glu Phe Leu Gly Gly Pro
1 5

<210> 91
<211> 3
<212> PRT
<213> homo sapiens

<400> 91

Glu Arg Lys
1

<210> 92
<211> 10
<212> PRT
<213> homo sapiens

<400> 92

Cys Cys Val Glu Cys Pro Pro Pro Cys Pro
1 5 10

<210> 93
<211> 7
<212> PRT
<213> homo sapiens

<400> 93

Ala Pro Pro Val Ala Gly Pro
1 5

<210> 94
<211> 78
<212> PRT
<213> Artificial Sequence

<220>
<223> EST sequence

<400> 94

Val Arg Ser Ile Gln Met Ile Val His Pro Thr Pro Thr Pro Ile Arg
1 5 10 15

Ala Gly Asp Gly His Arg Leu Thr Leu Glu Asp Ile Phe His Asp Leu
20 25 30

Phe Tyr His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln Met His Leu
35 40 45

Gly Gly Lys Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr Pro Asp Thr
50 55 60

Glu Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp Ala
65 70 75

<210> 95
<211> 78
<212> PRT
<213> macaca mulatta

<400> 95

Val Arg Ser Ile Gln Met Ile Val His Pro Thr Pro Thr Pro Ile Arg
1 5 10 15

Ala Gly Asp Gly His Arg Leu Thr Leu Glu Asp Ile Phe His Asp Leu
20 25 30

Phe Tyr His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln Met His Leu
35 40 45

Gly Gly Glu Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr Pro Asp Thr
50 55 60

Glu Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp Ser
65 70 75

<210> 96
<211> 79
<212> PRT
<213> macaca fascicularis

<400> 96

Val Arg Ser Ile Gln Met Ile Val His Pro Thr Pro Thr Pro Ile Arg
1 5 10 15

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

Tyr His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln Met Val Asn His
35 40 45

Leu Gly Gly Lys Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr Pro Asp
50 55 60

Thr Glu Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp Ser
65 70 75

<210> 97
<211> 79
<212> PRT
<213> macaca fascicularis

<400> 97

Val Arg Ser Ile Gln Met Ile Val His Pro Thr Pro Thr Pro Ile Arg
1 5 10 15

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

Tyr His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln Met Val Asn His
35 40 45

Leu Gly Gly Lys Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr Pro Asp
50 55 60

Thr Glu Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp Ser
65 70 75

<210> 98
<211> 77
<212> PRT
<213> macaca fascicularis

<400> 98

Val Arg Ser Ile Gln Met Ile Val His Pro Thr Pro Thr Pro Ile Arg
1 5 10 15

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

Tyr His Leu Glu Leu Gln Val Asn Arg Thr Tyr Gln Met His Leu Gly
35 40 45

Gly Lys Gln Arg Glu Tyr Glu Phe Phe Gly Leu Thr Pro Asp Thr Glu
50 55 60

Phe Leu Gly Thr Ile Met Ile Cys Val Pro Thr Trp Ser
65 70 75

<210> 99
<211> 293
<212> PRT
<213> homo sapiens

<400> 99

Leu Arg Leu Glu Tyr Leu Ile Arg Leu Thr Ile Gly Tyr Arg Leu Asn
1 5 10 15

Gly Thr Ala Ala Thr Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val
20 25 30

