

P09-017-PCT-1_ST25
SEQUENCE LISTING

<110> Ablynx N.V.
<120> Biparatopic protein constructs directed against IL-23
<130> P09-017-PCT-1
<160> 30
<170> PatentIn version 3.5
<210> 1
<211> 189
<212> PRT
<213> Homo sapiens
<400> 1
Met Leu Gly Ser Arg Ala Val Met Leu Leu Leu Leu Pro Trp Thr
1 5 10 15
Ala Gln Gly Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln
20 25 30
Cys Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His
35 40 45
Pro Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr
50 55 60
Thr Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln
65 70 75 80
Gly Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly
85 90 95
Leu Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu
100 105 110
Pro Ser Leu Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu
115 120 125
Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr
130 135 140
Gln Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu
145 150 155 160
Leu Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala
165 170 175
Ala Arg Val Phe Ala His Gly Ala Ala Thr Leu Ser Pro
180 185

<210> 2

<211> 328
 <212> PRT
 <213> Homo sapiens

<400> 2

Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
 1 5 10 15

Ala Ser Pro Leu Val Ala Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
 20 25 30

Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
 35 40 45

Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
 50 55 60

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

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
 85 90 95

Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
 100 105 110

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

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
 130 135 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
 145 150 155 160

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

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

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
 195 200 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
 210 215 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
 225 230 235 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
 245 250 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
260 265 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
275 280 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
290 295 300

Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305 310 315 320

Glu Trp Ala Ser Val Pro Cys Ser
325

<210> 3
<211> 170
<212> PRT
<213> Homo sapiens

<400> 3

Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln Cys Gln Gln
1 5 10 15

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

Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr Thr Asn Asp
35 40 45

Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln Gly Leu Arg
50 55 60

Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly Leu Ile Phe
65 70 75 80

Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu Pro Ser Leu
85 90 95

Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu Leu Gly Leu
100 105 110

Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr Gln Gln Ile
115 120 125

Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu Leu Arg Phe
130 135 140

Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala Ala Arg Val
145 150 155 160

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Phe Ala His Gly Ala Ala Thr Leu Ser Pro
165 170

<210> 4
<211> 306
<212> PRT
<213> Homo sapiens

<400> 4

Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145 150 155 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
165 170 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
180 185 190

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

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
210 215 220

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Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225 230 235 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
245 250 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
260 265 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
275 280 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
290 295 300

Cys Ser
305

<210> 5
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 5

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ser Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 6
<211> 125

<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 6

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 7
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 7

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Glu Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

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

<220>
<223> Nanobody or nanobody construct

<400> 8

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Glu Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Asn Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

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

<220>
<223> Nanobody or nanobody construct

<400> 9

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Asn Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 10

<211> 128

<212> PRT

<213> Artificial Sequence

<220>

<223> Nanobody or nanobody construct

<400> 10

Glu Val Gln Leu Leu 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 Arg Thr Leu Ser Ser Tyr
20 25 30

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

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

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

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

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
100 105 110

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

<210> 11
 <211> 128
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody or nanobody construct

<400> 11

Glu Val Gln Leu Leu 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 Arg Thr Leu Ser Ser Tyr
 20 25 30

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

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

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

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

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
 100 105 110

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

<210> 12
 <211> 125
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody or nanobody construct

<400> 12

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

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

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

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

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

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

Ala Arg Val Arg Thr Gly Trp Gly Leu Asn Ala Pro Asp Tyr Ala Met
100 105 110

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

<210> 13
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 13

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

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

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

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

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

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

Ala Arg Val Arg Thr Gly Trp Gly Leu Asn Ala Pro Asp Tyr Ala Met
100 105 110

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

<210> 14
<211> 125
<212> PRT
<213> Artificial Sequence

<220>

<223> Nanobody or nanobody construct

<400> 14

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

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

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

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

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

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

Ala Arg Val Arg Thr Gly Trp Gly Leu Asn Ala Pro Asp Tyr Ala Met
 100 105 110

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

<210> 15

<211> 126

<212> PRT

<213> Artificial sequence

<220>

<223> Nanobody or nanobody construct

<400> 15

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

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

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

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

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

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

Ala Thr Asp Pro Glu Cys Tyr Arg Val Arg Gly Tyr Tyr Asn Ala Glu
100 105 110

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

<210> 16
<211> 386
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 16

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
115 120 125

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

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

Phe Thr Phe Ser Ser Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
165 170 175

