

SEQUENCE LISTING

<110> Numab Therapeutics AG

<120> MULTISPECIFIC ANTIBODY

<130> 115273P877PC

<140> PCT/EP2018/077509

<141> 2018-10-09

<150> EP17195779.8

<151> 2017-10-10

<150> EP18150465.5

<151> 2018-01-05

<150> EP18167093.6

<151> 2018-04-12

<150> EP18180814.8

<151> 2018-06-29

<160> 245

<170> PatentIn version 3.5

<210> 1

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 1

Gly Phe Ser Phe Ser Asn Ser Tyr Trp Ile Cys

1 5 10

<210> 2

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 2

Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn Trp Ala

1 5 10 15

Lys Gly

<210> 3

<211> 14

<212> PRT

<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 3

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | His | Pro | Ser | Asp | Ala | Val | Tyr | Gly | Tyr | Ala | Asn | Asn | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |

<210> 4  
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<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 4

|     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ser | Gly | Phe | Ser | Phe | Ser | Asn | Ser | Tyr | Trp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |

<210> 5  
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<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 5

|     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Gly | Phe | Ser | Phe | Ser | Asn | Ser | Tyr | Trp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |

<210> 6  
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<223> sequence of recombinant antibody or functional part thereof

<400> 6

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Phe | Val | Gly | Ser | Ser | Asp | Ser | Thr | Tyr | Tyr | Ala | Asn | Trp | Ala | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

Gly Arg

<210> 7  
<211> 12  
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<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 7

His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
1 5 10

<210> 8

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 8

Asn Ser Tyr Trp Ile Cys  
1 5

<210> 9

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 9

Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn Trp Ala  
1 5 10 15

Lys Gly

<210> 10

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 10

His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn Leu  
1 5 10

<210> 11

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 11

Gly Phe Ser Phe Ser Asn Ser Tyr  
1 5

<210> 12  
<211> 5  
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<223> sequence of recombinant antibody or functional part thereof  
<400> 12

Val Gly Ser Ser Asp  
1 5

<210> 13  
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Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
1 5 10

<210> 14  
<211> 124  
<212> PRT  
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<400> 14

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Asn Ser  
20 25 30

Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45

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

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr

85

90

95

Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
                   100                  105                  110

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

&lt;210&gt; 15

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 15

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Asn Ser  
           20                  25                  30

Tyr Trp Ile Cys Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
           35                  40                  45

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

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

Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
           85                  90                  95

Phe Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
                   100                  105                  110

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

&lt;210&gt; 16

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 16

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

Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe Ser Asn Ser  
20 25 30

Tyr Trp Ile Cys Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45

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

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

Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
85 90 95

Phe Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
100 105 110

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

<210> 17

<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 17

Glu 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 Ser Phe Ser Asn Ser  
20 25 30

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

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

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

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

85

90

95

Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
                   100                  105                  110

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

<210> 18  
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<220>  
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 <400> 18

Gln Ala Ser Gln Ser Ile Asn Asn Val Leu Ala  
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<210> 19  
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 <212> PRT  
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<220>  
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Arg Ala Ser Thr Leu Ala Ser  
 1                  5

<210> 20  
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Gln Ser Ser Tyr Gly Asn Tyr Gly Asp  
 1                  5

<210> 21  
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Ala Ser Gln Ser Ile Asn Asn Val  
1 5

<210> 22  
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<400> 22

Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
1 5 10

<210> 23  
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<400> 23

Ser Tyr Gly Asn Tyr Gly  
1 5

<210> 24  
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Ser Gln Ser Ile Asn Asn Val  
1 5

<210> 25  
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Arg Ala Ser  
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<210> 26  
<211> 6  
<212> PRT



<213> Artificial Sequence

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<223> sequence of recombinant antibody or functional part thereof

<400> 26

Ser Tyr Gly Asn Tyr Gly  
1 5

<210> 27

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 27

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
85 90 95

Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly  
100 105

<210> 28

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 28

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
85 90 95

Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly  
100 105

<210> 29

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 29

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
85 90 95

Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly  
100 105

<210> 30

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 <400> 30

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
 85 90 95

Asp Phe Gly Cys Gly Thr Lys Val Thr Val Leu Gly  
 100 105

<210> 31  
 <211> 252  
 <212> PRT  
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 <400> 31

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
85 90 95

Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
115 120 125

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
130 135 140

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Asn Ser  
145 150 155 160

Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
165 170 175

Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn  
180 185 190

Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser Lys Asn Gln  
195 200 205

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
210 215 220

Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
225 230 235 240

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 32

<211> 252

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 32

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val

20

25

30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
 85 90 95

Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 115 120 125

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 130 135 140

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Asn Ser  
 145 150 155 160

Tyr Trp Ile Cys Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 165 170 175

Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn  
 180 185 190

Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser Lys Asn Gln  
 195 200 205

Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
 210 215 220

Phe Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
 225 230 235 240

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 245 250

&lt;210&gt; 33

&lt;211&gt; 252

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 33

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
 85 90 95

Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 115 120 125

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 130 135 140

Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe Ser Asn Ser  
 145 150 155 160

Tyr Trp Ile Cys Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 165 170 175

Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn  
 180 185 190

Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser Ser Lys Asn Gln  
 195 200 205

Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
 210 215 220

Phe Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn

|       |                                                             |
|-------|-------------------------------------------------------------|
| <210> | 34                                                          |
| <211> | 252                                                         |
| <212> | PRT                                                         |
| <213> | Artificial Sequence                                         |
| <220> |                                                             |
| <223> | sequence of recombinant antibody or functional part thereof |
| <400> | 34                                                          |

Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn  
180 185 190

Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr  
195 200 205

Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr  
210 215 220

Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
225 230 235 240

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 35

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 35

Gly Phe Ser Phe Asn Asn Asp Tyr Asp Met Cys  
1 5 10

<210> 36

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 36

Cys Ile Asp Thr Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys  
1 5 10 15

Gly

<210> 37

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

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<400> 37

Arg Glu Ala Ala Ser Ser Ser Gly Tyr Gly Met Gly Tyr Phe Asp Leu  
1 5 10 15



<210> 38  
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 <212> PRT  
 <213> Artificial Sequence  
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 <400> 38

Val Ser Gly Phe Ser Phe Asn Asn Asp Tyr Asp  
 1 5 10

<210> 39  
 <211> 17  
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 <220>  
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 <400> 39

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

Arg

<210> 40  
 <211> 14  
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 <400> 40

Glu Ala Ala Ser Ser Ser Gly Tyr Gly Met Gly Tyr Phe Asp  
 1 5 10

<210> 41  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
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 <400> 41

Asn Asp Tyr Asp Met Cys  
 1 5

<210> 42  
 <211> 17

<212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 42

Cys Ile Asp Thr Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys  
 1 5 10 15

Gly

<210> 43  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 43

Glu Ala Ala Ser Ser Ser Gly Tyr Gly Met Gly Tyr Phe Asp Leu  
 1 5 10 15

<210> 44  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 44

Gly Phe Ser Phe Asn Asn Asp Tyr  
 1 5

<210> 45  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 45

Thr Gly Asp Gly  
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<210> 46  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 46

Ala Ala Ser Ser Ser Gly Tyr Gly Met Gly Tyr Phe Asp  
1 5 10

<210> 47

<211> 125

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 47

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Asn Asn Asp  
20 25 30

Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Ile Gly Cys Ile Asp Thr Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp  
50 55 60

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

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr  
85 90 95

Cys Ala Arg Glu Ala Ala Ser Ser Ser Gly Tyr Gly Met Gly Tyr Phe  
100 105 110

Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120 125

<210> 48

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 48

Gln Ser Ser Gln Ser Val Tyr Asp Asn Asn Trp Leu Ala  
1 5 10

<210> 49  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 49

Arg Ala Ser Asn Leu Ala Ser  
 1 5

<210> 50  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 50

Gln Gly Thr Tyr Leu Ser Ser Asn Trp Tyr Trp Ala  
 1 5 10

<210> 51  
 <211> 10  
 <212> PRT  
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<220>  
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 <400> 51

Ser Ser Gln Ser Val Tyr Asp Asn Asn Trp  
 1 5 10

<210> 52  
 <211> 12  
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<220>  
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 <400> 52

Arg Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg  
 1 5 10

<210> 53  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
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 <400> 53

Thr Tyr Leu Ser Ser Asn Trp Tyr Trp  
 1 5

<210> 54  
 <211> 9  
 <212> PRT  
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<220>  
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 <400> 54

Ser Gln Ser Val Tyr Asp Asn Asn Trp  
 1 5

<210> 55  
 <211> 3  
 <212> PRT  
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<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 55

Arg Ala Ser  
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<210> 56  
 <211> 9  
 <212> PRT  
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<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 56

Thr Tyr Leu Ser Ser Asn Trp Tyr Trp  
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<210> 57  
 <211> 113  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 57

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

Asp Arg Val Thr Ile Thr Cys Gln Ser Ser Gln Ser Val Tyr Asp Asn  
20 25 30

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

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

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

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Leu Ser  
85 90 95

Ser Asn Trp Tyr Trp Ala Phe Gly Thr Gly Thr Lys Val Thr Val Leu  
100 105 110

Gly

<210> 58

<211> 258

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 58

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

Asp Arg Val Thr Ile Thr Cys Gln Ser Ser Gln Ser Val Tyr Asp Asn  
20 25 30

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

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

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

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Leu Ser  
85 90 95

Ser Asn Trp Tyr Trp Ala Phe Gly Thr Gly Thr Lys Val Thr Val Leu  
100 105 110

Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
115 120 125

Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu  
130 135 140

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

Ser Phe Asn Asn Asp Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly  
165 170 175

Lys Gly Leu Glu Trp Ile Gly Cys Ile Asp Thr Gly Asp Gly Ser Thr  
180 185 190

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
195 200 205

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
210 215 220

Thr Ala Val Tyr Tyr Cys Ala Arg Glu Ala Ala Ser Ser Ser Gly Tyr  
225 230 235 240

Gly Met Gly Tyr Phe Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val  
245 250 255

Ser Ser

<210> 59

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 59

Gly Phe Ser Phe Ser Ala Asn Tyr Tyr Pro Cys  
1 5 10

<210> 60

<211> 17

<212> PRT

<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 60

Cys Ile Tyr Gly Gly Ser Ser Asp Ile Thr Tyr Asp Ala Asn Trp Thr  
1 5 10 15

Lys

<210> 61  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 61

Arg Ser Ala Trp Tyr Ser Gly Trp Gly Gly Asp Leu  
1 5 10

<210> 62  
<211> 11  
<212> PRT  
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<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 62

