SEQUENCE LISTING

<110> RINAT NEUROSCIENCE CORP.

<120> HUMAN GROWTH HORMONE RECEPTOR ANTAGONIST ANTIBODIES AND METHODS OF USE THEREOF

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<150> 61/579,618
<151> 2011-12-22

<160> 146

<170> PatentIn version 3.5

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Val Lys Gly

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Tyr Leu Asp Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
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Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser
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Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
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Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ala
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Trp Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
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Ala Glu Ile Arg Ser Lys Ala Asn Tyr His Ala Thr Tyr Tyr Ala Glu
    50                  55                  60

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

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

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

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35 40 45

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

Trp Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

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        35                  40                  45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
    50                  55                  60

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

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

Tyr Cys Thr Leu Phe Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110

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

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

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Thr
                85                  90                  95

Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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35 40 45

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
50 55 60

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

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

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

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Thr
                85                  90                  95

Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Thr Ala Thr Ser Ser Val Ser Ser Ser
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Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
        35                  40                  45

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

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Gly Thr
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Val Lys Gly

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Val Lys Gly

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Val Lys Gly

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Val Lys Gly

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Arg Ser Lys Ala Asn Trp His Ala
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Val Lys Gly

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Arg Ser Lys Ala Asn Arg His Ala
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<212> PRT
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<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 92

Glu Ile Arg Ser Lys Ala Asn Arg His Ala Thr Tyr Tyr Ala Glu Ser
1   5   10   15

Val Lys Gly

<210> 93
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 93

Arg Ser Lys Ala Asn Asn Trp Ala
1   5

<210> 94
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 94

Glu Ile Arg Ser Lys Ala Asn Asn Trp Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 95
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 95

Arg Ser Lys Ala Asn Asn Ile Ala
1 5

<210> 96
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 96

Glu Ile Arg Ser Lys Ala Asn Asn Ile Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 97
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 97

Arg Ser Lys Ala Asn Asn Tyr Ala
1 5

<210> 98
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 98

Glu Ile Arg Ser Lys Ala Asn Asn Tyr Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 99
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa can be H, D, P, or N

<400> 99

Thr Ala Thr Ser Ser Val Ser Ser Ser Tyr Leu Xaa
1 5 10

<210> 100
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa can be S, T, R, W, or F

<400> 100

Thr Ala Thr Xaa Ser Val Ser Ser Ser Tyr Leu His
1 5 10

<210> 101
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa can be S, W, V, or D

<400> 101

Thr Ala Thr Ser Xaa Val Ser Ser Ser Tyr Leu His
1 5 10

<210> 102
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be S, G, or W

<400> 102

Thr Ala Thr Ser Ser Val Xaa Ser Ser Tyr Leu His
1 5 10

<210> 103
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE

<222> (8)..(8)
<223> Xaa can be S, P, or Q

<400> 103

Thr Ala Thr Ser Ser Val Ser Xaa Ser Tyr Leu His
1 5 10

<210> 104
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa can be S, G, I, E, W, or F

<400> 104

Thr Ala Thr Ser Ser Val Ser Ser Xaa Tyr Leu His
1 5 10

<210> 105
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> Xaa can be L, V, or F

<400> 105

Thr Ala Thr Ser Ser Val Ser Ser Ser Tyr Xaa His
1 5 10

<210> 106
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa can be S, F, R, Y, H, Q, or G

<400> 106

His Gln Tyr His Arg Xaa Thr Pro Thr
1 5

<210> 107
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be T, Y, F, I, A, or W

<400> 107

His Gln Tyr His Arg Ser Xaa Pro Thr
1 5

<210> 108
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa can be S, A, or T

<400> 108

Arg Xaa Lys Ala Asn Asn His Ala
1 5

<210> 109
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa can be S, A, or T

<400> 109

Glu Ile Arg Xaa Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 110
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> Xaa can be K, R, or E

<400> 110

Arg Ser Xaa Ala Asn Asn His Ala
1 5

<210> 111
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> Xaa can be K, R, or E