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

Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 195 200 205

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 245 250 255

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
 260 265 270

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Leu Ser
 275 280 285

Ser Tyr Ala Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Arg Glu
 290 295 300

Phe Val Ser Arg Ile Ser Gln Gly Gly Thr Ala Ile Tyr Tyr Ala Asp
 305 310 315 320

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 325 330 335

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

Tyr Cys Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu
 355 360 365

Leu Ser Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val
 370 375 380

Ser Ser
 385

<210> 17
 <211> 386
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody or nanobody construct

<400> 17

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
 20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
115 120 125

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

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

Phe Thr Phe Arg Ser Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
165 170 175

Lys Glu Pro Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Ser Asp Thr
180 185 190

Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
195 200 205

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp
210 215 220

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

Gln Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
245 250 255

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
260 265 270

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Leu Ser
275 280 285

Ser Tyr Ala Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Arg Glu
290 295 300

Phe Val Ser Arg Ile Ser Gln Gly Gly Thr Ala Ile Tyr Tyr Ala Asp
305 310 315 320

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
325 330 335

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

Tyr Cys Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu
355 360 365

Leu Ser Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val
370 375 380

Ser Ser
385

<210> 18
<211> 386
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 18

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
115 120 125

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

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

Phe Thr Phe Ser Ser Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
165 170 175

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

Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
195 200 205

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
245 250 255

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
260 265 270

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Leu Ser
275 280 285

Ser Tyr Ala Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Arg Glu
290 295 300

Phe Val Ala Arg Ile Ser Gln Gly Gly Thr Ala Ile Tyr Tyr Ala Asp
305 310 315 320

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
325 330 335

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

Tyr Cys Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu
355 360 365

Leu Ser Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val
370 375 380

Ser Ser
385

<210> 19
 <211> 386
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody or nanobody construct

<400> 19

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
 20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
 35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
 50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
 85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
 100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
 115 120 125

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

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

Phe Thr Phe Arg Ser Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
 165 170 175

Lys Glu Pro Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Ser Asp Thr
 180 185 190

Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 195 200 205

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp
 210 215 220

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

Gln Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
245 250 255

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala
260 265 270

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Leu Ser
275 280 285

Ser Tyr Ala Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu
290 295 300

Phe Val Ala Arg Ile Ser Gln Gly Gly Thr Ala Ile Tyr Tyr Ala Asp
305 310 315 320

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr
325 330 335

Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr
340 345 350

Tyr Cys Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu
355 360 365

Leu Ser Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Gln Val Thr Val
370 375 380

Ser Ser
385

<210> 20
<211> 288
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 20

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
130 135 140

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
145 150 155 160

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
165 170 175

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Leu Ser Ser Tyr
180 185 190

Ala Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Glu Arg Glu Phe Val
195 200 205

Ala Arg Ile Ser Gln Gly Gly Thr Ala Ile Tyr Tyr Ala Asp Ser Val
210 215 220

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr
225 230 235 240

Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys
245 250 255

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
260 265 270

Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
275 280 285

<210> 21
<211> 398
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 21

Glu Val Gln Leu Leu 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 Arg Thr Leu Ser Ser Tyr
20 25 30

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

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

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

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

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
100 105 110

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
130 135 140

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
145 150 155 160

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly
165 170 175

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
180 185 190

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

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
210 215 220

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
225 230 235 240

Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val
245 250 255

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
260 265 270

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
275 280 285

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Leu
290 295 300

Pro Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg
305 310 315 320

Gln Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly
325 330 335

Ser Arg Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
340 345 350

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

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser
370 375 380

Pro Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
385 390 395

<210> 22
<211> 398
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct
<400> 22

Glu Val Gln Leu Leu 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 Arg Thr Leu Ser Ser Tyr
20 25 30