Ala Ser Gly Phe Ser Phe Ser Ala Asn Tyr Tyr  
1 5 10

<210> 63  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof

<400> 63

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

Gly

<210> 64  
<211> 10  
<212> PRT



<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 64

Ser Ala Trp Tyr Ser Gly Trp Gly Gly Asp  
1 5 10

<210> 65

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

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<400> 65

Ala Asn Tyr Tyr Pro Cys  
1 5

<210> 66

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

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<400> 66

Cys Ile Tyr Gly Gly Ser Ser Asp Ile Thr Tyr Asp Ala Asn Trp Thr  
1 5 10 15

Lys

<210> 67

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

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<400> 67

Ser Ala Trp Tyr Ser Gly Trp Gly Gly Asp Leu  
1 5 10

<210> 68

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 68

Gly Phe Ser Phe Ser Ala Asn Tyr  
1 5

<210> 69

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 69

Gly Gly Ser Ser  
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<210> 70

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 70

Ala Trp Tyr Ser Gly Trp Gly Gly Asp  
1 5

<210> 71

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 71

Glu 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 Ser Phe Ser Ala Asn  
20 25 30

Tyr Tyr Pro Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp  
35 40 45

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

Trp Thr Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr

Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 72  
<211> 122  
<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 72

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

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

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

Gly Pro Gly Thr Leu Val Thr Val Ser Ser  
115 120

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<210> 73
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<400> 73

Glu 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 Ser Phe Ser Ala Asn  
20 25 30

Tyr Tyr Pro Cys Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp  
35 40 45

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

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

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

Tyr Cys Ala Arg Ser Ala Trp Tyr Ser Gly Trp Gly Gly Asp Leu Trp  
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 74

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 74

Gln Ala Ser Gln Ser Ile Ser Asn Arg Leu Ala  
1 5 10

<210> 75

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

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<400> 75

Ser Ala Ser Thr Leu Ala Ser  
1 5

<210> 76  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence  
 <220>  
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 <400> 76

Gln Ser Thr Tyr Tyr Gly Asn Asp Gly Asn Ala  
 1 5 10

<210> 77  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence  
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 <400> 77

Ala Ser Gln Ser Ile Ser Asn Arg  
 1 5

<210> 78  
 <211> 12  
 <212> PRT  
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 <220>  
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 <400> 78

Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
 1 5 10

<210> 79  
 <211> 8  
 <212> PRT  
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 <400> 79

Thr Tyr Tyr Gly Asn Asp Gly Asn  
 1 5

<210> 80  
 <211> 7  
 <212> PRT  
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 <220>

<223> sequence of recombinant antibody or functional part thereof

<400> 80

Ser Gln Ser Ile Ser Asn Arg  
1 5

<210> 81

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

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<400> 81

Ser Ala Ser  
1

<210> 82

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 82

Thr Tyr Tyr Gly Asn Asp Gly Asn  
1 5

<210> 83

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 83

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Ser Asn Arg  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

65

70

75

80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Tyr Gly Asn Asp  
                     85                    90                    95

Gly Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly  
                     100                    105                    110

&lt;210&gt; 84

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 84

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Ser Asn Arg  
                     20                    25                    30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
                     35                    40                    45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
                     50                    55                    60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
   65                    70                    75                    80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Tyr Gly Asn Asp  
                     85                    90                    95

Gly Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly  
                     100                    105                    110

&lt;210&gt; 85

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 85

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Ser Asn Arg  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Tyr Gly Asn Asp  
85 90 95

Gly Asn Ala Phe Gly Cys Gly Thr Lys Val Thr Val Leu Gly  
100 105 110

<210> 86

<211> 252

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 86

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Ser Asn Arg  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Tyr Gly Asn Asp  
85 90 95

Gly Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly  
100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly



|                                                                 |                                                             |     |  |             |
|-----------------------------------------------------------------|-------------------------------------------------------------|-----|--|-------------|
| 115                                                             |                                                             | 120 |  | 125         |
| Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro |                                                             |     |  |             |
| 130                                                             |                                                             | 135 |  | 140         |
| Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser |                                                             |     |  |             |
| 145                                                             |                                                             | 150 |  | 155 160     |
| Ala Asn Tyr Tyr Pro Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu |                                                             |     |  |             |
|                                                                 |                                                             | 165 |  | 170 175     |
| Glu Trp Ile Gly Cys Ile Tyr Gly Gly Ser Ser Asp Ile Thr Tyr Asp |                                                             |     |  |             |
|                                                                 |                                                             | 180 |  | 185 190     |
| Ala Asn Trp Thr Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys |                                                             |     |  |             |
|                                                                 |                                                             | 195 |  | 200 205     |
| Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala |                                                             |     |  |             |
|                                                                 |                                                             | 210 |  | 215 220     |
| Val Tyr Tyr Cys Ala Arg Ser Ala Trp Tyr Ser Gly Trp Gly Gly Asp |                                                             |     |  |             |
|                                                                 |                                                             | 225 |  | 230 235 240 |
| Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser                 |                                                             |     |  |             |
|                                                                 |                                                             | 245 |  | 250         |
| <210>                                                           | 87                                                          |     |  |             |
| <211>                                                           | 252                                                         |     |  |             |
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| <223>                                                           | sequence of recombinant antibody or functional part thereof |     |  |             |
| <400>                                                           | 87                                                          |     |  |             |
| Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly |                                                             |     |  |             |
| 1                                                               |                                                             | 5   |  | 10 15       |
| Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Ser Asn Arg |                                                             |     |  |             |
|                                                                 |                                                             | 20  |  | 25 30       |
| Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile |                                                             |     |  |             |
|                                                                 |                                                             | 35  |  | 40 45       |
| Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly |                                                             |     |  |             |
|                                                                 |                                                             | 50  |  | 55 60       |
| Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro |                                                             |     |  |             |
|                                                                 |                                                             | 65  |  | 70 75 80    |

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Tyr Gly Asn Asp  
85 90 95

Gly Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly  
100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
115 120 125

Gly Ser Glu Ser Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro  
130 135 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser  
145 150 155 160

Ala Asn Tyr Tyr Pro Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
165 170 175

Glu Trp Ile Gly Cys Ile Tyr Gly Gly Ser Ser Asp Ile Thr Tyr Asp  
180 185 190

Ala Asn Trp Thr Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys  
195 200 205

Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala  
210 215 220

Val Tyr Phe Cys Ala Arg Ser Ala Trp Tyr Ser Gly Trp Gly Gly Asp  
225 230 235 240

Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 88

<211> 252

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 88

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Ser Asn Arg  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr Tyr Gly Asn Asp  
85 90 95

Gly Asn Ala Phe Gly Cys Gly Thr Lys Val Thr Val Leu Gly Gly Gly  
100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
115 120 125

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro  
130 135 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser  
145 150 155 160

Ala Asn Tyr Tyr Pro Cys Trp Val Arg Gln Ala Pro Gly Lys Cys Leu  
165 170 175

Glu Trp Ile Gly Cys Ile Tyr Gly Gly Ser Ser Asp Ile Thr Tyr Asp  
180 185 190

Ala Asn Trp Thr Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys  
195 200 205

Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala  
210 215 220

Val Tyr Tyr Cys Ala Arg Ser Ala Trp Tyr Ser Gly Trp Gly Gly Asp  
225 230 235 240

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 89

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

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<400> 89

Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr  
1 5 10

<210> 90

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

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<400> 90

Ser Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala Ser Trp Ala  
1 5 10 15

Gln Gly

<210> 91

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

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<400> 91

Arg Gly Tyr Val Asp Tyr Gly Gly Ala Thr Asp Leu  
1 5 10

<210> 92

<211> 11

<212> PRT

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<220>

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<400> 92

Val Ser Gly Phe Ser Phe Asn Ser Asp Tyr Trp  
1 5 10

<210> 93

<211> 11

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<220>

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<400> 93

Ala Ser Gly Phe Ser Phe Asn Ser Asp Tyr Trp  
1 5 10

<210> 94  
<211> 18  
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<400> 94

Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln  
1 5 10 15

Gly Arg

<210> 95  
<211> 10  
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<220>  
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<400> 95

Gly Tyr Val Asp Tyr Gly Gly Ala Thr Asp  
1 5 10

<210> 96  
<211> 6  
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<400> 96

Ser Asp Tyr Trp Ile Tyr  
1 5

<210> 97  
<211> 18  
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<400> 97

Ser Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala Ser Trp Ala  
1 5 10 15

Gln Gly

<210> 98  
 <211> 11  
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 <400> 98

Gly Tyr Val Asp Tyr Gly Gly Ala Thr Asp Leu  
 1 5 10

<210> 99  
 <211> 8  
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 <400> 99

Gly Phe Ser Phe Asn Ser Asp Tyr  
 1 5

<210> 100  
 <211> 5  
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 <400> 100

Gly Gly Ser Ser Gly  
 1 5

<210> 101  
 <211> 9  
 <212> PRT  
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 <400> 101

Tyr Val Asp Tyr Gly Gly Ala Thr Asp  
 1 5

<210> 102

<211> 122  
 <212> PRT  
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 <220>  
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 <400> 102

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Asn Ser Asp  
 20 25 30

Tyr Trp Ile Tyr Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45

Ile Gly Ser Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala Ser  
 50 55 60

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
 85 90 95

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

Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 115 120

<210> 103  
 <211> 122  
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 <400> 103

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Ser Phe Asn Ser Asp  
 20 25 30

Tyr Trp Ile Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp  
 35 40 45

Met Gly Ser Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala Ser  
50 55 60

Trp Ala Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr  
65 70 75 80

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

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

Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 104

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

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<400> 104

Glu 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 Ser Phe Asn Ser Asp  
20 25 30

Tyr Trp Ile Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp  
35 40 45

Ile Ala Ser Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala Ser  
50 55 60

Trp Ala Gln Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr  
65 70 75 80

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

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

Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 105



<211> 11  
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 <400> 105

Gln Ala Ser Gln Ser Ile Gly Thr Tyr Leu Ala  
 1 5 10

<210> 106  
 <211> 7  
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 <400> 106

Arg Ala Phe Ile Leu Ala Ser  
 1 5

<210> 107  
 <211> 15  
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Gln Ser Asn Phe Tyr Ser Asp Ser Thr Thr Ile Gly Pro Asn Ala  
 1 5 10 15

<210> 108  
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 <400> 108

Ala Ser Gln Ser Ile Gly Thr Tyr  
 1 5

<210> 109  
 <211> 12  
 <212> PRT  
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<400> 109

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Ala | Phe | Ile | Leu | Ala | Ser | Gly | Val | Pro | Ser | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |

<210> 110

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<400> 110

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Phe | Tyr | Ser | Asp | Ser | Thr | Thr | Ile | Gly | Pro | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |

<210> 111

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 111

|     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|
| Ser | Gln | Ser | Ile | Gly | Thr | Tyr |
| 1   |     |     |     | 5   |     |     |

<210> 112

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 112

|     |     |     |
|-----|-----|-----|
| Arg | Ala | Phe |
| 1   |     |     |

<210> 113

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 113

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Phe | Tyr | Ser | Asp | Ser | Thr | Thr | Ile | Gly | Pro | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |

<210> 114

<211> 114  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
  
 <400> 114  
  
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
 1 5 10 15  
  
 Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Gly Thr Tyr  
 20 25 30  
  
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45  
  
 Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60  
  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80  
  