<400> 111

Glu Ile Arg Ser Xaa Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 112
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> Xaa can be A, D, S, V, Y, or E

<400> 112

Arg Ser Lys Xaa Asn Asn His Ala
1 5

<210> 113
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa can be A, D, S, V, Y, or E

<400> 113

Glu Ile Arg Ser Lys Xaa Asn Asn His Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 114
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE

<222> (6)..(6)
<223> Xaa can be N, F, W, I, D, Y, K, or R

<400> 114

Arg Ser Lys Ala Asn Xaa His Ala
1 5

<210> 115
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa can be N, F, W, I, D, Y, K, or R

<400> 115

Glu Ile Arg Ser Lys Ala Asn Xaa His Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 116
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be H, W, I, Y, or F

<400> 116

Arg Ser Lys Ala Asn Asn Xaa Ala
1 5

<210> 117
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa can be H, W, I, Y or F

<400> 117

Glu Ile Arg Ser Lys Ala Asn Asn Xaa Ala Thr Tyr Tyr Ala Glu Ser
1   5   10   15

Val Lys Gly

<210> 118
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa can be Y, F, or I

<400> 118

Xaa Arg Asp Tyr Trp
1   5

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

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa can be L or I

<400> 119

Xaa Tyr Arg Asp Tyr Trp
1   5

<210> 120
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa can be S, W, or F

<400> 120

Thr Ala Thr Ser Ser Val Ser Ser Xaa Tyr Leu His
1 5 10

<210> 121
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa can be H, D, or N

<400> 121

Thr Ala Thr Ser Ser Val Ser Ser Ser Tyr Leu Xaa
1 5 10

<210> 122
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be T, Y, F, I, or W

<400> 122

His Gln Tyr His Arg Ser Xaa Pro Thr

1 5

<210> 123
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa can be N, F, or Y

<400> 123

Arg Ser Lys Ala Asn Xaa His Ala
1 5

<210> 124
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa can be N, F, or Y

<400> 124

Glu Ile Arg Ser Lys Ala Asn Xaa His Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 125
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE

<222> (7)..(7)
<223> Xaa can be H or F

<400> 125

Arg Ser Lys Ala Asn Asn Xaa Ala
1 5

<210> 126
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (9)..(9)
<223> Xaa can be H or F

<400> 126

Glu Ile Arg Ser Lys Ala Asn Asn Xaa Ala Thr Tyr Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 127
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa can be N or Y

<400> 127

Arg Ser Lys Ala Asn Xaa His Ala
1 5

<210> 128
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa can be N or Y

<400> 128

Glu Ile Arg Ser Lys Ala Asn Xaa His Ala Thr Tyr Tyr Ala Glu Ser
1   5   10   15

Val Lys Gly

<210> 129
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa can be Y or I

<400> 129

Xaa Arg Asp Tyr Trp
1   5

<210> 130
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa can be S, F, R, Y, H or G

<400> 130

His Gln Tyr His Arg Xaa Thr Pro Thr
1   5

<210> 131
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa can be H or D

<400> 131

Thr Ala Thr Ser Ser Val Ser Ser Ser Tyr Leu Xaa
1 5 10

<210> 132
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> Xaa can be S or F

<400> 132

His Gln Tyr His Arg Xaa Thr Pro Thr
1 5

<210> 133
<211> 440
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 133

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

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

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

Ala Glu Ile Arg Ser Lys Ala Asn Tyr His Ala Thr Tyr Tyr Ala Glu
    50                  55                  60

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

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

Tyr Cys Thr Leu Ile Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110

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

Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val
    130                 135                 140

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

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

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly
            180                 185                 190

Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys
    210                 215                 220

Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
225                 230                 235                 240

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
                245                 250                 255

Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
```

260 265 270

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

Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His
290 295 300

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
305 310 315 320

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

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
340 345 350

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
355 360 365

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
370 375 380

Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu
385 390 395 400

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
405 410 415

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
420 425 430

Lys Ser Leu Ser Leu Ser Pro Gly
435 440

<210> 134
<211> 441
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 134

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

