

eolf-seql (3)
SEQUENCE LISTING

<110> Nascent Limited

<120> HUMAN ANTIBODIES AND BINDING FRAGMENTS THEREOF TO TENASCIN

<130> P000170_WO

<160> 86

<170> PatentIn version 3.5

<210> 1

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> light chain amino acid sequence

<400> 1

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 Arg Ala Ser Gln Tyr Ile Gln Gly Phe
20 25 30

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

Tyr Asp Ala Ser Asn Leu Glu Thr 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 Ser Tyr Ser Thr Pro Gln
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala
100 105 110

eolf-seql (3)

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

<210> 2
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<220>
 <223> heavy chain amino acid sequence

<400> 2

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

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

eolf-seql (3)

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

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

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

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

Ala Lys Ser Tyr Gln Ser Asp Glu Asp Ala Phe Asp Ile Trp Gly Gln
100 105 110

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

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
130 135 140

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

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

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

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

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro
210 215 220

eolf-seql (3)

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val
225 230 235 240

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

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu
260 265 270

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

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

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

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

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
370 375 380

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

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg
405 410 415

eolf-seql (3)

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly
 435 440 445

<210> 3
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<220>
 <223> CDHR1 amino acid sequence

<400> 3

Asp Tyr Ala Met His
 1 5

<210> 4
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<220>
 <223> CDRH2 amino acid sequence

<400> 4

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

Gly

<210> 5
 <211> 11
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 <223> Antibody B12/B12* VH CDR3 amino acid sequence

eolf-seql (3)

<400> 5

Asp Ile Ser Ala Val Pro Asp Thr Phe Asp Ile
1 5 10

<210> 6

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> VH amino acid sequence

<400> 6

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

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

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

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

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

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

Ala Lys Asp Ile Ser Ala Val Pro Asp Thr Phe Asp Ile Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

eolf-seql (3)

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<223> CDRL1 amino acid sequence

<400> 7

Arg Ala Ser Gln Tyr Ile Gln Gly Phe Leu Asn
1 5 10

<210> 8
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> CDRL2 amino acid sequence

<400> 8

Asp Ala Ser Asn Leu Glu Thr
1 5

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

<220>
<223> Antibody CDRL3 amino acid sequence

<400> 9

Gln Gln Ser Tyr Ser Thr Pro Gln Thr
1 5

<210> 10
<211> 108
<212> PRT
<213> Artificial Sequence

<220>

eolf-seql (3)

<223> VL amino acid sequence

<400> 10

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

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

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

Tyr Asp Ala Ser Asn Leu Glu Thr 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 Ser Tyr Ser Thr Pro Gln
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys Arg
100 105

<210> 11

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL amino acid sequence

<400> 11

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

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

eolf-seql (3)

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

Tyr Asp Ala Ser Asn Leu Glu Thr 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 Ser Tyr Ser Thr Pro Gln
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys
 100 105

<210> 12
 <211> 11
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 <213> Artificial Sequence

<220>
 <223> CDRH3 amino acid sequence

<400> 12

Val Met Ser Ser Met Glu Asp Ala Phe Asp Ile
 1 5 10

<210> 13
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH amino acid sequence

<400> 13

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

eolf-seql (3)

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

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

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

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

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

Ala Lys Val Met Ser Ser Met Glu Asp Ala Phe Asp Ile Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 14
<211> 11
<212> PRT
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<223> CDRH3 amino acid sequence

<400> 14

Gly Gln Lys Gly Glu Gly Asp Thr Phe Asp Ile
1 5 10

<210> 15
<211> 120
<212> PRT
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eolf-seql (3)

<220>

<223> VH amino acid sequence

<400> 15

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

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

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

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

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

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

Ala Lys Gly Gln Lys Gly Glu Gly Asp Thr Phe Asp Ile Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 16

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> CDRH3 amino acid sequence

<400> 16

eolf-seql (3)

Gly Thr Arg Gly Glu Gly Asp Thr Phe Asp Ile
1 5 10

<210> 17

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> VH amino acid sequence

<400> 17

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

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

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

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

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

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

Ala Lys Gly Thr Arg Gly Glu Gly Asp Thr Phe Asp Ile Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 18

<211> 11

eolf-seql (3)