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
 85 90 95  
  
 Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
 100 105 110  
  
 Leu Gly

<210> 115  
 <211> 114  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
  
 <400> 115  
  
 Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly  
 1 5 10 15  
  
 Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Gly Thr Tyr  
 20 25 30  
  
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
100 105 110

Leu Gly

<210> 116

<211> 256

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 116

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
100 105 110

Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
115 120 125

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

130

135

140

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

Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Ile Arg Gln Pro Pro  
 165 170 175

Gly Lys Gly Leu Glu Trp Ile Gly Ser Ile Tyr Gly Gly Ser Ser Gly  
 180 185 190

Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Val Thr Ile Ser Val  
 195 200 205

Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala  
 210 215 220

Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Val Asp Tyr Gly  
 225 230 235 240

Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 245 250 255

<210> 117

<211> 256

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 117

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
 85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
100 105 110

Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
115 120 125

Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu  
130 135 140

Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly  
145 150 155 160

Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Val Arg Gln Ala Pro  
165 170 175

Gly Gln Gly Leu Glu Trp Met Gly Ser Ile Tyr Gly Gly Ser Ser Gly  
180 185 190

Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Val Thr Met Thr Arg  
195 200 205

Asp Thr Ser Ile Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser  
210 215 220

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Val Asp Tyr Gly  
225 230 235 240

Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250 255

<210> 118

<211> 256

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 118

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
100 105 110

Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
115 120 125

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly  
130 135 140

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly  
145 150 155 160

Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Val Arg Gln Ala Pro  
165 170 175

Gly Lys Gly Leu Glu Trp Ile Ala Ser Ile Tyr Gly Gly Ser Ser Gly  
180 185 190

Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Phe Thr Ile Ser Arg  
195 200 205

Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala  
210 215 220

Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Gly Tyr Val Asp Tyr Gly  
225 230 235 240

Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250 255

<210> 119

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 119

Gly Phe Ser Phe Ser Ser Gly Tyr Asp Met Cys  
1 5 10

<210> 120  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof  
<400> 120

Cys Val Val Ala Gly Ser Val Asp Ile Thr Tyr Tyr Ala Ser Trp Ala  
1 5 10 15

Lys Gly

<210> 121  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof  
<400> 121

Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu  
1 5 10

<210> 122  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof  
<400> 122

Val Ser Gly Phe Ser Phe Ser Ser Gly Tyr Asp  
1 5 10

<210> 123  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof  
<400> 123

Ala Ser Gly Phe Ser Phe Ser Ser Gly Tyr Asp  
1 5 10



<210> 124  
 <211> 18  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 124

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Val | Ala | Gly | Ser | Val | Asp | Ile | Thr | Tyr | Tyr | Ala | Ser | Trp | Ala | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

Gly Arg

<210> 125  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 125

|     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Asp | Ala | Tyr | Ser | Asp | Ala | Phe | Asn |
| 1   |     |     |     | 5   |     |     |     |     |

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

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 126

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| Ser | Gly | Tyr | Asp | Met | Cys |
| 1   |     |     |     | 5   |     |

<210> 127  
 <211> 18  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 127

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Val | Val | Ala | Gly | Ser | Val | Asp | Ile | Thr | Tyr | Tyr | Ala | Ser | Trp | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

Lys Gly

<210> 128  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 128

Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu  
 1 5 10

<210> 129  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 129

Gly Phe Ser Phe Ser Ser Gly Tyr  
 1 5

<210> 130  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 130

Ala Gly Ser Val Asp  
 1 5

<210> 131  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 131

Asp Ala Tyr Ser Asp Ala Phe Asn  
 1 5

<210> 132  
 <211> 121  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 132

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Ser Gly  
20 25 30

Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45

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

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
85 90 95

Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 133

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 133

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

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

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

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

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

Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
85 90 95

Phe Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 134

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 134

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

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

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

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

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

Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
85 90 95

Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 135

<211> 11

<212> PRT

<213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 135

Gln Ala Ser Gln Ser Ile Asn Asp Tyr Leu Ala  
 1 5 10

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

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 136

Lys Ala Ser Thr Leu Ala Ser  
 1 5

<210> 137  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 137

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

<210> 138  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 138

Ala Ser Gln Ser Ile Asn Asp Tyr  
 1 5

<210> 139  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 139

Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
 1 5 10

<210> 140  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 140

Gly Tyr Ile Ile Thr Asp Ile Asp Asn  
 1 5

<210> 141  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 141

Ser Gln Ser Ile Asn Asp Tyr  
 1 5

<210> 142  
 <211> 3  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 142

Lys Ala Ser  
 1

<210> 143  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 143

Gly Tyr Ile Ile Thr Asp Ile Asp Asn  
 1 5

<210> 144  
 <211> 111  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 144

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
 85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly  
 100 105 110

&lt;210&gt; 145

&lt;211&gt; 111

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 145

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
 20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly  
100 105 110

<210> 146

<211> 252

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 146

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly  
115 120 125

Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys  
130 135 140

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

Ser Ser Gly Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly  
165 170 175

Leu Glu Trp Ile Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr Tyr



180

185

190

Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser  
           195                                  200                                  205

Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr  
           210                                  215                                  220

Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn  
   225                                  230                                  235                                  240

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
                                   245                                  250

<210> 147

<211> 252

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 147

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
                                   20                                  25                                  30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
   65                                  70                                  75                                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
                                   85                                  90                                  95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
                                   100                                  105                                  110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly  
           115                                  120                                  125

Gly Gly Ser Gln Ser Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys  
   130                                  135                                  140

Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe  
145 150 155 160

Ser Ser Gly Tyr Asp Met Cys Trp Val Arg Gln Pro Pro Gly Lys Gly  
165 170 175

Leu Glu Trp Ile Ala Cys Val Val Ala Gly Ser Val Asp Ile Thr Tyr  
180 185 190

Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser Ser  
195 200 205

Lys Asn Gln Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr  
210 215 220

Ala Val Tyr Phe Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn  
225 230 235 240

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 148

<211> 252

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 148

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly  
115 120 125

Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys  
130 135 140

Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe  
145 150 155 160

Ser Ser Gly Tyr Asp Met Cys Trp Val Arg Gln Pro Pro Gly Lys Gly  
165 170 175

Leu Glu Trp Ile Ala Cys Val Val Ala Gly Ser Val Asp Ile Thr Tyr  
180 185 190

Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser Ser  
195 200 205

Lys Asn Gln Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr  
210 215 220

Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn  
225 230 235 240

Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 149

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 149

Gly Phe Ser Leu Ser Ser Asn Ala Met Gly  
1 5 10

<210> 150

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 150

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ile | Ser | Val | Gly | Gly | Phe | Thr | Tyr | Tyr | Ala | Ser | Trp | Ala | Lys | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

<210> 151

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 151

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Asp | Arg | His | Gly | Gly | Asp | Ser | Ser | Gly | Ala | Phe | Tyr | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |

<210> 152

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 152

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Gly | Phe | Ser | Leu | Ser | Ser | Asn | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |

<210> 153

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 153

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ser | Val | Gly | Gly | Phe | Thr | Tyr | Tyr | Ala | Ser | Trp | Ala | Lys | Gly | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

<210> 154

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 154

|     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Arg | His | Gly | Gly | Asp | Ser | Ser | Gly | Ala | Phe | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |

<210> 155

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

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 155

Ser Asn Ala Met Gly  
 1 5

<210> 156  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 156

Ile Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly  
 1 5 10 15

<210> 157  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 157

Asp Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu  
 1 5 10

<210> 158  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 158

Gly Phe Ser Leu Ser Ser Asn  
 1 5

<210> 159  
 <211> 3  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 159

Val Gly Gly  
1

<210> 160

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 160

Arg Asp Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr  
1 5 10

<210> 161

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 161

Glu 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 Ser Leu Ser Ser Asn  
20 25 30

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

Gly Ile Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys  
50 55 60

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

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

Arg Asp Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 162

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

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 162

Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser  
 1 5 10

<210> 163  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 163

Asp Ala Ser Asp Leu Ala Ser  
 1 5

<210> 164  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 164

Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala  
 1 5 10

<210> 165  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 165

Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln  
 1 5 10

<210> 166  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 166

Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg  
1 5 10

<210> 167

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 167

Gly Phe Ser Ser Ser Ser Asp Thr  
1 5

<210> 168

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 168

Ser Glu Ser Val Tyr Ser Asn Asn Gln  
1 5

<210> 169

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 169

Asp Ala Ser  
1

<210> 170

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 170

Gly Phe Ser Ser Ser Ser Asp Thr  
1 5

<210> 171



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

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 171

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

Asp Arg Val Thr Ile Thr Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn  
 20 25 30

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

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

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

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser  
 85 90 95

Ser Ser Asp Thr Ala Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly  
 100 105 110

<210> 172  
 <211> 253  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 172

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

Asp Arg Val Thr Ile Thr Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn  
 20 25 30

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

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

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

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser  
85 90 95

Ser Ser Asp Thr Ala Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly  
100 105 110

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val  
130 135 140

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser  
145 150 155 160

Leu Ser Ser Asn Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly  
165 170 175

Leu Glu Tyr Ile Gly Ile Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala  
180 185 190

Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
195 200 205

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr  
210 215 220

Tyr Phe Cys Ala Arg Asp Arg His Gly Gly Asp Ser Ser Gly Ala Phe  
225 230 235 240

Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 173

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 173

Gly Phe Ser Phe Ser Ser Ser Tyr Trp Ile Cys  
1 5 10

<210> 174

<211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 174

Cys Val Phe Thr Gly Asp Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys  
 1 5 10 15

Gly

<210> 175  
 <211> 12  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 175

Arg Pro Val Ser Val Tyr Tyr Tyr Gly Met Asp Leu  
 1 5 10

<210> 176  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 176

Ala Ser Gly Phe Ser Phe Ser Ser Ser Tyr Trp  
 1 5 10

<210> 177  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 177

Val Phe Thr Gly Asp Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly  
 1 5 10 15

Arg

<210> 178  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 178

Pro Val Ser Val Tyr Tyr Tyr Gly Met Asp  
 1 5 10

<210> 179  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 179

Ser Ser Tyr Trp Ile Cys  
 1 5

<210> 180  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 180

Cys Val Phe Thr Gly Asp Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys  
 1 5 10 15

Gly

<210> 181  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof  
 <400> 181

Pro Val Ser Val Tyr Tyr Tyr Gly Met Asp Leu  
 1 5 10

<210> 182  
 <211> 9  
 <212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 182

Gly Phe Ser Phe Ser Ser Ser Tyr Trp  
1 5

<210> 183

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 183

Thr Gly Asp Gly  
1

<210> 184

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 184

Val Ser Val Tyr Tyr Tyr Gly Met Asp  
1 5

<210> 185

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 185

Glu 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 Ser Phe Ser Ser Ser  
20 25 30

