

SEQUENCE LISTING

<110> Navigo Proteins GmbH

<120> IMMUNOGLOBULIN BINDING PROTEINS FOR AFFINITY PURIFICATION

<130> NP44 WO

<160> 60

<170> PatentIn version 3.5

<210> 1

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 (CID186352)

<400> 1

Ile	Ala	Ala	Gln	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	Ala	Glu	Ala
		35					40					45			

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

<210> 2

<211> 58

<212> PRT

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<220>

<223> cs26 46C

<400> 2

Ile	Ala	Ala	Gln	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 Cys Glu Ala
35 40 45

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

<210> 3
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<400> 3

Ile Ala Ala Gln 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 Cys Ile Leu Ala Glu Ala
35 40 45

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

<210> 4
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<400> 4

Ile Ala Ala Gln His Asp Lys Ile 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 Ala Glu Ala
35 40 45

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

<210> 5
<211> 58
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<400> 5

Ile Ala Ala Gln His Asp Lys Ile 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 Cys Ile Leu Ala Glu Ala
35 40 45

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

<210> 6
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<400> 6

Ile Ala Ala Gln His Asp Lys Phe 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 Ala Glu Ala
35 40 45

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

<210> 7
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Ile Ala Ala Gln His Asp Lys Tyr 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 Ala Glu Ala
35 40 45

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

<210> 8
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<212> PRT
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<400> 8

Ile Ala Ala Gln His Asp Lys Trp 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 Ala Glu Ala
35 40 45

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

<210> 9
<211> 58
<212> PRT
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<400> 9

Ile Ala Ala Gln His Asp Lys Leu 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 Ala Glu Ala
35 40 45

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

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Ile Ala Ala Gln His Ile 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 Ala Glu Ala
35 40 45

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

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Ile Ala Ala Gln His Tyr 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 Ala Glu Ala
35 40 45

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

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<211> 58
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<400> 12

Ile Ala Ala Gln His Trp 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 Ala Glu Ala
35 40 45

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

<210> 13
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<212> PRT
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<220>
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<400> 13

Ile Ala Ala Gln His Leu 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 Ala Glu Ala
35 40 45

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

<210> 14
<211> 58
<212> PRT
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Ile Ala Ala Gln His Leu 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 Cys Glu Ile Leu Ala Glu Ala
35 40 45

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

<210> 15
<211> 58

<212> PRT
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<400> 15

Ile Ala Ala Ile 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 Ala Glu Ala
35 40 45

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

<210> 16
<211> 58
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<223> cs26 4F (203494)

<400> 16

Ile Ala Ala Phe 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 Ala Glu Ala
35 40 45

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

<210> 17
<211> 58
<212> PRT
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<400> 17

Ile Ala Ala Trp 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 Ala Glu Ala
35 40 45

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

<210> 18

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 4L

<400> 18

Ile Ala Ala Leu 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 Ala Glu Ala
35 40 45

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

<210> 19

<211> 58

<212> PRT

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<400> 19

Ile Ala Ala Tyr 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 Ala Glu Ala
35 40 45

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

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<211> 58

<212> PRT

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<223> cs26 8I 14H

<400> 20

Ile Ala Ala Gln His Asp Lys Ile Gln Gln Ala Ala Phe His 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 Ala Glu Ala
35 40 45

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

<210> 21

<211> 58

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<223> cs26 8I 14H 46C

<400> 21

Ile Ala Ala Gln His Asp Lys Ile Gln Gln Ala Ala Phe His 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 Cys Glu Ala
35 40 45

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

<210> 22

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 8I 28H 46C

<400> 22

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

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

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

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

<210> 23

<211> 56

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 8I 14H 43C del1 del2

<400> 23

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

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

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

Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 24

<211> 56

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 8I 28H 43C del1 del2

<400> 24

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

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

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

Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 25

<211> 58

<212> PRT

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<223> cs27 8I

<400> 25

Ile Ala Ala Lys Phe Asp Glu Ile 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 Val Leu Gly Glu Ala
35 40 45