<212> PRT

<213> Artificial Sequence

<220>

<223> CDRH3 amino acid sequence

<400> 18

Ser Tyr Gln Ser Asp Glu Asp Ala Phe Asp Ile
1 5 10

<210> 19

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> VH amino acid sequence

<400> 19

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

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

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

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

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

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

Ala Lys Ser Tyr Gln Ser Asp Glu Asp Ala Phe Asp Ile Trp Gly Gln
100 105 110

eolf-seql (3)

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 20
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> CDRH2 amino acid sequence - CDRs changed as result of the
germlined sequence

<400> 20

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

Tyr

<210> 21
<211> 0

<400> 21
000

<210> 22
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> VL amino acid sequence

<400> 22

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 Arg Ala Ser Gln Tyr Ile Gln Gly Phe
20 25 30

eolf-seql (3)

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

Tyr Asp Ala Ser Asn Leu Glu Thr 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 Ser Tyr Ser Thr Pro Gln
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys Arg
100 105

<210> 23
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> VL amino acid sequence

<400> 23

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 Arg Ala Ser Gln Tyr Ile Gln Gly Phe
20 25 30

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

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

eolf-seql (3)

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 Ser Tyr Ser Thr Pro Gln
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys
100 105

<210> 24
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> CDRH3 amino acid sequence

<400> 24

Gly Thr Val Gly Glu Gly Asp Thr Phe Asp Ile
1 5 10

<210> 25
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH amino acid sequence

<400> 25

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

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

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

eolf-seql (3)

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

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

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

Ala Lys Gly Thr Val Gly Glu Gly Asp Thr Phe Asp Ile Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 26
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> CDRH3 amino acid sequence

<400> 26

Asp Lys Tyr Pro Val Leu Asp Thr Phe Asp Ile
1 5 10

<210> 27
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> VH amino acid sequence

<400> 27

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

eolf-seql (3)

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

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

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

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

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

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

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 28
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> CDRH3 amino acid sequence

<400> 28

Ala Leu Ala Arg Gly His Asp Thr Phe Asp Ile
1 5 10

<210> 29
<211> 120
<212> PRT
<213> Artificial Sequence

<220>

eolf-seql (3)

<223> VH amino acid sequence

<400> 29

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

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

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

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

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

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

Ala Lys Ala Leu Ala Arg Gly His Asp Thr Phe Asp Ile Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 30

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> CDRH3 amino acid sequence

<400> 30

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

eolf-seql (3)

<210> 31
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH amino acid sequence

<400> 31

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

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

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

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

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

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

Ala Lys Asp Ile Ser Ala Val Met Asp Val Pro Gln Thr Trp Gly Gln
 100 105 110

Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 32
 <211> 11
 <212> PRT
 <213> Artificial Sequence

eolf-seql (3)

<220>

<223> CDRH3 amino acid sequence

<400> 32

Val Met Arg Thr Gly Leu Asp Thr Phe Asp Ile
1 5 10

<210> 33

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> VH amino acid sequence

<400> 33

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

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

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

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

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

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

Ala Lys Val Met Arg Thr Gly Leu Asp Thr Phe Asp Ile Trp Gly Gln
100 105 110

eolf-seql (3)

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 34
<211> 446
<212> PRT
<213> Artificial Sequence

<220>
<223> Modified IgG4

<400> 34

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

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

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

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

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

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

Ala Lys Ser Tyr Gln Ser Asp Glu Asp Ala Phe Asp Ile Trp Gly Gln
100 105 110

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

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
130 135 140

eolf-seql (3)

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

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

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

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

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro
210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val
225 230 235 240

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

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu
260 265 270

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

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

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
305 310 315 320

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

eolf-seql (3)

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
355 360 365

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

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
385 390 395 400

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

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

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
435 440 445

<210> 35
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody B12 framework germlined VH amino acid sequence

<400> 35

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

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

eolf-seql (3)

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

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

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

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

Ala Lys Asp Ile Ser Ala Val Pro Asp Thr Phe Asp Ile Trp Gly Gln
 100 105 110

Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 36
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Hinge linker

<400> 36

Asp Lys Thr His Thr Cys Ala Ala
 1 5

<210> 37
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Hinge linker

<400> 37

eolf-seql (3)

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10

<210> 38
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Hinge linker

<400> 38

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala

<210> 39
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Hinge linker

<400> 39

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 40
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Hinge linker

eolf-seql (3)

<400> 40

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

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

<210> 41

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Hinge linker

<400> 41

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Gly Lys Pro Thr His
1 5 10 15

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

<210> 42

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Hinge linker

<400> 42

Asp Lys Thr His Thr Cys Cys Val Glu Cys Pro Pro Cys Pro Ala
1 5 10 15

<210> 43

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

eolf-seql (3)