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

Val Gly Cys Val Phe Thr Gly Asp Gly Thr Thr Tyr Tyr Ala Ser Trp  
50 55 60

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

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

Cys Ala Arg Pro Val Ser Val Tyr Tyr Tyr Gly Met Asp Leu Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 186

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 186

Gln Ala Ser Gln Ile Ile Ser Ser Arg Ser Ala  
1 5 10

<210> 187

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 187

Gln Ala Ser Lys Leu Ala Ser  
1 5

<210> 188

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 188

Gln Cys Thr Tyr Ile Asp Ser Asn Phe Gly Ala  
1 5 10

<210> 189

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 189

Ala Ser Gln Ile Ile Ser Ser Arg  
1 5

<210> 190

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 190

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

<210> 191

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 191

Thr Tyr Ile Asp Ser Asn Phe Gly  
1 5

<210> 192

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 192

Ser Gln Ile Ile Ser Ser Arg  
1 5

<210> 193

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 193

Gln Ala Ser  
1

<210> 194  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof  
<400> 194

Thr Tyr Ile Asp Ser Asn Phe Gly  
1 5

<210> 195  
<211> 110  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof  
<400> 195

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ile Ile Ser Ser Arg  
20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Ile Asp Ser Asn  
85 90 95

Phe Gly Ala Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly  
100 105 110

<210> 196  
<211> 251  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> sequence of recombinant antibody or functional part thereof



&lt;400&gt; 196

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ile Ile Ser Ser Arg  
 20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Cys Thr Tyr Ile Asp Ser Asn  
 85 90 95

Phe Gly Ala Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly  
 100 105 110

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
 115 120 125

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro  
 130 135 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser  
 145 150 155 160

Ser Ser Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 165 170 175

Glu Trp Val Gly Cys Val Phe Thr Gly Asp Gly Thr Thr Tyr Tyr Ala  
 180 185 190

Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
 195 200 205

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr  
 210 215 220

Tyr Phe Cys Ala Arg Pro Val Ser Val Tyr Tyr Tyr Gly Met Asp Leu  
 225 230 235 240

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
245 250

<210> 197  
<211> 255  
<212> PRT  
<213> Homo sapiens

<400> 197

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 Gly Gly Cys Glu Leu  
245 250 255

<210> 198  
<211> 290  
<212> PRT  
<213> Homo sapiens

<400> 198

Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu  
1 5 10 15

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

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu  
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile  
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser  
65 70 75 80

Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn  
85 90 95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr  
100 105 110

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val  
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val  
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr  
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser  
165 170 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn  
180 185 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr  
195 200 205

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

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His  
225 230 235 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr  
245 250 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys  
260 265 270

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

Glu Thr  
290

<210> 199  
<211> 11  
<212> PRT  
<213> Homo sapiens

<400> 199

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

<210> 200  
<211> 11  
<212> PRT  
<213> Homo sapiens

<400> 200

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

<210> 201  
<211> 11  
<212> PRT  
<213> Homo sapiens

<400> 201

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

<210> 202  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 202

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

<210> 203  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 203

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

<210> 204  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 204

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

<210> 205  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 205

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

<210> 206  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 206

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

Gly Gly Gly Ser  
 20

<210> 207  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 207

Gly Gly Gly Gly Ser  
 1 5

<210> 208  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 208

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

<210> 209  
 <211> 493  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 209

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
 85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
 100 105 110

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
 115 120 125

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

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys  
 145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
 165 170 175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
 180 185 190

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
 195 200 205

Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
 210 215 220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
 245 250 255

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
 260 265 270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
 275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
 290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
 305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
 325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
 340 345 350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
355 360 365

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
370 375 380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser  
385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys  
405 410 415

Gly Leu Glu Trp Ile Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr  
420 425 430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
435 440 445

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
450 455 460

Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
485 490

<210> 210

<211> 499

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 210

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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



Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val  
115 120 125

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser  
130 135 140

Phe Asn Asn Asp Tyr Asp Met Cys Trp Val Arg Gln Ala Pro Gly Lys  
145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Ile Asp Thr Gly Asp Gly Ser Thr Tyr  
165 170 175

Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser  
180 185 190

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr  
195 200 205

Ala Val Tyr Tyr Cys Ala Arg Glu Ala Ala Ser Ser Ser Gly Tyr Gly  
210 215 220

Met Gly Tyr Phe Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
225 230 235 240

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser  
245 250 255

Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser  
260 265 270

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser Gln Ser  
275 280 285

Val Tyr Asp Asn Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys  
290 295 300

Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser Asn Leu Ala Ser Gly Val  
305 310 315 320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 325 330 335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gly  
 340 345 350

Thr Tyr Leu Ser Ser Asn Trp Tyr Trp Ala Phe Gly Thr Gly Thr Lys  
 355 360 365

Val Thr Val Leu Gly Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu  
 370 375 380

Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys  
 385 390 395 400

Lys Val Ser Gly Phe Ser Phe Ser Ser Gly Tyr Asp Met Cys Trp Ile  
 405 410 415

Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Cys Val Val Ala  
 420 425 430

Gly Ser Val Asp Ile Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val  
 435 440 445

Thr Ile Ser Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser  
 450 455 460

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp  
 465 470 475 480

Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly Gln Gly Thr Leu Val Thr  
 485 490 495

Val Ser Ser

<210> 211

<211> 493

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 211

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Arg | Val | Thr | Ile | Thr | Cys | Gln | Ala | Ser | Gln | Ser | Ile | Asn | Asp | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Leu | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Tyr | Lys | Ala | Ser | Thr | Leu | Ala | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Glu | Asp | Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Gly | Tyr | Ile | Ile | Thr | Asp |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ile | Asp | Asn | Val | Phe | Gly | Thr | Gly | Thr | Lys | Val | Thr | Val | Leu | Gly | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Gly | Gly | Gly | Ser | Gln | Val | Gln | Leu | Gln | Glu | Ser | Gly | Pro | Gly | Leu | Val |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Lys | Pro | Ser | Glu | Thr | Leu | Ser | Leu | Thr | Cys | Lys | Val | Ser | Gly | Phe | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Phe | Ser | Asn | Ser | Tyr | Trp | Ile | Cys | Trp | Val | Arg | Gln | Pro | Pro | Gly | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Gly | Leu | Glu | Trp | Ile | Gly | Cys | Thr | Phe | Val | Gly | Ser | Ser | Asp | Ser | Thr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Tyr | Tyr | Ala | Asn | Trp | Ala | Lys | Gly | Arg | Val | Thr | Ile | Ser | Val | Asp | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ser | Lys | Asn | Gln | Val | Ser | Leu | Lys | Leu | Ser | Ser | Val | Thr | Ala | Ala | Asp |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Thr | Ala | Val | Tyr | Phe | Cys | Ala | Arg | His | Pro | Ser | Asp | Ala | Val | Tyr | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Tyr | Ala | Asn | Asn | Leu | Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr | Val | Ser | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Gly | Gly | Gly | Ser | Ile | Gln | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys  
290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
340 345 350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
355 360 365

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
370 375 380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser  
385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys  
405 410 415

Gly Leu Glu Trp Ile Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr  
420 425 430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
435 440 445

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
450 455 460

Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
485 490

<210> 212

<211> 493

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 212

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
115 120 125

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

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Val Arg Gln Pro Pro Gly Lys  
145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
165 170 175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser  
180 185 190

Ser Lys Asn Gln Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
195 200 205

Thr Ala Val Tyr Phe Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
210 215 220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
245 250 255

Gly Gly Gly Ser Leu Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
260 265 270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys  
290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
340 345 350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
355 360 365

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
370 375 380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser  
385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys  
405 410 415

Gly Leu Glu Trp Ile Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr  
420 425 430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
435 440 445

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
450 455 460

Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
485 490

<210> 213  
 <211> 493  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> sequence of recombinant antibody or functional part thereof

<400> 213

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
 20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
 85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
 100 105 110

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
 115 120 125

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

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys  
 145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
 165 170 175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
 180 185 190

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
 195 200 205

Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
 210 215 220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
 245 250 255

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
 260 265 270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
 275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
 290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
 305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
 325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
 340 345 350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
 355 360 365

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
 370 375 380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser  
 385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Val Arg Gln Pro Pro Gly Lys  
 405 410 415

Gly Leu Glu Trp Ile Ala Cys Val Val Ala Gly Ser Val Asp Ile Thr  
 420 425 430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
 435 440 445

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
 450 455 460



Thr Ala Val Tyr Phe Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
485 490

<210> 214

<211> 493

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 214

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
115 120 125

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

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys  
145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
165 170 175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
                   180                  185                  190

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
           195                  200                  205

Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
       210                  215                  220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
   225                  230                  235                  240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
                   245                  250                  255

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
                   260                  265                  270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
           275                  280                  285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
       290                  295                  300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
   305                  310                  315                  320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
                   325                  330                  335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
                   340                  345                  350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
       355                  360                  365

Gly Gly Gly Ser Gln Ser Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
       370                  375                  380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser  
   385                  390                  395                  400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Val Arg Gln Pro Pro Gly Lys  
                   405                  410                  415

Gly Leu Glu Trp Ile Ala Cys Val Val Ala Gly Ser Val Asp Ile Thr  
                   420                  425                  430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser  
435 440 445

Ser Lys Asn Gln Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
450 455 460

Thr Ala Val Tyr Phe Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
485 490

<210> 215

<211> 493

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 215

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

Asp Ala Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
115 120 125

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

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys  
 145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
 165 170 175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
 180 185 190

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
 195 200 205

Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
 210 215 220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
 245 250 255

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
 260 265 270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
 275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
 290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
 305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
 325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
 340 345 350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
 355 360 365

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val  
 370 375 380

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser  
 385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Val Arg Gln Ala Pro Gly Lys  
405 410 415

Gly Leu Glu Trp Val Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr  
420 425 430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn  
435 440 445

Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp  
450 455 460

Thr Ala Thr Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
465 470 475 480

Asn Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser  
485 490

<210> 216

<211> 755

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 216

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
 115 120 125

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

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys  
 145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
 165 170 175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
 180 185 190

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
 195 200 205

Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
 210 215 220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
 245 250 255

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
 260 265 270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
 275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
 290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
 305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
 325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
 340 345 350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
 355 360 365

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
 370 375 380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser  
 385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys  
 405 410 415

Gly Leu Glu Trp Ile Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr  
 420 425 430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
 435 440 445

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
 450 455 460

Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
 465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly  
 485 490 495

Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser  
 500 505 510

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser  
 515 520 525

Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr Gln Gln Lys Pro  
 530 535 540

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asp Leu Ala Ser  
 545 550 555 560

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
 565 570 575

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys  
 580 585 590

Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe Gly Gly Gly Thr  
 595 600 605

Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser

610

615

620

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu  
625 630 635 640

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys  
645 650 655

Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met Gly Trp Val Arg  
660 665 670

Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile Ile Ser Val Gly  
675 680 685

Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser  
690 695 700

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
705 710 715 720

Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Arg His Gly Gly  
725 730 735

Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr  
740 745 750

Val Ser Ser  
755

<210> 217

<211> 761

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 217

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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



Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
115 120 125

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

Phe Asn Asn Asp Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys  
145 150 155 160

Gly Leu Glu Trp Ile Gly Cys Ile Asp Thr Gly Asp Gly Ser Thr Tyr  
165 170 175

Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser  
180 185 190

Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr  
195 200 205

Ala Val Tyr Tyr Cys Ala Arg Glu Ala Ala Ser Ser Ser Gly Tyr Gly  
210 215 220

Met Gly Tyr Phe Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
225 230 235 240

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
245 250 255

Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser  
260 265 270

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser Gln Ser  
275 280 285

Val Tyr Asp Asn Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys  
290 295 300

Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser Asn Leu Ala Ser Gly Val

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 305 |     | 310 |     | 315 |     | 320 |     |     |     |     |     |     |     |     |     |
| Pro | Ser | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ile | Ser | Ser | Leu | Gln | Pro | Glu | Asp | Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gly |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Thr | Tyr | Leu | Ser | Ser | Asn | Trp | Tyr | Trp | Ala | Phe | Gly | Thr | Gly | Thr | Lys |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Val | Thr | Val | Leu | Gly | Gly | Gly | Gly | Gly | Ser | Gln | Val | Gln | Leu | Gln | Glu |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Ser | Gly | Pro | Gly | Leu | Val | Lys | Pro | Ser | Glu | Thr | Leu | Ser | Leu | Thr | Cys |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Lys | Val | Ser | Gly | Phe | Ser | Phe | Ser | Ser | Gly | Tyr | Asp | Met | Cys | Trp | Ile |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Arg | Gln | Pro | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Ile | Gly | Cys | Val | Val | Ala |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gly | Ser | Val | Asp | Ile | Thr | Tyr | Tyr | Ala | Ser | Trp | Ala | Lys | Gly | Arg | Val |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Thr | Ile | Ser | Val | Asp | Ser | Ser | Lys | Asn | Gln | Phe | Ser | Leu | Lys | Leu | Ser |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Ser | Val | Thr | Ala | Ala | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | Ala | Arg | Lys | Asp |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Ala | Tyr | Ser | Asp | Ala | Phe | Asn | Leu | Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Val | Ser | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Ile | Gln | Met |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly | Asp | Arg | Val | Thr |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Ile | Thr | Cys | Gln | Ser | Ser | Glu | Ser | Val | Tyr | Ser | Asn | Asn | Gln | Leu | Ser |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Pro | Pro | Lys | Leu | Leu | Ile | Tyr | Asp |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |

Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly  
565 570 575

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp  
580 585 590

Phe Ala Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr  
595 600 605

Ala Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly  
610 615 620

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
625 630 635 640

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
645 650 655

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn  
660 665 670

Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile  
675 680 685

Gly Ile Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys  
690 695 700

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu  
705 710 715 720

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala  
725 730 735

Arg Asp Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly  
740 745 750

Gln Gly Thr Leu Val Thr Val Ser Ser  
755 760

<210> 218

<211> 753

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 218

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 1   |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |     |  |  |
| Asp | Arg | Val | Thr | Ile | Thr | Cys | Gln | Ala | Ser | Gln | Ser | Ile | Asn | Asp | Tyr |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Leu | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Tyr | Lys | Ala | Ser | Thr | Leu | Ala | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Glu | Asp | Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Gly | Tyr | Ile | Ile | Thr | Asp |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ile | Asp | Asn | Val | Phe | Gly | Thr | Gly | Thr | Lys | Val | Thr | Val | Leu | Gly | Gly |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Gly | Gly | Ser | Gln | Val | Gln | Leu | Gln | Glu | Ser | Gly | Pro | Gly | Leu | Val |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Lys | Pro | Ser | Glu | Thr | Leu | Ser | Leu | Thr | Cys | Lys | Val | Ser | Gly | Phe | Ser |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Phe | Ser | Asn | Ser | Tyr | Trp | Ile | Cys | Trp | Ile | Arg | Gln | Pro | Pro | Gly | Lys |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Gly | Leu | Glu | Trp | Ile | Gly | Cys | Thr | Phe | Val | Gly | Ser | Ser | Asp | Ser | Thr |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Tyr | Tyr | Ala | Asn | Trp | Ala | Lys | Gly | Arg | Val | Thr | Ile | Ser | Val | Asp | Ser |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Ser | Lys | Asn | Gln | Phe | Ser | Leu | Lys | Leu | Ser | Ser | Val | Thr | Ala | Ala | Asp |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Thr | Ala | Val | Tyr | Tyr | Cys | Ala | Arg | His | Pro | Ser | Asp | Ala | Val | Tyr | Gly |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Tyr | Ala | Asn | Asn | Leu | Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr | Val | Ser | Ser |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
260 265 270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
340 345 350

Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
355 360 365

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
370 375 380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser  
385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys  
405 410 415

Gly Leu Glu Trp Ile Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr  
420 425 430

Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser  
435 440 445

Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
450 455 460

Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly  
485 490 495

Gly Ser Gly Gly Gly Gly Ser Val Val Met Thr Gln Ser Pro Ser Ser  
500 505 510

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser  
515 520 525

Gln Ile Ile Ser Ser Arg Ser Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
530 535 540

Pro Pro Lys Leu Leu Ile Tyr Gln Ala Ser Lys Leu Ala Ser Gly Val  
545 550 555 560

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
565 570 575

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Cys  
580 585 590

Thr Tyr Ile Asp Ser Asn Phe Gly Ala Phe Gly Gly Gly Thr Lys Leu  
595 600 605

Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly  
610 615 620

Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly  
625 630 635 640

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala  
645 650 655

Ser Gly Phe Ser Phe Ser Ser Ser Tyr Trp Ile Cys Trp Val Arg Gln  
660 665 670

Ala Pro Gly Lys Gly Leu Glu Trp Val Gly Cys Val Phe Thr Gly Asp  
675 680 685

Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser  
690 695 700

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
705 710 715 720

Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Pro Val Ser Val Tyr  
725 730 735

Tyr Tyr Gly Met Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
740 745 750

Ser

<210> 219  
 <211> 759  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
  
 <400> 219  
  
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
 1 5 10 15  
  
 Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
 20 25 30  
  
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45  
  
 Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60  
  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80  
  
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
 85 90 95  
  
 Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
 100 105 110  
  
 Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
 115 120 125  
  
 Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser  
 130 135 140  
  
 Phe Asn Asn Asp Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys  
 145 150 155 160  
  
 Gly Leu Glu Trp Ile Gly Cys Ile Asp Thr Gly Asp Gly Ser Thr Tyr  
 165 170 175  
  
 Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser  
 180 185 190  
  
 Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr  
 195 200 205

Ala Val Tyr Tyr Cys Ala Arg Glu Ala Ala Ser Ser Ser Gly Tyr Gly  
210 215 220

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Tyr | Phe | Asp | Leu | Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr | Val | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
245 250 255

Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser  
260 265 270

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser Gln Ser  
275 280 285

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Tyr | Asp | Asn | Asn | Trp | Leu | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |

Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser Asn Leu Ala Ser Gly Val  
305 310 315 320

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ser | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gly  
340 345 350

Thr Tyr Leu Ser Ser Asn Trp Tyr Trp Ala Phe Gly Thr Gly Thr Lys  
355 360 365

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Thr | Val | Leu | Gly | Gly | Gly | Gly | Gly | Ser | Gln | Val | Gln | Leu | Gln | Glu |
| 370 |     |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |

Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys  
385 390 395 400

Lys Val Ser Gly Phe Ser Phe Ser Ser Gly Tyr Asp Met Cys Trp Ile  
405 410 415

Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Cys Val Val Ala  
420 425 430

Gly Ser Val Asp Ile Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val  
435 440 445

Thr Ile Ser Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser  
450 455 460



Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp  
465 470 475 480

Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly Gln Gly Thr Leu Val Thr  
485 490 495

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Val Val Met  
500 505 510

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr  
515 520 525

Ile Thr Cys Gln Ala Ser Gln Ile Ile Ser Ser Arg Ser Ala Trp Tyr  
530 535 540

Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Gln Ala Ser  
545 550 555 560

Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
565 570 575

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
580 585 590

Thr Tyr Tyr Cys Gln Cys Thr Tyr Ile Asp Ser Asn Phe Gly Ala Phe  
595 600 605

Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly  
610 615 620

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val  
625 630 635 640

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
645 650 655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Ser Ser Tyr Trp  
660 665 670

Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly  
675 680 685

Cys Val Phe Thr Gly Asp Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys  
690 695 700

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu

Gly Phe Ser Phe Ser Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro  
145 150 155 160

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

Asp Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser  
180 185 190

Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr  
195 200 205

Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala  
210 215 220

Val Tyr Gly Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr  
225 230 235 240

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
245 250 255

Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser  
260 265 270

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser  
275 280 285

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

Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val  
305 310 315 320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
325 330 335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser  
340 345 350

Ser Tyr Gly Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val  
355 360 365

Leu Gly Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro  
370 375 380

Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser  
385 390 395 400

Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Ile Arg Gln Pro

405

410

415

Pro Gly Lys Gly Leu Glu Trp Ile Gly Ser Ile Tyr Gly Gly Ser Ser  
                   420                  425                  430

Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Val Thr Ile Ser  
                   435                  440                  445

Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr  
                   450                  455                  460

Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Val Asp Tyr  
                   465                  470                  475                  480

Gly Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
                   485                  490                  495

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln  
                   500                  505                  510

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr  
                   515                  520                  525

Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr  
                   530                  535                  540

Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser  
                   545                  550                  555                  560

Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
                   565                  570                  575

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
                   580                  585                  590

Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe  
                   595                  600                  605

Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly  
                   610                  615                  620

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val  
                   625                  630                  635                  640

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
                   645                  650                  655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met  
660 665 670

Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile  
675 680 685

Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg  
690 695 700

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met  
705 710 715 720

Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp  
725 730 735

Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly  
740 745 750

Thr Leu Val Thr Val Ser Ser  
755

<210> 221

<211> 758

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 221

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val

100

105

110

Leu Gly Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro  
 115 120 125

Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser  
 130 135 140

Gly Phe Ser Phe Ser Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro  
 145 150 155 160

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

Asp Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser  
 180 185 190

Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr  
 195 200 205

Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala  
 210 215 220

Val Tyr Gly Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr  
 225 230 235 240

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
 245 250 255

Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser  
 260 265 270

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala  
 275 280 285

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

Lys Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly  
 305 310 315 320

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu  
 325 330 335

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln  
 340 345 350

Ser Ser Tyr Gly Asn Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr  
355 360 365

Val Leu Gly Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly  
370 375 380

Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val  
385 390 395 400

Ser Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Ile Arg Gln  
405 410 415

Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Ser Ile Tyr Gly Gly Ser  
420 425 430

Ser Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Val Thr Ile  
435 440 445

Ser Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val  
450 455 460

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Val Asp  
465 470 475 480

Tyr Gly Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val  
485 490 495

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Val Val Met Thr  
500 505 510