```
1               5                   10                  15

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

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

Ala Glu Ile Arg Ser Lys Ala Asn Tyr His Ala Thr Tyr Tyr Ala Glu
    50                  55                  60

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

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

Tyr Cys Thr Leu Ile Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110

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

Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val
    130                 135                 140

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

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

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly
            180                 185                 190

Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys
    210                 215                 220

Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
225                 230                 235                 240
```

```
Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
                245                 250                 255

Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
            260                 265                 270

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

Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His
    290                 295                 300

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
305                 310                 315                 320

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

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
            340                 345                 350

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
        355                 360                 365

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
    370                 375                 380

Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu
385                 390                 395                 400

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
                405                 410                 415

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
            420                 425                 430

Lys Ser Leu Ser Leu Ser Pro Gly Lys
        435                 440
```

<210> 135
<211> 215
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 135

```
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1               5                  10                  15


Glu Arg Ala Thr Leu Ser Cys Thr Ala Thr Ser Ser Val Ser Ser Ser
            20                  25                  30


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


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


Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80


Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Thr
                85                  90                  95


Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
            100                 105                 110


Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
        115                 120                 125


Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu
    130                 135                 140


Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145                 150                 155                 160


Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu
                165                 170                 175


Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
            180                 185                 190


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


Ser Phe Asn Arg Gly Glu Cys
```

210 215

<210> 136
<211> 441
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 136

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

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

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

Ala Glu Ile Arg Ser Lys Ala Asn Asn His Ala Thr Tyr Tyr Ala Glu
50 55 60

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

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

Tyr Cys Thr Leu Phe Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

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

Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val
130 135 140

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

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

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly

```
            180                 185                 190

Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys
    210                 215                 220

Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
225                 230                 235                 240

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
                245                 250                 255

Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
            260                 265                 270

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

Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His
    290                 295                 300

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
305                 310                 315                 320

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

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
            340                 345                 350

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
        355                 360                 365

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
    370                 375                 380

Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu
385                 390                 395                 400

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
                405                 410                 415
```

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
420 425 430

Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440

<210> 137
<211> 215
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 137

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

Glu Arg Ala Thr Leu Ser Cys Thr Ala Thr Ser Ser Val Ser Ser Ser
20 25 30

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

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

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Phe Thr
85 90 95

Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
100 105 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
115 120 125

Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu
130 135 140

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145 150 155 160

```
Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu
                165                 170                 175


Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
            180                 185                 190


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


Ser Phe Asn Arg Gly Glu Cys
    210                 215


<210>  138
<211>  441
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Humanized and/or affinity  matured antibody sequence

<400>  138

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


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


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


Ala Glu Ile Arg Ser Lys Ala Asn Tyr His Ala Thr Tyr Tyr Ala Glu
    50                  55                  60


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


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


Tyr Cys Thr Leu Ile Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
            100                 105                 110


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

```
Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val
    130                 135                 140

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

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

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly
            180                 185                 190

Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys
    210                 215                 220

Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
225                 230                 235                 240

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
                245                 250                 255

Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
            260                 265                 270

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

Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His
    290                 295                 300

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
305                 310                 315                 320

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

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
            340                 345                 350

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
```

```
        355                 360                 365

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
    370                 375                 380

Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu
385                 390                 395                 400

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
                405                 410                 415

Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ser His Tyr Thr Gln
            420                 425                 430

Lys Ser Leu Ser Leu Ser Pro Gly Lys
        435                 440
```