<223> Hinge linker

<400> 43

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

Thr	Pro	Pro	Pro	Cys	Pro	Arg	Cys	Pro	Ala
			20				25		

<210> 44

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Hinge linker

<400> 44

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

<210> 45

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 45

Ser	Gly	Gly	Gly	Gly	Ser	Glu
1				5		

<210> 46

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

eolf-seql (3)

<400> 46

Asp Lys Thr His Thr Ser
1 5

<210> 47

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 47

Ser Gly Gly Gly Gly Ser
1 5

<210> 48

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 48

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

<210> 49

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 49

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

eolf-seql (3)

<210> 50
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 50

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

Gly Gly Gly Gly Ser
 20

<210> 51
 <211> 26
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 51

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 20 25

<210> 52
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 52

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

eolf-seql (3)

<210> 53
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<220>
<221> misc_feature
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<400> 53

Ala	Ala	Ala	Gly	Ser	Gly	Xaa	Gly	Gly	Gly	Ser	Gly	Ala	Ser	Ala	Ser
1				5				10					15		

<210> 54
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa can be any naturally occurring amino acid

<220>
<221> misc_feature
<222> (12)..(12)
<223> Xaa can be any naturally occurring amino acid

<400> 54

Ala	Ala	Ala	Gly	Ser	Gly	Xaa	Gly	Gly	Gly	Ser	Xaa	Gly	Gly	Gly	Ser
1				5				10					15		

Gly Ala Ser Ala Ser

20

<210> 55
 <211> 26
 <212> PRT
 <213> Artificial Sequence

<220>
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<220>
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 <222> (7)..(7)
 <223> Xaa can be any naturally occurring amino acid

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 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> misc_feature
 <222> (17)..(17)
 <223> Xaa can be any naturally occurring amino acid

<400> 55

Ala	Ala	Ala	Gly	Ser	Gly	Xaa	Gly	Gly	Gly	Ser	Xaa	Gly	Gly	Gly	Ser
1				5				10					15		

Xaa	Gly	Gly	Gly	Ser	Gly	Ala	Ser	Ala	Ser
			20				25		

<210> 56
 <211> 31
 <212> PRT
 <213> Artificial Sequence

<220>
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<220>
 <221> misc_feature

eolf-seql (3)

<222> (7)..(7)
 <223> Xaa can be any naturally occurring amino acid

<220>
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 <223> Xaa can be any naturally occurring amino acid

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 <222> (17)..(17)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> misc_feature
 <222> (22)..(22)
 <223> Xaa can be any naturally occurring amino acid

<400> 56

Ala Ala Ala Gly Ser Gly Xaa Gly Gly Gly Ser Xaa Gly Gly Gly Ser
 1 5 10 15

Xaa Gly Gly Gly Ser Xaa Gly Gly Gly Ser Gly Ala Ser Ala Ser
 20 25 30

<210> 57
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<220>
 <221> misc_feature
 <222> (7)..(7)
 <223> Xaa can be any naturally occurring amino acid

<400> 57

Ala Ala Ala Gly Ser Gly Xaa Ser Gly Ala Ser Ala Ser
 1 5 10

eolf-seql (3)

<210> 58
 <211> 28
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 58

Pro Gly Gly Asn Arg Gly Thr Thr Thr Thr Arg Arg Pro Ala Thr Thr
 1 5 10 15

Thr Gly Ser Ser Pro Gly Pro Thr Gln Ser His Tyr
 20 25

<210> 59
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 59

Ala Thr Thr Thr Gly Ser Ser Pro Gly Pro Thr
 1 5 10

<210> 60
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 60

Ala Thr Thr Thr Gly Ser
 1 5

<210> 61
 <211> 21

eolf-seql (3)

<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 61

Glu	Pro	Ser	Gly	Pro	Ile	Ser	Thr	Ile	Asn	Ser	Pro	Pro	Ser	Lys	Glu
1				5				10						15	

Ser	His	Lys	Ser	Pro
			20	

<210> 62
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 62

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

<210> 63
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 63

Gly	Gly	Gly	Gly	Ile	Ala	Pro	Ser	Met	Val	Gly	Gly	Gly	Gly	Ser
1				5				10						15

<210> 64
<211> 15
<212> PRT
<213> Artificial Sequence

eolf-seql (3)