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile  
515 520 525

Thr Cys Gln Ala Ser Gln Ile Ile Ser Ser Arg Ser Ala Trp Tyr Gln  
530 535 540

Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Gln Ala Ser Lys  
545 550 555 560

Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr  
565 570 575

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr  
580 585 590

Tyr Tyr Cys Gln Cys Thr Tyr Ile Asp Ser Asn Phe Gly Ala Phe Gly  
595 600 605

Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly  
610 615 620

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln  
625 630 635 640

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg  
645 650 655

Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Ser Ser Tyr Trp Ile  
660 665 670

Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly Cys  
675 680 685

Val Phe Thr Gly Asp Gly Thr Thr Tyr Tyr Ala Ser Trp Ala Lys Gly  
690 695 700

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln  
705 710 715 720

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg  
725 730 735

Pro Val Ser Val Tyr Tyr Tyr Gly Met Asp Leu Trp Gly Gln Gly Thr  
740 745 750

Leu Val Thr Val Ser Ser  
755

<210> 222

<211> 759

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 222

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45



Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
100 105 110

Leu Gly Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly  
115 120 125

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser  
130 135 140

Gly Phe Ser Phe Ser Asn Ser Tyr Trp Ile Cys Trp Val Arg Gln Ala  
145 150 155 160

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

Asp Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Phe Thr Ile Ser  
180 185 190

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
195 200 205

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala  
210 215 220

Val Tyr Gly Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr  
225 230 235 240

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
245 250 255

Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser  
260 265 270

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser  
275 280 285

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

Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val  
305 310 315 320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
325 330 335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser  
340 345 350

Ser Tyr Gly Asn Tyr Gly Asp Phe Gly Cys Gly Thr Lys Val Thr Val  
355 360 365

Leu Gly Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro  
370 375 380

Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser  
385 390 395 400

Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Ile Arg Gln Pro  
405 410 415

Pro Gly Lys Gly Leu Glu Trp Ile Gly Ser Ile Tyr Gly Gly Ser Ser  
420 425 430

Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Val Thr Ile Ser  
435 440 445

Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr  
450 455 460

Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Val Asp Tyr  
465 470 475 480

Gly Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
485 490 495

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln  
500 505 510

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr  
515 520 525

Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr  
530 535 540

Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser  
545 550 555 560

Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
565 570 575

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
580 585 590

Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe  
595 600 605

Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly  
610 615 620

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val  
625 630 635 640

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
645 650 655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met  
660 665 670

Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile  
675 680 685

Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg  
690 695 700

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met  
705 710 715 720

Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp  
725 730 735

Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly  
740 745 750

Thr Leu Val Thr Val Ser Ser  
755

<210> 223

<211> 759

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 223

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Gln | Met | Thr | Gln | Ser | Pro | Ala | Ser | Leu | Ser | Ala | Ser | Val | Gly | 1   | 5   | 10  | 15  |
| Asp | Arg | Val | Thr | Ile | Thr | Cys | Gln | Ala | Ser | Gln | Ser | Ile | Gly | Thr | Tyr | 20  | 25  | 30  |     |
| Leu | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Pro | Pro | Lys | Leu | Leu | Ile | 35  | 40  | 45  |     |
| Tyr | Arg | Ala | Phe | Ile | Leu | Ala | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly | 50  | 55  | 60  |     |
| Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile | Ser | Ser | Leu | Gln | Pro | 65  | 70  | 75  | 80  |
| Glu | Asp | Phe | Ala | Thr | Tyr | Tyr | Cys | Gln | Ser | Asn | Phe | Tyr | Ser | Asp | Ser | 85  | 90  | 95  |     |
| Thr | Thr | Ile | Gly | Pro | Asn | Ala | Phe | Gly | Thr | Gly | Thr | Lys | Val | Thr | Val | 100 | 105 | 110 |     |
| Leu | Gly | Gly | Gly | Gly | Gly | Ser | Glu | Val | Gln | Leu | Val | Glu | Ser | Gly | Gly | 115 | 120 | 125 |     |
| Gly | Leu | Val | Gln | Pro | Gly | Gly | Ser | Leu | Arg | Leu | Ser | Cys | Ala | Ala | Ser | 130 | 135 | 140 |     |
| Gly | Phe | Ser | Phe | Ser | Asn | Ser | Tyr | Trp | Ile | Cys | Trp | Val | Arg | Gln | Ala | 145 | 150 | 155 | 160 |
| Pro | Gly | Lys | Cys | Leu | Glu | Trp | Ile | Gly | Cys | Thr | Phe | Val | Gly | Ser | Ser | 165 | 170 | 175 |     |
| Asp | Ser | Thr | Tyr | Tyr | Ala | Asn | Trp | Ala | Lys | Gly | Arg | Phe | Thr | Ile | Ser | 180 | 185 | 190 |     |
| Arg | Asp | Asn | Ser | Lys | Asn | Thr | Val | Tyr | Leu | Gln | Met | Asn | Ser | Leu | Arg | 195 | 200 | 205 |     |
| Ala | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys | Ala | Arg | His | Pro | Ser | Asp | Ala | 210 | 215 | 220 |     |
| Val | Tyr | Gly | Tyr | Ala | Asn | Asn | Leu | Trp | Gly | Gln | Gly | Thr | Leu | Val | Thr | 225 | 230 | 235 | 240 |
| Val | Ser | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | Gly | Ser | Gly | Gly | Gly | 245 | 250 | 255 |     |

Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser  
                   260                                  265                                  270

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser  
                   275                                  280                                  285

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

Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val  
                   305                                  310                                  315                                  320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
                                   325                                  330                                  335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser  
                                   340                                  345                                  350

Ser Tyr Gly Asn Tyr Gly Asp Phe Gly Cys Gly Thr Lys Val Thr Val  
                   355                                  360                                  365

Leu Gly Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly  
                   370                                  375                                  380

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser  
                   385                                  390                                  395                                  400

Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Val Arg Gln Ala  
                                   405                                  410                                  415

Pro Gly Lys Gly Leu Glu Trp Ile Ala Ser Ile Tyr Gly Gly Ser Ser  
                   420                                  425                                  430

Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Phe Thr Ile Ser  
                   435                                  440                                  445

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
                   450                                  455                                  460

Ala Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Gly Tyr Val Asp Tyr  
                   465                                  470                                  475                                  480

Gly Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
                                   485                                  490                                  495

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln

500

505

510

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr  
 515 520 525

Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr  
 530 535 540

Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser  
 545 550 555 560

Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
 565 570 575

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
 580 585 590

Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe  
 595 600 605

Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly  
 610 615 620

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val  
 625 630 635 640

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
 645 650 655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met  
 660 665 670

Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile  
 675 680 685

Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg  
 690 695 700

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met  
 705 710 715 720

Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp  
 725 730 735

Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly  
 740 745 750

Thr Leu Val Thr Val Ser Ser  
755

<210> 224

<211> 759

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 224

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
85 90 95

Asp Phe Gly Cys Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
100 105 110

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly  
115 120 125

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ser  
130 135 140

Asp Tyr Trp Ile Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu  
145 150 155 160

Trp Ile Ala Ser Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala  
165 170 175

Ser Trp Ala Gln Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
180 185 190

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

Thr Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp  
435 440 445



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

Asp Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr  
 465 470 475 480

Gly Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
 485 490 495

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln  
 500 505 510

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr  
 515 520 525

Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr  
 530 535 540

Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser  
 545 550 555 560

Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
 565 570 575

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
 580 585 590

Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe  
 595 600 605

Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly  
 610 615 620

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val  
 625 630 635 640

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
 645 650 655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met  
 660 665 670

Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile  
 675 680 685

Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg  
 690 695 700

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met  
705 710 715 720

Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp  
725 730 735

Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly  
740 745 750

Thr Leu Val Thr Val Ser Ser  
755

<210> 225

<211> 755

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 225

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
100 105 110

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val  
115 120 125

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser  
130 135 140

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys  
145 150 155 160

Cys Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
165 170 175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn  
180 185 190

Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp  
195 200 205

Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
210 215 220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
245 250 255

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
260 265 270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
275 280 285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
290 295 300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
305 310 315 320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
325 330 335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
340 345 350

Asn Tyr Gly Asp Phe Gly Cys Gly Thr Lys Val Thr Val Leu Gly Gly  
355 360 365

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val  
370 375 380

Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser  
385 390 395 400

Phe Ser Ser Gly Tyr Asp Met Cys Trp Val Arg Gln Pro Pro Gly Lys  
 405 410 415  
 Gly Leu Glu Trp Ile Ala Cys Val Val Ala Gly Ser Val Asp Ile Thr  
 420 425 430  
 Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser  
 435 440 445  
 Ser Lys Asn Gln Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp  
 450 455 460  
 Thr Ala Val Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe  
 465 470 475 480  
 Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly  
 485 490 495  
 Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser  
 500 505 510  
 Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser  
 515 520 525  
 Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr Gln Gln Lys Pro  
 530 535 540  
 Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asp Leu Ala Ser  
 545 550 555 560  
 Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
 565 570 575  
 Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys  
 580 585 590  
 Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe Gly Gly Gly Thr  
 595 600 605  
 Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 610 615 620  
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu  
 625 630 635 640  
 Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys  
 645 650 655

Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met Gly Trp Val Arg  
660 665 670

Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile Ile Ser Val Gly  
675 680 685

Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser  
690 695 700

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
705 710 715 720

Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Arg His Gly Gly  
725 730 735

Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr  
740 745 750

Val Ser Ser  
755

<210> 226

<211> 755

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 226

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly  
                   100                  105                  110

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val  
           115                  120                  125

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser  
           130                  135                  140

Phe Ser Asn Ser Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys  
   145                  150                  155                  160

Cys Leu Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr  
                   165                  170                  175

Tyr Tyr Ala Asn Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn  
                   180                  185                  190

Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp  
           195                  200                  205

Thr Ala Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly  
   210                  215                  220

Tyr Ala Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
   225                  230                  235                  240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly  
                   245                  250                  255

Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala  
           260                  265                  270

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile  
           275                  280                  285

Asn Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
   290                  295                  300

Leu Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg  
   305                  310                  315                  320

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser  
                   325                  330                  335

Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly  
           340                  345                  350

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

595

600

605

Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
610 615 620

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu  
625 630 635 640

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys  
645 650 655

Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met Gly Trp Val Arg  
660 665 670

Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile Ile Ser Val Gly  
675 680 685

Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser  
690 695 700

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
705 710 715 720

Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Arg His Gly Gly  
725 730 735

Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr  
740 745 750

Val Ser Ser  
755

<210> 227

<211> 755

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 227

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45



Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
 85 90 95

Asp Phe Gly Cys Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
 100 105 110

Ser Gln Ser Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser  
 115 120 125

Glu Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe Ser Ser  
 130 135 140

Gly Tyr Asp Met Cys Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu  
 145 150 155 160

Trp Ile Ala Cys Val Val Ala Gly Ser Val Asp Ile Thr Tyr Tyr Ala  
 165 170 175

Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser Ser Lys Asn  
 180 185 190