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

<210> 26
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
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<400> 26

Ile Ala Ala Lys Phe Asp Glu Ile Gln Gln Ala Ala Phe His 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 Val Leu Gly Glu Ala
35 40 45

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

<210> 27
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs27 8I 28H

<400> 27

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

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

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

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

<210> 28
<211> 58
<212> PRT
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<400> 28

Ile Asp Ala Lys Phe Asp Glu Ile 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> 29
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
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<400> 29

Ile Asp Ala Lys Phe Asp Glu Ile Gln Gln Ala Ala Phe His 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> 30
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
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<400> 30

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

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg His 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> 31
<211> 58
<212> PRT
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<220>
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<400> 31

Ile Asp Ala Lys Phe Asp Glu Ile 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> 32
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs60 8I 14H

<400> 32

Ile Asp Ala Lys Phe Asp Glu Ile Ala Gln Ala Ala Phe His 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> 33
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs60 8I 28H

<400> 33

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

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg His 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> 34
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs14 8I

<400> 34

Ile Ala Ala Lys His Asp Lys Ile 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 Glu Ile Leu Gly Glu Ala
35 40 45

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

<210> 35
<211> 58
<212> PRT
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<220>
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<400> 35

Ile Ala Ala Lys His Asp Lys Ile Gln Gln Ala Ala Phe His 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 Glu Ile Leu Gly Glu Ala
35 40 45

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

<210> 36
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs14 8I 28H

<400> 36

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

Leu His Leu Pro Asn Leu Thr Glu Asp Gln Arg His 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 Ala Gln Ala Pro Pro
50 55

<210> 37
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
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<400> 37

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

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

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

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

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

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

Ser Leu Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala
100 105 110

Pro Lys

<210> 38
<211> 58
<212> PRT
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<220>
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<400> 38

Ile Ala Ala Gln His Asp Lys Asp Gln Ser Ala Ala Asp Ser Glu Ile
1 5 10 15

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

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

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

<210> 39
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<212> PRT
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<220>
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<400> 39

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

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

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

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

<210> 40
<211> 56
<212> PRT
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<400> 40

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

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

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

Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 41
<211> 59
<212> PRT
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<220>
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<400> 41

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

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

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

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

<210> 42
<211> 56
<212> PRT
<213> Artificial Sequence

<220>
<223> cs26 8I 14H 29K del2N

<400> 42

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

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Lys Phe Ile Gln Ser Leu
20 25 30

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

Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 43
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs26 8I 14H 29K

<400> 43

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

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

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

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

<210> 44
<211> 47
<212> PRT
<213> Artificial Sequence

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<400> 44

Ile Gln Gln Ala Ala Phe His Glu Ile Leu His Leu Pro Asn Leu Thr
1 5 10 15

Glu Glu Gln Arg Asn Lys Phe Ile Gln Ser Leu Arg Asp Asp Pro Ser
20 25 30

Val Ser Leu Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
35 40 45

<210> 45
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs26 8I 14H 29K 43C

<400> 45

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

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

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

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

<210> 46
<211> 56
<212> PRT
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<220>
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<400> 46

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

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Lys Phe Ile Gln Ser Leu
20 25 30

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

Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 47
<211> 58
<212> PRT
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<220>
<223> cs26 8I 14H 29K 46C

<400> 47

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

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

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

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

<210> 48
<211> 47
<212> PRT
<213> Artificial Sequence

<220>
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<400> 48

Ile Gln Gln Ala Ala Phe His Glu Ile Leu His Leu Pro Asn Leu Thr
1 5 10 15

Glu Glu Gln Arg Asn Lys Phe Ile Gln Ser Leu Arg Asp Asp Pro Ser
20 25 30

Val Ser Leu Glu Ile Leu Cys Glu Ala Lys Lys Leu Asn Asp Ala
35 40 45

<210> 49
<211> 58
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<223> cs26 8I 28H 29K 46C

<400> 49

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

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

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

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

<210> 50
<211> 116

<212> PRT
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<220>
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<400> 50