<210> 139
<211> 215
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 139

```
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1               5                   10                  15

Glu Arg Ala Thr Leu Ser Cys Thr Ala Thr Ser Ser Val Ser Ser Ser
            20                  25                  30

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

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

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Tyr His Arg Ser Thr
                85                  90                  95

Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
```

```
            100                 105                 110

Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
        115                 120                 125

Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu
    130                 135                 140

Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145                 150                 155                 160

Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu
                165                 170                 175

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
            180                 185                 190

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

Ser Phe Asn Arg Gly Glu Cys
    210                 215


<210>  140
<211>  638
<212>  PRT
<213>  Homo sapiens

<400>  140

Met Asp Leu Trp Gln Leu Leu Leu Thr Leu Ala Leu Ala Gly Ser Ser
1               5                   10                  15

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

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

Lys Glu Pro Lys Phe Thr Lys Cys Arg Ser Pro Glu Arg Glu Thr Phe
    50                  55                  60

Ser Cys His Trp Thr Asp Glu Val His His Gly Thr Lys Asn Leu Gly
65                  70                  75                  80
```

```
Pro Ile Gln Leu Phe Tyr Thr Arg Arg Asn Thr Gln Glu Trp Thr Gln
                85                  90                  95

Glu Trp Lys Glu Cys Pro Asp Tyr Val Ser Ala Gly Glu Asn Ser Cys
            100                 105                 110

Tyr Phe Asn Ser Ser Phe Thr Ser Ile Trp Ile Pro Tyr Cys Ile Lys
        115                 120                 125

Leu Thr Ser Asn Gly Gly Thr Val Asp Glu Lys Cys Phe Ser Val Asp
    130                 135                 140

Glu Ile Val Gln Pro Asp Pro Pro Ile Ala Leu Asn Trp Thr Leu Leu
145                 150                 155                 160

Asn Val Ser Leu Thr Gly Ile His Ala Asp Ile Gln Val Arg Trp Glu
                165                 170                 175

Ala Pro Arg Asn Ala Asp Ile Gln Lys Gly Trp Met Val Leu Glu Tyr
            180                 185                 190

Glu Leu Gln Tyr Lys Glu Val Asn Glu Thr Lys Trp Lys Met Met Asp
        195                 200                 205

Pro Ile Leu Thr Thr Ser Val Pro Val Tyr Ser Leu Lys Val Asp Lys
    210                 215                 220

Glu Tyr Glu Val Arg Val Arg Ser Lys Gln Arg Asn Ser Gly Asn Tyr
225                 230                 235                 240

Gly Glu Phe Ser Glu Val Leu Tyr Val Thr Leu Pro Gln Met Ser Gln
                245                 250                 255

Phe Thr Cys Glu Glu Asp Phe Tyr Phe Pro Trp Leu Leu Ile Ile Ile
            260                 265                 270

Phe Gly Ile Phe Gly Leu Thr Val Met Leu Phe Val Phe Leu Phe Ser
        275                 280                 285