Gln Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val  
 195 200 205

Tyr Phe Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp  
 210 215 220

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly  
 225 230 235 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Phe Gln  
 245 250 255

Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val  
 260 265 270

Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr Leu Ala Trp  
 275 280 285

Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile Tyr Lys Ala

290

295

300

Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser  
 305 310 315 320

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

Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp Ile Asp Asn  
 340 345 350

Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
 355 360 365

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly  
 370 375 380

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Asn  
 385 390 395 400

Ser Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu  
 405 410 415

Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala  
 420 425 430

Asn Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
 435 440 445

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
 450 455 460

Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn  
 465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly  
 485 490 495

Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser  
 500 505 510

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser  
 515 520 525

Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr Gln Gln Lys Pro  
 530 535 540

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asp Leu Ala Ser  
545 550 555 560

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
565 570 575

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys  
580 585 590

Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe Gly Gly Gly Thr  
595 600 605

Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
610 615 620

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu  
625 630 635 640

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys  
645 650 655

Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met Gly Trp Val Arg  
660 665 670

Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile Ile Ser Val Gly  
675 680 685

Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser  
690 695 700

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
705 710 715 720

Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Arg His Gly Gly  
725 730 735

Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr  
740 745 750

Val Ser Ser  
755

<210> 228

<211> 755

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

&lt;400&gt; 228

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
 85 90 95

Asp Phe Gly Cys Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
 100 105 110

Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser  
 115 120 125

Glu Thr Leu Ser Leu Thr Cys Lys Ala Ser Gly Phe Ser Phe Ser Ser  
 130 135 140

Gly Tyr Asp Met Cys Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu  
 145 150 155 160

Trp Ile Ala Cys Val Val Ala Gly Ser Val Asp Ile Thr Tyr Tyr Ala  
 165 170 175

Ser Trp Ala Lys Gly Arg Val Thr Ile Ser Lys Asp Ser Ser Lys Asn  
 180 185 190

Gln Val Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val  
 195 200 205

Tyr Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp  
 210 215 220

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly  
 225 230 235 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln  
245 250 255

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val  
260 265 270

Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr Leu Ala Trp  
275 280 285

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Lys Ala  
290 295 300

Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser  
305 310 315 320

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

Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp Ile Asp Asn  
340 345 350

Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly  
355 360 365

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly  
370 375 380

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Asn  
385 390 395 400

Ser Tyr Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu  
405 410 415

Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala  
420 425 430

Asn Trp Ala Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
435 440 445

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
450 455 460

Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn  
465 470 475 480

Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly  
485 490 495

Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser  
500 505 510

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ser Ser  
515 520 525

Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr Gln Gln Lys Pro  
530 535 540

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asp Leu Ala Ser  
545 550 555 560

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
565 570 575

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys  
580 585 590

Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe Gly Gly Gly Thr  
595 600 605

Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
610 615 620

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu  
625 630 635 640

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys  
645 650 655

Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met Gly Trp Val Arg  
660 665 670

Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile Ile Ser Val Gly  
675 680 685

Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg Phe Thr Ile Ser  
690 695 700

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
705 710 715 720

Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Arg His Gly Gly  
725 730 735

Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly Thr Leu Val Thr  
740 745 750

Val Ser Ser  
755

<210> 229

<211> 759

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 229

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
100 105 110

Leu Gly Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly  
115 120 125

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser  
130 135 140

Gly Phe Ser Phe Ser Ala Asn Tyr Tyr Pro Cys Trp Val Arg Gln Ala  
145 150 155 160

Pro Gly Lys Gly Leu Glu Trp Ile Gly Cys Ile Tyr Gly Gly Ser Ser  
165 170 175

Asp Ile Thr Tyr Asp Ala Asn Trp Thr Lys Gly Arg Phe Thr Ile Ser  
180 185 190

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
 195 200 205

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ser Ala Trp Tyr Ser  
 210 215 220

Gly Trp Gly Gly Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
 225 230 235 240

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 245 250 255

Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser  
 260 265 270

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser  
 275 280 285

Ile Ser Asn Arg Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro  
 290 295 300

Lys Leu Leu Ile Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser  
 305 310 315 320

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
 325 330 335

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr  
 340 345 350

Tyr Gly Asn Asp Gly Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
 355 360 365

Leu Gly Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly  
 370 375 380

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser  
 385 390 395 400

Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Val Arg Gln Ala  
 405 410 415

Pro Gly Lys Gly Leu Glu Trp Ile Ala Ser Ile Tyr Gly Gly Ser Ser  
 420 425 430

Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Phe Thr Ile Ser  
 435 440 445



Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
 450 455 460

Ala Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Gly Tyr Val Asp Tyr  
 465 470 475 480

Gly Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
 485 490 495

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln  
 500 505 510

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr  
 515 520 525

Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr  
 530 535 540

Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser  
 545 550 555 560

Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
 565 570 575

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
 580 585 590

Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe  
 595 600 605

Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly  
 610 615 620

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val  
 625 630 635 640

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
 645 650 655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met  
 660 665 670

Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile  
 675 680 685

Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg

690

695

700

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met  
 705 710 715 720

Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp  
 725 730 735

Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly  
 740 745 750

Thr Leu Val Thr Val Ser Ser  
 755

<210> 230

<211> 759

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 230

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
 35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
 85 90 95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
 100 105 110

Leu Gly Gly Gly Gly Gly Ser Glu Ser Gln Leu Val Glu Ser Gly Gly  
 115 120 125

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser  
 130 135 140

Gly Phe Ser Phe Ser Ala Asn Tyr Tyr Pro Cys Trp Val Arg Gln Ala  
145 150 155 160

Pro Gly Lys Gly Leu Glu Trp Ile Gly Cys Ile Tyr Gly Gly Ser Ser  
165 170 175

Asp Ile Thr Tyr Asp Ala Asn Trp Thr Lys Gly Arg Phe Thr Ile Ser  
180 185 190

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
195 200 205

Ala Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Ser Ala Trp Tyr Ser  
210 215 220

Gly Trp Gly Gly Asp Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser  
225 230 235 240

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
245 250 255

Gly Gly Gly Gly Ser Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser  
260 265 270

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser  
275 280 285

Ile Ser Asn Arg Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro  
290 295 300

Lys Leu Leu Ile Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser  
305 310 315 320

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
325 330 335

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr  
340 345 350

Tyr Gly Asn Asp Gly Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
355 360 365

Leu Gly Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly  
370 375 380

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser

|                                                                 |  |     |  |     |  |     |
|-----------------------------------------------------------------|--|-----|--|-----|--|-----|
| 385                                                             |  | 390 |  | 395 |  | 400 |
| Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Val Arg Gln Ala |  |     |  |     |  |     |
|                                                                 |  | 405 |  | 410 |  | 415 |
| Pro Gly Lys Gly Leu Glu Trp Ile Ala Ser Ile Tyr Gly Gly Ser Ser |  |     |  |     |  |     |
|                                                                 |  | 420 |  | 425 |  | 430 |
| Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Phe Thr Ile Ser |  |     |  |     |  |     |
|                                                                 |  | 435 |  | 440 |  | 445 |
| Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg |  |     |  |     |  |     |
|                                                                 |  | 450 |  | 455 |  | 460 |
| Ala Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Gly Tyr Val Asp Tyr |  |     |  |     |  |     |
|                                                                 |  | 465 |  | 470 |  | 480 |
| Gly Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser |  |     |  |     |  |     |
|                                                                 |  | 485 |  | 490 |  | 495 |
| Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln |  |     |  |     |  |     |
|                                                                 |  | 500 |  | 505 |  | 510 |
| Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr |  |     |  |     |  |     |
|                                                                 |  | 515 |  | 520 |  | 525 |
| Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr |  |     |  |     |  |     |
|                                                                 |  | 530 |  | 535 |  | 540 |
| Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser |  |     |  |     |  |     |
|                                                                 |  | 545 |  | 550 |  | 560 |
| Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly |  |     |  |     |  |     |
|                                                                 |  | 565 |  | 570 |  | 575 |
| Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala |  |     |  |     |  |     |
|                                                                 |  | 580 |  | 585 |  | 590 |
| Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe |  |     |  |     |  |     |
|                                                                 |  | 595 |  | 600 |  | 605 |
| Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly |  |     |  |     |  |     |
|                                                                 |  | 610 |  | 615 |  | 620 |
| Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val |  |     |  |     |  |     |
|                                                                 |  | 625 |  | 630 |  | 640 |

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
645 650 655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met  
660 665 670

Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile  
675 680 685

Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg  
690 695 700

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met  
705 710 715 720

Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp  
725 730 735

Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly  
740 745 750

Thr Leu Val Thr Val Ser Ser  
755

<210> 231

<211> 759

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 231

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

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

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Pro Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser

85

90

95

Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
 100 105 110

Leu Gly Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly  
 115 120 125

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser  
 130 135 140

Gly Phe Ser Phe Ser Ala Asn Tyr Tyr Pro Cys Trp Val Arg Gln Ala  
 145 150 155 160

Pro Gly Lys Cys Leu Glu Trp Ile Gly Cys Ile Tyr Gly Gly Ser Ser  
 165 170 175

Asp Ile Thr Tyr Asp Ala Asn Trp Thr Lys Gly Arg Phe Thr Ile Ser  
 180 185 190

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
 195 200 205

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Ser Ala Trp Tyr Ser  
 210 215 220

Gly Trp Gly Gly Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
 225 230 235 240

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 245 250 255

Gly Gly Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser  
 260 265 270

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser  
 275 280 285

Ile Ser Asn Arg Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro  
 290 295 300

Lys Leu Leu Ile Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser  
 305 310 315 320

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
 325 330 335

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Thr Tyr  
                   340                  345                  350

Tyr Gly Asn Asp Gly Asn Ala Phe Gly Cys Gly Thr Lys Val Thr Val  
                   355                  360                  365

Leu Gly Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly  
                   370                  375                  380

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser  
                   385                  390                  395                  400

Gly Phe Ser Phe Asn Ser Asp Tyr Trp Ile Tyr Trp Val Arg Gln Ala  
                   405                  410                  415

Pro Gly Lys Gly Leu Glu Trp Ile Ala Ser Ile Tyr Gly Gly Ser Ser  
                   420                  425                  430

Gly Asn Thr Gln Tyr Ala Ser Trp Ala Gln Gly Arg Phe Thr Ile Ser  
                   435                  440                  445

Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg  
                   450                  455                  460

Ala Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Gly Tyr Val Asp Tyr  
                   465                  470                  475                  480

Gly Gly Ala Thr Asp Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser  
                   485                  490                  495

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met Thr Gln  
                   500                  505                  510

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr  
                   515                  520                  525

Cys Gln Ser Ser Glu Ser Val Tyr Ser Asn Asn Gln Leu Ser Trp Tyr  
                   530                  535                  540

Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Asp Ala Ser  
                   545                  550                  555                  560

Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
                   565                  570                  575

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
                   580                  585                  590