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

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

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

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

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
100 105 110

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

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
130 135 140

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
145 150 155 160

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly
165 170 175

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
180 185 190

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

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
210 215 220

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
225 230 235 240

Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val
245 250 255

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
260 265 270

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
275 280 285

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Leu
290 295 300

Pro Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg
305 310 315 320

Gln Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly
325 330 335

Ser Arg Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
340 345 350

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

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser
370 375 380

Pro Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 385 390 395

<210> 23
 <211> 386
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Nanobody or nanobody construct

<400> 23

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
 20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
 35 40 45

Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
 50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
 85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
 100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
 115 120 125

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

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

Phe Thr Phe Ser Ser Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
 165 170 175

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

Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 195 200 205

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
245 250 255

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
260 265 270

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Leu Ser
275 280 285

Ser Tyr Ala Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Arg Glu
290 295 300

Phe Val Ala Arg Ile Ser Gln Gly Gly Thr Ala Ile Tyr Tyr Ala Asp
305 310 315 320

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
325 330 335

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

Tyr Cys Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu
355 360 365

Leu Ser Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val
370 375 380

Ser Ser
385

<210> 24
<211> 386
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 24

Glu Val Gln Leu Leu 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 Arg Ile Phe Ser Leu Pro
20 25 30

Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg Gln
35 40 45

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Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly Ser
50 55 60

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

Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Pro
85 90 95

Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser Pro
100 105 110

Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
115 120 125

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

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

Phe Thr Phe Ser Ser Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
165 170 175

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

Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
195 200 205

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
245 250 255

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
260 265 270

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Leu Ser
275 280 285

Ser Tyr Ala Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Gly Arg Glu
290 295 300

Phe Val Ala Arg Ile Ser Gln Gly Gly Thr Ala Ile Tyr Tyr Ala Asp
305 310 315 320

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
 325 330 335

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

Tyr Cys Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu
 355 360 365

Leu Ser Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val
 370 375 380

Ser Ser
 385

<210> 25
 <211> 398
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Nanobody or nanobody construct

<400> 25

Glu Val Gln Leu Leu 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 Arg Thr Leu Ser Ser Tyr
 20 25 30

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

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

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

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

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
 100 105 110

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
 130 135 140

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
 145 150 155 160

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly
165 170 175

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
180 185 190

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

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
210 215 220

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
225 230 235 240

Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val
245 250 255

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
260 265 270

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
275 280 285

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Leu
290 295 300

Pro Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg
305 310 315 320

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

Ser Arg Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
340 345 350

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

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser
370 375 380

Pro Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
385 390 395

<210> 26
<211> 398
<212> PRT
<213> Artificial Sequence

<220>

<223> Nanobody or nanobody construct

<400> 26

Glu Val Gln Leu Leu 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 Arg Thr Leu Ser Ser Tyr
 20 25 30

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

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

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

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

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
 100 105 110

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
 130 135 140

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
 145 150 155 160

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly
 165 170 175

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
 180 185 190

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

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
 210 215 220

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
 225 230 235 240

Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val
 245 250 255

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
260 265 270

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
275 280 285

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Leu
290 295 300

Pro Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg
305 310 315 320

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

Ser Arg Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
340 345 350

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

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser
370 375 380

Pro Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
385 390 395

<210> 27
<211> 398
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 27

Glu Val Gln Leu Leu 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 Arg Thr Leu Ser Ser Tyr
20 25 30

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

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

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

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

Ala Lys Asp Pro Ser Pro Tyr Tyr Arg Gly Ser Ala Tyr Leu Leu Ser
 100 105 110
 Gly Ser Tyr Asp Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120 125
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
 130 135 140
 Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
 145 150 155 160
 Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly
 165 170 175
 Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
 180 185 190
 Ser Ile Ser Gly Ser Gly Ser Asp Thr Leu Tyr Ala Asp Ser Val Lys
 195 200 205
 Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
 210 215 220
 Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
 225 230 235 240
 Ile Gly Gly Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val
 245 250 255
 Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 260 265 270
 Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
 275 280 285
 Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Leu
 290 295 300
 Pro Ala Ser Gly Asn Ile Phe Asn Leu Leu Thr Ile Ala Trp Tyr Arg
 305 310 315 320
 Gln Ala Pro Gly Lys Gly Arg Glu Leu Val Ala Thr Ile Asn Ser Gly
 325 330 335
 Ser Arg Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
 340 345 350
 Arg Asp Asn Ser Lys Lys Thr Val Tyr Leu Gln Met Asn Asn Leu Arg
 355 360 365