Lys Gln Gln Arg Ile Lys Met Leu Ile Leu Pro Pro Val Pro Val Pro
    290                 295                 300

Lys Ile Lys Gly Ile Asp Pro Asp Leu Leu Lys Glu Gly Lys Leu Glu
305                 310                 315                 320
```

```
Glu Val Asn Thr Ile Leu Ala Ile His Asp Ser Tyr Lys Pro Glu Phe
                325                 330                 335

His Ser Asp Asp Ser Trp Val Glu Phe Ile Glu Leu Asp Ile Asp Glu
            340                 345                 350

Pro Asp Glu Lys Thr Glu Glu Ser Asp Thr Asp Arg Leu Leu Ser Ser
        355                 360                 365

Asp His Glu Lys Ser His Ser Asn Leu Gly Val Lys Asp Gly Asp Ser
    370                 375                 380

Gly Arg Thr Ser Cys Cys Glu Pro Asp Ile Leu Glu Thr Asp Phe Asn
385                 390                 395                 400

Ala Asn Asp Ile His Glu Gly Thr Ser Glu Val Ala Gln Pro Gln Arg
                405                 410                 415

Leu Lys Gly Glu Ala Asp Leu Leu Cys Leu Asp Gln Lys Asn Gln Asn
            420                 425                 430

Asn Ser Pro Tyr His Asp Ala Cys Pro Ala Thr Gln Gln Pro Ser Val
        435                 440                 445

Ile Gln Ala Glu Lys Asn Lys Pro Gln Pro Leu Pro Thr Glu Gly Ala
    450                 455                 460

Glu Ser Thr His Gln Ala Ala His Ile Gln Leu Ser Asn Pro Ser Ser
465                 470                 475                 480

Leu Ser Asn Ile Asp Phe Tyr Ala Gln Val Ser Asp Ile Thr Pro Ala
                485                 490                 495

Gly Ser Val Val Leu Ser Pro Gly Gln Lys Asn Lys Ala Gly Met Ser
            500                 505                 510

Gln Cys Asp Met His Pro Glu Met Val Ser Leu Cys Gln Glu Asn Phe
        515                 520                 525

Leu Met Asp Asn Ala Tyr Phe Cys Glu Ala Asp Ala Lys Lys Cys Leu
    530                 535                 540
```

```
Pro Val Ala Pro His Ile Lys Val Glu Ser His Ile Gln Pro Ser Leu
545                 550                 555                 560


Asn Gln Glu Asp Ile Tyr Ile Thr Thr Glu Ser Leu Thr Thr Ala Ala
                565                 570                 575


Gly Arg Pro Gly Thr Gly Glu His Val Pro Gly Ser Glu Met Pro Val
            580                 585                 590


Pro Asp Tyr Thr Ser Ile His Ile Val Gln Ser Pro Gln Gly Leu Ile
        595                 600                 605


Leu Asn Ala Thr Ala Leu Pro Leu Pro Asp Lys Glu Phe Leu Ser Ser
    610                 615                 620


Cys Gly Tyr Val Ser Thr Asp Gln Leu Asn Lys Ile Met Pro
625                 630                 635


<210>  141
<211>  637
<212>  PRT
<213>  Macaca fascicularis

<400>  141

Met Asp Leu Trp Gln Leu Leu Leu Thr Phe Ala Leu Ala Gly Ser Ser
1               5                   10                  15


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


Ser Trp Ser Leu Gln Ser Val Asn Pro Asp Leu Lys Thr Asn Ser Ser
        35                  40                  45


Lys Glu Pro Lys Phe Thr Lys Cys Arg Ser Pro Glu Arg Glu Thr Phe
    50                  55                  60


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


Pro Ile Gln Leu Phe Tyr Thr Arg Arg Asn Ile Gln Glu Gln Thr Gln
                85                  90                  95


Glu Trp Lys Glu Cys Pro Asp Tyr Val Ser Ala Gly Glu Asn Ser Cys
            100                 105                 110
```

```
Tyr Phe Asn Ser Ser Phe Thr Ser Val Trp Ile Pro Tyr Cys Ile Lys