Thr Tyr Tyr Cys Ala Gly Gly Phe Ser Ser Ser Ser Asp Thr Ala Phe  
595 600 605

Gly Gly Gly Thr Lys Leu Thr Val Leu Gly Gly Gly Gly Gly Ser Gly  
610 615 620

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val  
625 630 635 640

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu  
645 650 655

Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Leu Ser Ser Asn Ala Met  
660 665 670

Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Tyr Ile Gly Ile  
675 680 685

Ile Ser Val Gly Gly Phe Thr Tyr Tyr Ala Ser Trp Ala Lys Gly Arg  
690 695 700

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met  
705 710 715 720

Asn Ser Leu Arg Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp  
725 730 735

Arg His Gly Gly Asp Ser Ser Gly Ala Phe Tyr Leu Trp Gly Gln Gly  
740 745 750

Thr Leu Val Thr Val Ser Ser  
755

<210> 232

<211> 478

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 232

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30



Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
 85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Thr  
 100 105 110

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

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

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

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

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

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

Thr Lys Ser Phe Asn Arg Gly Glu Cys Gly Gly Gly Gly Ser Gly Gly  
 210 215 220

Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser  
 225 230 235 240

Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn  
 245 250 255

Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu  
 260 265 270

Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe  
 275 280 285

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu  
290 295 300

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn  
305 310 315 320

Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly  
325 330 335

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
340 345 350

Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro  
355 360 365

Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser  
370 375 380

Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu  
385 390 395 400

Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr  
405 410 415

Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser Lys  
420 425 430

Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala  
435 440 445

Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala  
450 455 460

Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
465 470 475

<210> 233

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 233

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Ser Gly  
 20 25 30

Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45

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

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
 85 90 95

Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly  
 100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val  
405 410 415

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

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

Pro Gly Lys  
450

<210> 234

<211> 217

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 234

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Thr  
100 105 110

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

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

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

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

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

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

Thr Lys Ser Phe Asn Arg Gly Glu Cys  
210 215

<210> 235

<211> 712

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 235

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 1   |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |     |  |  |
| Thr | Leu | Ser | Leu | Thr | Cys | Lys | Val | Ser | Gly | Phe | Ser | Phe | Ser | Ser | Gly |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Tyr | Asp | Met | Cys | Trp | Ile | Arg | Gln | Pro | Pro | Gly | Lys | Gly | Leu | Glu | Trp |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ile | Gly | Cys | Val | Val | Ala | Gly | Ser | Val | Asp | Ile | Thr | Tyr | Tyr | Ala | Ser |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Trp | Ala | Lys | Gly | Arg | Val | Thr | Ile | Ser | Val | Asp | Ser | Ser | Lys | Asn | Gln |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Phe | Ser | Leu | Lys | Leu | Ser | Ser | Val | Thr | Ala | Ala | Asp | Thr | Ala | Val | Tyr |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Tyr | Cys | Ala | Arg | Lys | Asp | Ala | Tyr | Ser | Asp | Ala | Phe | Asn | Leu | Trp | Gly |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gln | Gly | Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Val | Phe | Pro | Leu | Ala | Pro | Ser | Ser | Lys | Ser | Thr | Ser | Gly | Gly | Thr | Ala |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ala | Leu | Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Ser | Trp | Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Val | Leu | Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val | Thr | Val |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Pro | Ser | Ser | Ser | Leu | Gly | Thr | Gln | Thr | Tyr | Ile | Cys | Asn | Val | Asn | His |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Lys | Pro | Ser | Asn | Thr | Lys | Val | Asp | Lys | Arg | Val | Glu | Pro | Lys | Ser | Cys |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Asp | Lys | Thr | His | Thr | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Glu | Ala | Ala | Gly |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Gly | Pro | Ser | Val | Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |

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

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val  
405 410 415

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

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met  
450 455 460

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr  
465 470 475 480

Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val Leu Ala Trp Tyr  
485 490 495

Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser  
500 505 510

Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
515 520 525

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
530 535 540

Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly Asp Phe Gly Thr  
545 550 555 560

Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly  
565 570 575

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu  
580 585 590

Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu  
595 600 605

Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Asn Ser Tyr Trp Ile Cys  
610 615 620

Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Cys Thr  
625 630 635 640

Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly  
645 650 655

Arg Val Thr Ile Ser Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys  
660 665 670

Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
675 680 685

His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn Leu Trp Gly Gln  
690 695 700

Gly Thr Leu Val Thr Val Ser Ser  
705 710

<210> 236

<211> 478

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 236



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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
 85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Thr  
 100 105 110

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

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

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

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

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

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

Thr Lys Ser Phe Asn Arg Gly Glu Cys Gly Gly Gly Gly Ser Gly Gly  
 210 215 220

Gly Gly Ser Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser  
 225 230 235 240

Val Gly Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn  
 245 250 255

Asn Val Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu  
260 265 270

Leu Ile Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe  
275 280 285

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu  
290 295 300

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn  
305 310 315 320

Tyr Gly Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly  
325 330 335

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly  
340 345 350

Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro  
355 360 365

Ser Glu Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser  
370 375 380

Asn Ser Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu  
385 390 395 400

Glu Trp Ile Gly Cys Thr Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr  
405 410 415

Ala Asn Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser Lys  
420 425 430

Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala  
435 440 445

Val Tyr Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala  
450 455 460

Asn Asn Leu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
465 470 475

<210> 237

<211> 451

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 237

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Ser Gly  
20 25 30

Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45

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

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
85 90 95

Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val  
405 410 415

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

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

Pro Gly Lys  
450

<210> 238

<211> 217

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 238

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Thr  
100 105 110

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

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

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

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

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

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

Thr Lys Ser Phe Asn Arg Gly Glu Cys  
210 215

<210> 239

<211> 712

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 239

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Ser Gly  
20 25 30

Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45

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

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
85 90 95

Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly  
100 105 110

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val  
405 410 415

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

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

Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ile Gln Met  
450 455 460

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr  
465 470 475 480

Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val Leu Ala Trp Tyr  
485 490 495

Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Arg Ala Ser  
500 505 510

Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly  
515 520 525

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala  
530 535 540

Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly Asp Phe Gly Thr  
545 550 555 560

Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Gly Ser Gly Gly Gly  
565 570 575

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu  
580 585 590

Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu  
595 600 605

Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Asn Ser Tyr Trp Ile Cys  
610 615 620

Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Cys Thr  
625 630 635 640

Phe Val Gly Ser Ser Asp Ser Thr Tyr Tyr Ala Asn Trp Ala Lys Gly  
645 650 655

Arg Val Thr Ile Ser Val Asp Ser Ser Lys Asn Gln Phe Ser Leu Lys  
660 665 670

Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
675 680 685

His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn Leu Trp Gly Gln  
690 695 700

Gly Thr Leu Val Thr Val Ser Ser  
705 710

<210> 240

<211> 217



<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 240

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asp Tyr  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Tyr Ile Ile Thr Asp  
85 90 95

Ile Asp Asn Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Thr  
100 105 110

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

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

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

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

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

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

Thr Lys Ser Phe Asn Arg Gly Glu Cys  
210 215

<210> 241  
 <211> 451  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
  
 <400> 241  
  
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu  
 1 5 10 15  
  
 Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Ser Gly  
 20 25 30  
  
 Tyr Asp Met Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45  
  
 Ile Gly Cys Val Val Ala Gly Ser Val Asp Ile Thr Tyr Tyr Ala Ser  
 50 55 60  
  
 Trp Ala Lys Gly Arg Val Thr Ile Ser Val Asp Ser Ser Lys Asn Gln  
 65 70 75 80  
  
 Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
 85 90 95  
  
 Tyr Cys Ala Arg Lys Asp Ala Tyr Ser Asp Ala Phe Asn Leu Trp Gly  
 100 105 110  
  
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser  
 115 120 125  
  
 Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala  
 130 135 140  
  
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
 145 150 155 160  
  
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala  
 165 170 175  
  
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val  
 180 185 190  
  
 Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His  
 195 200 205

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

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

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

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

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val  
 405 410 415

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

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

Pro Gly Lys  
 450

<210> 242  
 <211> 220  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> sequence of recombinant antibody or functional part thereof  
  
 <400> 242  
  
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
 1 5 10 15  
  
 Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Gly Thr Tyr  
 20 25 30  
  
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
 35 40 45  
  
 Tyr Arg Ala Phe Ile Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60  
  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80  
  
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Asn Phe Tyr Ser Asp Ser  
 85 90 95  
  
 Thr Thr Ile Gly Pro Asn Ala Phe Gly Thr Gly Thr Lys Val Thr Val  
 100 105 110  
  
 Leu Gly Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
 145 150 155 160  
  
 Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
 165 170 175  
  
 Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr  
 180 185 190  
  
 Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser  
 195 200 205

Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
 210 215 220

<210> 243

<211> 452

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 243

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Asn Ser Asp  
 20 25 30

Tyr Trp Ile Tyr Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
 35 40 45

Ile Gly Ser Ile Tyr Gly Gly Ser Ser Gly Asn Thr Gln Tyr Ala Ser  
 50 55 60

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
 85 90 95

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

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

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

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

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

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

Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn

|                                                                                    |     |     |
|------------------------------------------------------------------------------------|-----|-----|
| 195                                                                                | 200 | 205 |
| His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser<br>210 215 220     |     |     |
| Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu<br>225 230 235 240 |     |     |
| Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu<br>245 250 255     |     |     |
| Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser<br>260 265 270     |     |     |
| His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu<br>275 280 285     |     |     |
| Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr<br>290 295 300     |     |     |
| Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn<br>305 310 315 320 |     |     |
| Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro<br>325 330 335     |     |     |
| Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln<br>340 345 350     |     |     |
| Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val<br>355 360 365     |     |     |
| Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val<br>370 375 380     |     |     |
| Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro<br>385 390 395 400 |     |     |
| Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr<br>405 410 415     |     |     |
| Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val<br>420 425 430     |     |     |
| Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu<br>435 440 445     |     |     |

Ser Pro Gly Lys  
450

<210> 244

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> sequence of recombinant antibody or functional part thereof

<400> 244

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

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Asn Asn Val  
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Ser Tyr Gly Asn Tyr Gly  
85 90 95

Asp Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Thr Val Ala Ala  
100 105 110

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

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

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

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

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

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser

195

200

205

Phe Asn Arg Gly Glu Cys  
210

&lt;210&gt; 245

&lt;211&gt; 451

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; sequence of recombinant antibody or functional part thereof

&lt;400&gt; 245

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

Thr Leu Ser Leu Thr Cys Lys Val Ser Gly Phe Ser Phe Ser Asn Ser  
20 25 30

Tyr Trp Ile Cys Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp  
35 40 45

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

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

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
85 90 95

Tyr Cys Ala Arg His Pro Ser Asp Ala Val Tyr Gly Tyr Ala Asn Asn  
100 105 110

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

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

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

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

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



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

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

Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly  
225 230 235 240

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

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

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

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

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

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

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

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

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

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

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val  
405 410 415

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

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser

435

440

445

Leu Gly Lys  
450