<220>

<223> Flexible linker

<400> 64

Gly	Gly	Gly	Gly	Lys	Val	Glu	Gly	Ala	Gly	Gly	Gly	Gly	Gly	Ser
1				5					10					15

<210> 65

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 65

Gly	Gly	Gly	Gly	Ser	Met	Lys	Ser	His	Asp	Gly	Gly	Gly	Gly	Ser
1				5					10					15

<210> 66

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 66

Gly	Gly	Gly	Gly	Asn	Leu	Ile	Thr	Ile	Val	Gly	Gly	Gly	Gly	Ser
1				5					10					15

<210> 67

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 67

eolf-seql (3)

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

<210> 68
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 68

Gly Gly Glu Lys Ser Ile Pro Gly Gly Gly Gly Ser
1 5 10

<210> 69
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 69

Arg Pro Leu Ser Tyr Arg Pro Pro Phe Pro Phe Gly Phe Pro Ser Val
1 5 10 15

Arg Pro

<210> 70
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 70

Tyr Pro Arg Ser Ile Tyr Ile Arg Arg Arg His Pro Ser Pro Ser Leu
1 5 10 15

eolf-seql (3)

Thr Thr

<210> 71
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 71

Thr	Pro	Ser	His	Leu	Ser	His	Ile	Leu	Pro	Ser	Phe	Gly	Leu	Pro	Thr
1				5				10					15		

Phe Asn

<210> 72
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 72

Arg	Pro	Val	Ser	Pro	Phe	Thr	Phe	Pro	Arg	Leu	Ser	Asn	Ser	Trp	Leu
1				5				10					15		

Pro Ala

<210> 73
<211> 18
<212> PRT
<213> Artificial Sequence

<220>

eolf-seql (3)

<223> Flexible linker

<400> 73

Ser	Pro	Ala	Ala	His	Phe	Pro	Arg	Ser	Ile	Pro	Arg	Pro	Gly	Pro	Ile
1				5					10					15	

Arg Thr

<210> 74

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 74

Ala	Pro	Gly	Pro	Ser	Ala	Pro	Ser	His	Arg	Ser	Leu	Pro	Ser	Arg	Ala
1				5					10					15	

Phe Gly

<210> 75

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 75

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

Gly Ala

eolf-seql (3)

<210> 76
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 76

Met	Pro	Ser	Leu	Ser	Gly	Val	Leu	Gln	Val	Arg	Tyr	Leu	Ser	Pro	Pro
1				5				10						15	

Asp Leu

<210> 77
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 77

Ser	Pro	Gln	Tyr	Pro	Ser	Pro	Leu	Thr	Leu	Thr	Leu	Pro	Pro	His	Pro
1				5				10						15	

Ser Leu

<210> 78
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 78

Asn	Pro	Ser	Leu	Asn	Pro	Pro	Ser	Tyr	Leu	His	Arg	Ala	Pro	Ser	Arg
1				5					10					15	

eolf-seql (3)

Ile Ser

<210> 79
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 79

Leu Pro Trp Arg Thr Ser Leu Leu Pro Ser Leu Pro Leu Arg Arg Arg
1 5 10 15

Pro

<210> 80
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker

<400> 80

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

Pro Pro

<210> 81
<211> 18
<212> PRT
<213> Artificial Sequence

<220>

eolf-seql (3)

<223> Flexible linker

<400> 81

Val	Pro	Pro	Ala	Pro	Val	Val	Ser	Leu	Arg	Ser	Ala	His	Ala	Arg	Pro
1				5					10					15	

Pro Tyr

<210> 82

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 82

Leu	Arg	Pro	Thr	Pro	Pro	Arg	Val	Arg	Ser	Tyr	Thr	Cys	Cys	Pro	Thr
1				5					10					15	

Pro

<210> 83

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Flexible linker

<400> 83

Pro	Asn	Val	Ala	His	Val	Leu	Pro	Leu	Leu	Thr	Val	Pro	Trp	Asp	Asn
1				5					10					15	

Leu Arg

eolf-seql (3)

<210> 84
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Flexible linker

<400> 84

Cys	Asn	Pro	Leu	Leu	Pro	Leu	Cys	Ala	Arg	Ser	Pro	Ala	Val	Arg	Thr
1				5					10					15	

Phe Pro

<210> 85
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Rigid linker

<400> 85

Gly	Ala	Pro	Ala	Pro	Ala	Ala	Pro	Ala	Pro	Ala
1				5				10		

<210> 86
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Rigid linker

<400> 86

Pro Pro Pro Pro
 1