        115                 120                 125

Leu Thr Ser Asn Gly Asp Thr Val Asp Gly Lys Cys Phe Ser Val Asp
    130                 135                 140

Glu Ile Val Gln Pro Asp Pro Pro Ile Ala Leu Asn Trp Thr Leu Leu
145                 150                 155                 160

Asn Val Ser Leu Thr Gly Ile His Ala Asp Ile Gln Val Arg Trp Glu
                165                 170                 175

Ala Pro Pro Asn Ala Asp Ile Gln Lys Gly Trp Met Val Leu Glu Tyr
            180                 185                 190

Glu Leu Gln Tyr Lys Glu Val Asn Glu Thr Lys Trp Lys Met Met Asp
        195                 200                 205

Pro Ile Leu Ser Thr Ser Val Pro Val Tyr Ser Leu Lys Val Asp Lys
    210                 215                 220

Glu Tyr Glu Val Arg Val Arg Ser Lys Arg Arg Asn Ser Arg Asn Tyr
225                 230                 235                 240

Gly Glu Phe Ser Glu Val Leu Tyr Val Thr Leu Pro Gln Met Asn Gln
                245                 250                 255

Phe Thr Cys Glu Glu Asp Phe Tyr Phe Pro Trp Leu Leu Ile Ile Ile
            260                 265                 270

Phe Gly Ile Phe Gly Leu Thr Val Met Leu Phe Val Phe Leu Phe Ser
        275                 280                 285

Lys Gln Gln Arg Ile Lys Met Leu Ile Leu Pro Pro Val Pro Val Pro
    290                 295                 300

Lys Ile Lys Gly Ile Asp Pro Asp Leu Leu Lys Glu Gly Lys Leu Glu
305                 310                 315                 320

Glu Val Asn Thr Ile Leu Ala Ile His Asp Ser Tyr Lys Pro Glu Phe
                325                 330                 335

His Ser Asp Asp Ser Trp Val Glu Phe Ile Glu Leu Asp Ile Asp Glu
```

```
            340                 345                 350

Pro Asp Glu Lys Asn Glu Gly Ser Asp Thr Asp Arg Leu Leu Ser Ser
        355                 360                 365

Asp His Gln Lys Ser His Ser Asn Leu Gly Val Lys Asp Gly Asp Ser
    370                 375                 380

Gly Arg Thr Ser Cys Tyr Glu Pro Asp Ile Leu Glu Thr Asp Phe Asn
385                 390                 395                 400

Ala Asn Asn Ile His Glu Gly Thr Ser Glu Val Ala Gln Pro Gln Arg
                405                 410                 415

Leu Lys Gly Glu Ala Asp Leu Leu Cys Leu Asp Gln Lys Asn Gln Asn
            420                 425                 430

Lys Pro Pro Tyr His Asp Ala Cys Pro Ala Thr Gln Gln Pro Ser Val
        435                 440                 445

Ile Gln Ala Glu Lys Asn Lys Pro Gln Pro Leu Pro Thr Asp Gly Ala
    450                 455                 460

Glu Ser Thr His Gln Ala Ala His Ile Gln Leu Ser Asn Pro Ser Ser
465                 470                 475                 480

Leu Ala Asn Ile Asp Phe Tyr Ala Gln Val Ser Asp Ile Thr Pro Ala
                485                 490                 495

Gly Ser Val Val Leu Ser Pro Gly Gln Lys Asn Lys Ala Gly Met Ser
            500                 505                 510

Gln Cys Asp Met His Leu Glu Met Val Ser Leu Cys Gln Glu Asp Phe
        515                 520                 525

Ile Met Asp Asn Ala Tyr Phe Cys Glu Ala Asp Ala Lys Lys Cys Ile
    530                 535                 540

Pro Val Ala Pro His Ile Lys Val Glu Ser His Ile Glu Pro Ser Phe
545                 550                 555                 560

Asn Gln Glu Asp Ile Tyr Ile Thr Thr Glu Ser Leu Thr Thr Thr Ala
                565                 570                 575
```