Ala Thr Ala Thr Gly Val His Ser Pro Glu Asp Pro Ser Asp Leu Leu
35 40 45

Gln His Val Lys Phe Gln Ser Ser Asn Phe Glu Asn Ile Leu Thr Trp
50 55 60

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

Lys Thr Tyr Gly Glu Arg Asp Trp Val Ala Lys Lys Gly Cys Gln Arg
85 90 95

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

Glu Leu Tyr Tyr Ala Arg Val Thr Ala Val Ser Ala Gly Gly Arg Ser
115 120 125

Ala Thr Lys Met Thr Asp Arg Phe Ser Ser Leu Gln His Thr Thr Leu
130 135 140

Lys Pro Pro Asp Val Thr Cys Ile Ser Lys Val Arg Ser Ile Gln Met

145 150 155 160

Ile Val His Pro Thr Pro Thr Pro Ile Arg Ala Gly Asp Gly His Arg
 165 170 175

Leu Thr Leu Glu Asp Ile Phe His Asp Leu Phe Tyr His Leu Glu Leu
 180 185 190

Gln Val Asn Arg Thr Tyr Gln Met His Leu Gly Gly Lys Gln Arg Glu
 195 200 205

Tyr Glu Phe Phe Gly Leu Thr Pro Asp Thr Glu Phe Leu Gly Thr Ile
 210 215 220

Met Ile Cys Val Pro Thr Trp Ala Lys Glu Ser Ala Pro Tyr Met Cys
225 230 235 240

Arg Val Lys Thr Leu Pro Asp Arg Thr Trp Thr Ile Glu Gly Arg Asp
 245 250 255

Met Asp Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 260 265 270

Ala Pro Glu Leu Leu Gly Arg Pro Ser Val Phe Leu Phe Pro Pro Lys
 275 280 285

Pro Lys Asp Thr Leu
290

<210> 100
<211> 293
<212> PRT
<213> macaca mulatta

<400> 100

Leu Arg Leu Glu Tyr Leu Ile Arg Leu Thr Ile Gly Tyr Arg Leu Asn
1 5 10 15

Gly Thr Ala Ala Thr Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val
 20 25 30

Ala Thr Ala Thr Gly Val His Ser Pro Glu Asp Pro Ser Asp Leu Leu
35 40 45

Gln His Val Lys Phe Gln Ser Asn Asn Phe Glu Asn Ile Leu Thr Trp
50 55 60

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

Lys Thr Tyr Gly Glu Arg Asp Trp Val Ala Lys Lys Gly Cys Gln Arg
85 90 95

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

Glu Leu Tyr Tyr Ala Arg Val Thr Ala Val Ser Ala Gly Gly Arg Ser
115 120 125

Ala Thr Lys Met Thr Asp Arg Phe Asn Ser Leu Gln His Thr Ala Leu
130 135 140

Lys Pro Pro Asp Val Thr Cys Ile Pro Lys Val Arg Ser Ile Gln Met
145 150 155 160

Ile Val His Pro Thr Pro Thr Pro Ile Arg Ala Gly Asp Gly His Arg
165 170 175

Leu Thr Leu Glu Asp Ile Phe His Asp Leu Phe Tyr His Leu Glu Leu
180 185 190

Gln Val Asn Arg Thr Tyr Gln Met His Leu Gly Gly Glu Gln Arg Glu
195 200 205

Tyr Glu Phe Phe Gly Leu Thr Pro Asp Thr Glu Phe Leu Gly Thr Ile
210 215 220

Met Ile Cys Val Pro Thr Trp Ser Lys Lys Ser Ala Pro Tyr Met Cys
225 230 235 240

Arg Val Arg Thr Leu Pro Asp Arg Thr Trp Thr Ile Glu Gly Arg Asp
245 250 255

Met Asp Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
260 265 270

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
275 280 285

Pro Lys Asp Thr Leu
290

<210> 101
<211> 292
<212> PRT
<213> macaca fascicularis

<400> 101

Leu Arg Leu Glu Tyr Leu Ile Arg Leu Thr Ile Gly Tyr Arg Leu Asn
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Gly Thr Ala Ala Thr Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val
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Ala Thr Ala Thr Gly Val His Ser Pro Glu Asp Pro Ser Asp Leu Leu
35 40 45

Gln His Val Lys Phe Gln Ser Asn Asn Phe Glu Asn Ile Leu Thr Trp
50 55 60

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

Lys Thr Tyr Gly Glu Arg Asp Trp Val Ala Lys Lys Gly Cys Gln Arg
85 90 95

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

Glu Leu Tyr Tyr Ala Arg Val Thr Ala Val Ser Ala Gly Gly Arg Ser
115 120 125

Ala Thr Lys Met Thr Asp Arg Phe Asn Ser Leu Gln His Thr Ala Leu

130

135

140

Lys Pro Pro Asp Val Thr Cys Ile Pro Lys Val Arg Ser Ile Gln Met
 145 150 155 160

Ile Val His Pro Thr Pro Thr Pro Ile Arg Ala Gly Asp Gly His Arg
 165 170 175

Leu Thr Leu Glu Asp Ile Tyr Asp Leu Ser Tyr His Leu Glu Leu Gln
 180 185 190

Val Asn Arg Thr Tyr Gln Met His Leu Gly Gly Lys Gln Arg Glu Tyr
 195 200 205

Glu Phe Phe Gly Leu Thr Pro Asp Thr Glu Phe Leu Gly Thr Ile Met
 210 215 220

Ile Cys Val Pro Thr Trp Ser Lys Lys Ser Ala Pro Tyr Met Cys Arg
 225 230 235 240

Val Arg Thr Leu Pro Asp Arg Thr Trp Thr Ile Glu Gly Arg Asp Met
 245 250 255

Asp Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 260 265 270

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 275 280 285

Lys Asp Thr Leu
 290