

# SEQUENCE LISTING

<110> Navigo Proteins GmbH

<120> IMMUNOGLOBULIN BINDING PROTEINS FOR AFFINITY PURIFICATION

<130> NP41 EP2

<160> 19

<170> PatentIn version 3.5

<210> 1

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs50

<400> 1

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Asp | Ala | Lys | Phe | Asp | Glu | Ala | Gln | Gln | Ala | Ala | Phe | Tyr | Glu | Ile |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | His | Leu | Pro | Asn | Leu | Thr | Glu | Asp | Gln | Arg | Asn | Ala | Phe | Ile | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Leu | Arg | Asp | Asp | Pro | Ser | Val | Ser | Leu | Ser | Leu | Leu | Ala | Glu | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Lys | Leu | Asn | Asp | Ala | Gln | Ala | Pro | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |

<210> 2

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs52

<400> 2

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Asp | Ala | Lys | Phe | Asp | Glu | Ala | Gln | Gln | Ala | Ala | Phe | Tyr | Glu | Ile |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Thr Ser Leu Ser Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro  
50 55

<210> 3  
<211> 58  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> cs58

<400> 3

Ile Asp Ala Lys Phe Asp Glu Ala Ala Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ser Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro  
50 55

<210> 4  
<211> 58  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> cs59

<400> 4

Ile Asp Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ala Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro  
50 55

<210> 5  
<211> 58  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> cs60

<400> 5

Ile Asp Ala Lys Phe Asp Glu Ala Ala Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ala Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro  
50 55

<210> 6  
<211> 58  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> cs51

<400> 6

Ile Asp Ser Lys Phe Asp Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ser Leu Leu Gly Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro  
50 55

<210> 7

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs56

<400> 7

Ile Asp Ala Lys His Asp Glu Asp Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Gln Ser Leu Glu Ile Leu Gly Glu Ala  
35 40 45

Lys Lys Leu Asn Glu Ser Gln Ala Pro Lys  
50 55

<210> 8

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs54

<400> 8

Ile Asp Ala Gln His Asp Glu Asp Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Gln Ser Leu Glu Ile Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Glu Ser Gln Ala Pro Lys  
50 55

<210> 9

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs57

<400> 9

Ile Ala Ala Lys His Asp Lys Asp Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Glu Ile Leu Gly Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys  
50 55

<210> 10

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs55

<400> 10

Ile Ala Ala Lys His Asp Glu Asp Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Glu Ile Leu Gly Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys  
50 55

<210> 11

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> cs58 dimer

<400> 11

Ile Asp Ala Lys Phe Asp Glu Ala Ala Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ser Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp  
50 55 60

Glu Ala Ala Gln Ala Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu  
65 70 75 80

Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Asp Pro  
85 90 95

Ser Val Ser Leu Ser Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala  
100 105 110

Gln Ala Pro Pro  
115

<210> 12  
<211> 116  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> cs59 dimer

<400> 12

Ile Asp Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ala Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp  
50 55 60

Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu  
65 70 75 80

Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Asp Pro  
85 90 95

Ser Val Ser Leu Ala Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala  
100 105 110

Gln Ala Pro Pro  
115

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

<220>  
<223> cs60 dimer

<400> 13

Ile Asp Ala Lys Phe Asp Glu Ala Ala Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ala Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp  
50 55 60

Glu Ala Ala Gln Ala Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu  
65 70 75 80

Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Asp Pro  
85 90 95

Ser Val Ser Leu Ala Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala  
100 105 110

Gln Ala Pro Pro  
115

<210> 14  
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<212> PRT  
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<220>  
<223> cs50 dimer

<400> 14

Ile Asp Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ser Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp  
50 55 60

Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu  
65 70 75 80

Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Asp Pro  
85 90 95

Ser Val Ser Leu Ser Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala  
100 105 110

Gln Ala Pro Pro Cys  
115

<210> 15  
<211> 290  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> cs50 pentamer

<400> 15

Ile Asp Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ser Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp  
50 55 60

Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu  
65 70 75 80

Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Asp Pro  
85 90 95

Ser Val Ser Leu Ser Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala  
100 105 110

Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala  
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn  
130 135 140

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

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp  
165 170 175

Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile Leu His  
180 185 190

Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln Ser Leu  
195 200 205

Arg Asp Asp Pro Ser Val Ser Leu Ser Leu Leu Ala Glu Ala Lys Lys  
210 215 220

Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp Glu Ala  
225 230 235 240

Gln Gln Ala Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu  
245 250 255

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

Ser Leu Ser Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala  
275 280 285

Pro Pro  
290

<210> 16  
<211> 170  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> cs59 pentamer

<400> 16

Ile Asp Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Val Ser Leu Ala Leu Leu Ala Glu Ala  
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp  
50 55 60

Glu Ala Gln Gln Ala Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu  
65 70 75 80

Thr Glu Asp Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Asp Pro  
85 90 95

Ser Val Ser Leu Ala Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala  
100 105 110

Gln Ala Pro Pro Ile Asp Ala Lys Phe Asp Glu Ala Gln Gln Ala Ala  
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg Asn  
130 135 140

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

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala  
165 170

<210> 17  
<211> 58  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> consensus sequence 1

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<222> (3)..(3)  
<223> may be replaced by S

<220>  
<221> variant  
<222> (9)..(9)  
<223> may be replaced by A

<220>

<221> variant  
<222> (40)..(40)  
<223> may be replaced by T

<220>  
<221> variant  
<222> (43)..(43)  
<223> may be replaced by A

<220>  
<221> variant  
<222> (46)..(46)  
<223> may be replaced by G

<400> 17

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Asp | Ala | Lys | Phe | Asp | Glu | Ala | Gln | Gln | Ala | Ala | Phe | Tyr | Glu | Ile |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | His | Leu | Pro | Asn | Leu | Thr | Glu | Asp | Gln | Arg | Asn | Ala | Phe | Ile | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Leu | Arg | Asp | Asp | Pro | Ser | Val | Ser | Leu | Ser | Leu | Leu | Ala | Glu | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Lys | Leu | Asn | Asp | Ala | Gln | Ala | Pro | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |

<210> 18  
<211> 58  
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<213> Artificial Sequence

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<223> consensus sequence 2

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<222> (2)..(2)  
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<220>  
<221> variant  
<222> (4)..(4)  
<223> may be replaced by Q

<220>  
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<222> (7)..(7)  
<223> may be replaced by k

<220>  
<221> variant  
<222> (40)..(40)  
<223> may be replaced by V

<220>  
<221> variant  
<222> (46)..(46)  
<223> may be replaced by A

<220>  
<221> variant  
<222> (53)..(53)  
<223> may be replaced by D

<400> 18

Ile Asp Ala Lys His Asp Glu Asp Gln Gln Ala Ala Phe Tyr Glu Ile  
1 5 10 15

Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln  
20 25 30

Ser Leu Arg Asp Asp Pro Ser Gln Ser Leu Glu Ile Leu Gly Glu Ala  
35 40 45

Lys Lys Leu Asn Glu Ser Gln Ala Pro Lys  
50 55

<210> 19  
<211> 58  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> reference 2

<400> 19

Ile Ala Ala Gln His Asp Lys Asp Gln Gln Ala Ala Phe Tyr Glu Ile

| 1   | 5   | 10  | 15  |
|-----|-----|-----|-----|
| Leu | His | Leu | Pro |
|     | 20  | Asn | Leu |
|     |     | Thr | Glu |
|     |     | 25  | Glu |
|     |     | Gln | Arg |
|     |     | Asn | Ala |
|     |     | 30  | Phe |
|     |     | Ile | Gln |
| Ser | Leu | Arg | Asp |
|     | 35  | Asp | Pro |
|     |     | Ser | Val |
|     |     | 40  | Ser |
|     |     | Leu | Glu |
|     |     | Ile | Leu |
|     |     | 45  | Ala |
|     |     | Glu | Ala |
| Lys | Lys | Leu | Asn |
|     | 50  | Asp | Ala |
|     |     | 55  | Gln |
|     |     | Ala | Pro |
|     |     | Lys |     |