Gly Arg Pro Gly Thr Thr Glu His Ile Pro Gly Ser Glu Met Pro Val
580 585 590

Pro Asp Tyr Thr Ser Ile His Ile Val Gln Ser Pro Gln Gly Leu Ile
595 600 605

Leu Asn Ala Thr Ala Leu Pro Leu Pro Gly Lys Glu Phe Leu Ser Ser
610 615 620

Cys Gly Tyr Val Ser Thr Asp Gln Leu Asn Lys Ile Met
625 630 635

<210> 142
<211> 1323
<212> DNA
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 142
gaggtgcagc tggtggaatc tggcggcgga ctggtgaaac ctggcggcag cctgagactg
60

agctgcgccg ccagcggctt caccttcagc gacgcctgga tggactgggt gcgccaggcc
120

cctggcaagg gactggaatg ggtggccgag atcagaagca aggccaacta tcacgccacc
180

tactacgccg agagcgtgaa gggccggttc accatcagcc gggacgacag caagaacacc
240

ctgtacctgc agatgaacag cctgaaaacc gaggacaccg ccgtgtacta ctgcaccctg
300

attagagact actggggcca gggcaccctg gtcaccgtct cctcagcctc caccaagggc
360

ccatcggtct tcccccctggc gccctgctcc aggagcacct ccgagagcac agcggccctg
420

ggctgcctgg tcaaggacta cttccccgaa ccggtgacgg tgtcgtggaa ctcaggcgct
480

ctgaccagcg gcgtgcacac cttcccggct gtcctacagt cctcaggact ctactccctc
540

agcagcgtag tgaccgtgcc ctccagcaac ttcggcaccc agacctacac ctgcaacgta
600

gatcacaagc ccagcaacac caaggtggac aagacagttg agcgcaaatg ttgtgtcgag
660

tgcccaccgt gcccagcacc acctgtggca ggaccgtcag tcttcctctt ccccccaaaa
720

cccaaggaca ccctcatgat ctcccggacc cctgaggtca cgtgcgtggt ggtggacgtg
780

agccacgaag accccgaggt ccagttcaac tggtacgtgg acggcgtgga ggtgcataat
840

gccaagacaa agccacggga ggagcagttc aacagcacgt tccgtgtggt cagcgtcctc
900

accgtcgtgc accaggactg gctgaacggc aaggagtaca agtgcaaggt ctccaacaaa
960

ggcctcccat cctccatcga gaaaaccatc tccaaaacca aagggcagcc ccgagaacca
1020

caggtgtaca ccctgccccc atcccgggag gagatgacca agaaccaggt cagcctgacc
1080

tgcctggtca aaggcttcta ccccagcgac atcgccgtgg agtgggagag caatgggcag
1140

ccggagaaca actacaagac cacacctccc atgctggact ccgacggctc cttcttcctc
1200

tacagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcatgctcc
1260

gtgatgcatg aggctctgca caaccactac acacagaaga gcctctccct gtctccgggt
1320

aaa
1323

<210> 143
<211> 645
<212> DNA
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<400> 143
gagatcgtgc tgacccagag ccccggcacc ctgtctctga gccctggcga gagagccacc
60

ctgagctgta ccgccaccag cagcgtgtcc agcagctacc tgaattggta tcagcagaag
120

cccggccagg cccccagact gctgatctac agcaccagca acctggccag cggcatcccc
180

gacagattca gcggcagcgg ctccggcacc gacttcaccc tgaccatcag ccggctggaa
240

cccgaggact tcgccgtgta ctactgccac cagtaccaca gaagcacccc caccttcggc
300

ggaggcacca aggtggagat caaacgaact gtggctgcac catctgtctt catcttcccg
360

ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc
420

tatcccagag aggccaaagt acagtggaag gtggataacg ccctccaatc gggtaactcc
480

caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcaccctg
540

acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt cacccatcag
600

ggcctgagct cgcccgtcac aaagagcttc aacaggggag agtgt
645

<210> 144
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide linker

<400> 144

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

<210> 145
<211> 205
<212> PRT
<213> Macaca fascicularis

<400> 145

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

Cys His Trp Thr Asp Ala Val His His Gly Leu Lys Ser Leu Gly Pro
20 25 30

Ile Gln Leu Phe Tyr Thr Arg Arg Asn Ile Gln Glu Gln Thr Gln Glu
35 40 45

Trp Lys Glu Cys Pro Asp Tyr Val Ser Ala Gly Glu Asn Ser Cys Tyr
50 55 60

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

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

Ile Val Gln Pro Asp Pro Pro Ile Ala Leu Asn Trp Thr Leu Leu Asn
            100                 105                 110

Val Ser Leu Thr Gly Ile His Ala Asp Ile Gln Val Arg Trp Glu Ala
        115                 120                 125

Pro Pro Asn Ala Asp Ile Gln Lys Gly Trp Met Val Leu Glu Tyr Glu
    130                 135                 140

Leu Gln Tyr Lys Glu Val Asn Glu Thr Lys Trp Lys Met Met Asp Pro
145                 150                 155                 160

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

Tyr Glu Val Arg Val Arg Ser Lys Arg Arg Asn Ser Arg Asn Tyr Gly
            180                 185                 190

Glu Phe Ser Glu Val Leu Tyr Val Thr Leu Pro Gln Met
        195                 200                 205
```

<210> 146
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized and/or affinity matured antibody sequence

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> Xaa can be T, R, or E

<400> 146

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Xaa Ala Thr Ser Ser Val Ser Ser Ser Tyr Leu His
1               5                   10
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