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Gln Thr Ser Gly Ser Gly Ser
370 375 380

Pro Asn Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
385 390 395

<210> 28
<211> 390
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 28

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

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

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

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

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

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

Ala Arg Val Arg Thr Gly Trp Gly Leu Asn Ala Pro Asp Tyr Ala Met
100 105 110

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

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

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
145 150 155 160

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly Met Ser Trp
165 170 175

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
180 185 190

Gly Ser Gly Ser Asp Thr Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe
195 200 205

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

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
225 230 235 240

Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
245 250 255

Gly Gly Gly Ser Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly
260 265 270

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
275 280 285

Ser Gly Phe Thr Leu Asp Tyr Leu Ala Ile Gly Trp Phe Arg Gln Ala
290 295 300

Pro Gly Lys Gly Arg Glu Gly Val Ser Cys Val Ser Ser Ser Gly Gln
305 310 315 320

Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
325 330 335

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

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Thr Asp Pro Glu Cys Tyr Arg
355 360 365

Val Arg Gly Tyr Tyr Asn Ala Glu Tyr Asp Tyr Trp Gly Gln Gly Thr
370 375 380

Leu Val Thr Val Ser Ser
385 390

<210> 29
<211> 390
<212> PRT
<213> Artificial sequence

<220>
<223> Nanobody or nanobody construct

<400> 29

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

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

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

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

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

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

Ala Arg Val Arg Thr Gly Trp Gly Leu Asn Ala Pro Asp Tyr Ala Met
100 105 110

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

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

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
145 150 155 160

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly Met Ser Trp
165 170 175

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
180 185 190

Gly Ser Gly Ser Asp Thr Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe
195 200 205

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

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
225 230 235 240

Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
245 250 255

Gly Gly Gly Ser Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly
260 265 270

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
275 280 285

Ser Gly Phe Thr Leu Asp Tyr Leu Ala Ile Gly Trp Phe Arg Gln Ala
290 295 300

Pro Gly Lys Gly Arg Glu Gly Val Ser Cys Val Ser Ser Ser Gly Gln
305 310 315 320

Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
325 330 335

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

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Thr Asp Pro Glu Cys Tyr Arg
355 360 365

Val Arg Gly Tyr Tyr Asn Ala Glu Tyr Asp Tyr Trp Gly Gln Gly Thr
370 375 380

Leu Val Thr Val Ser Ser
385 390

<210> 30
<211> 390
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanobody or nanobody construct

<400> 30

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

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

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

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

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

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

Ala Arg Val Arg Thr Gly Trp Gly Leu Asn Ala Pro Asp Tyr Ala Met
100 105 110

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

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

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
145 150 155 160

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe Gly Met Ser Trp
165 170 175

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
180 185 190

Gly Ser Gly Ser Asp Thr Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe
195 200 205

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

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
225 230 235 240

Ser Leu Ser Arg Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
245 250 255

Gly Gly Gly Ser Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly
260 265 270

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
275 280 285

Ser Gly Phe Thr Leu Asp Tyr Leu Ala Ile Gly Trp Phe Arg Gln Ala
290 295 300

Pro Gly Lys Gly Arg Glu Gly Val Ser Cys Val Ser Ser Ser Gly Gln
305 310 315 320

Tyr Thr Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
325 330 335

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

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Thr Asp Pro Glu Cys Tyr Arg
355 360 365

Val Arg Gly Tyr Tyr Asn Ala Glu Tyr Asp Tyr Trp Gly Gln Gly Thr
370 375 380

Leu Val Thr Val Ser Ser
385 390