Ile Ala Ala Gln His Asp Lys Ile Gln Gln Ala Ala Phe His 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 Cys Glu Ala
35 40 45

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

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

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

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

Gln Ala Pro Lys
115

<210> 51
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> dimer of SEQ ID NO: 46 and SEQ ID NO: 43

<400> 51

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

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Lys Phe Ile Gln Ser Leu
20 25 30

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

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

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

Glu Gln Arg Asn Lys Phe Ile Gln Ser Leu Arg Asp Asp Pro Ser Val
85 90 95

Ser Leu Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala
100 105 110

Pro Lys

<210> 52

<211> 47

<212> PRT

<213> Artificial Sequence

<220>

<223> consensus sequence of variants

<220>

<221> Xaa

<222> (1)..(1)

<223> can be selected from I, F, Y, W, L, V

<220>

<221> Xaa

<222> (2)..(2)

<223> can be selected from Q or A

<220>

<221> Xaa

<222> (6)..(6)

<223> can be selected from D or F

<220>

<221> Xaa

<222> (7)..(7)
<223> can be selected from H or Y

<220>
<221> misc_feature
<222> (18)..(18)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> Xaa
<222> (21)..(21)
<223> can be selected from N or H

<220>
<221> Xaa
<222> (22)..(22)
<223> can be selected from A or K

<220>
<221> Xaa
<222> (36)..(36)
<223> can be selected from E or C

<220>
<221> Xaa
<222> (39)..(39)
<223> can be selected from A, G, or C

<220>
<221> Xaa
<222> (42)..(42)
<223> can be selected from K or Q

<400> 52

Xaa	Xaa	Gln	Ala	Ala	Phe	Xaa	Glu	Ile	Leu	His	Leu	Pro	Asn	Leu	Thr
1				5					10					15	

Glu	Xaa	Gln	Arg	Xaa	Xaa	Phe	Ile	Gln	Ser	Leu	Arg	Asp	Asp	Pro	Ser
			20					25					30		

Val	Ser	Leu	Xaa	Ile	Leu	Xaa	Glu	Ala	Xaa	Lys	Leu	Asn	Asp	Ala
		35					40					45		

<210> 53
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs26 N28H (203704)

<400> 53

Ile Ala Ala Gln 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 His Ala Phe Ile Gln
20 25 30

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

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

<210> 54

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 N28E (203702)

<400> 54

Ile Ala Ala Gln 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 Glu Ala Phe Ile Gln
20 25 30

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

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

<210> 55

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 18E (204660)

<400> 55

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

Leu Glu 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 Cys Ile Leu Ala Glu Ala
35 40 45

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

<210> 56
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs26 L17H (203648)

<400> 56

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

His 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 Cys Ile Leu Ala Glu Ala
35 40 45

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

<210> 57
<211> 58
<212> PRT
<213> Artificial Sequence

<220>
<223> cs26 I16H (203634)

<400> 57

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

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	Cys	Ile	Leu	Ala	Glu	Ala
	35						40					45			
Lys	Lys	Leu	Asn	Asp	Ala	Gln	Ala	Pro	Lys						
	50					55									

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

<220>
 <223> cs26 Y14H (203606)

<400> 58

Ile	Ala	Ala	Gln	His	Asp	Lys	Asp	Gln	Gln	Ala	Ala	Phe	His	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	Cys	Ile	Leu	Ala	Glu	Ala
	35						40					45			
Lys	Lys	Leu	Asn	Asp	Ala	Gln	Ala	Pro	Lys						
	50					55									

<210> 59
 <211> 58
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> cs26 Q10H (203564)

<400> 59

Ile	Ala	Ala	Gln	His	Asp	Lys	Asp	Gln	His	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 Cys Ile Leu Ala Glu Ala
35 40 45

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

<210> 60

<211> 58

<212> PRT

<213> Artificial Sequence

<220>

<223> cs26 Q10D (203561)

<400> 60

Ile Ala Ala Gln His Asp Lys Asp Gln Asp 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 Cys Ile Leu Ala Glu Ala
35 40 45

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