

SEQUENCE LISTING

<110> ULTRAHUMAN TWELVE LIMITED

<120> CSF1R BINDING AGENTS

<130> ULTL-001/01WO 332955-2004

<150> GB 1819045.4

<151> 2018-11-22

<150> GB 1810226.9

<151> 2018-06-21

<150> GB 1803226.8

<151> 2018-02-28

<160> 366

<170> PatentIn version 3.5

<210> 1

<211> 122

<212> PRT

<213> Artificial Sequence

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<223> CSF1R-antagonistic IgG VH

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Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ser
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Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Ser	Ser	Asn
			20					25					30		

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

Gly	Asp	Ile	Asn	Pro	Tyr	Asn	Gly	Gly	Ala	Asn	Tyr	Ala	Gln	Lys	Phe
	50					55					60				

Gln	Gly	Arg	Val	Thr	Ile	Thr	Ala	Asp	Glu	Ser	Thr	Ser	Thr	Ala	Tyr
65					70					75					80

Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
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Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

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

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Ala
20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

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

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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Ser
20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser His

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 35 40 45

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
 100 105 110

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

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr

65		70		75		80									
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85					90					95		
Ala	Arg	Glu	Gly	Pro	Tyr	Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr	Trp
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		20					25						30		
Tyr	Met	Ile	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Met
	35					40						45			
Gly	Asp	Ile	Asn	Pro	Tyr	Asn	Gly	Gly	Ala	Asn	Tyr	Ala	Gln	Lys	Phe
	50					55				60					
Gln	Gly	Arg	Val	Thr	Ile	Thr	Ala	Asp	Glu	Ser	Thr	Ser	Thr	Ala	Tyr
65				70					75					80	
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85					90					95		
Ala	Arg	Glu	Gly	Pro	Tyr	Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr	Trp
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Ser
 20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
 100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
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<223> CSF1R-antagonistic IgG VH

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser His
20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

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<211> 111

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<223> CSF1R-antagonistic IgG VL

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

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

Arg Ser Ala Ile Tyr Ala Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala
50 55 60

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

Ser Pro Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Leu Ser Asn
85 90 95

Glu Asp Leu Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<223> CSF1R-antagonistic IgG VL

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Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Glu
20 25 30

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

Arg Ala Ala Ile Tyr Ala Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala
50 55 60

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

Ser Pro Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Leu Ser Asn
85 90 95

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

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

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

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

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

Ser Pro Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Leu Ser Asn
85 90 95

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

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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Glu

20

25

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

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

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

Ser Pro Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Leu Ser Asn
 85 90 95

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

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

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Gly Xaa Thr Phe Xaa Xaa Xaa Xaa Xaa Xaa
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<223> Xaa is Asn or Ala

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<223> Xaa is Gln or Lys

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Met Gly Xaa Ile Xaa Pro Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Gln Lys
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Phe Xaa Gly

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<223> Xaa is Asp, Gly, His, Ser, Thr, Pro, Val, Asn, Ile or Tyr

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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val Met Asp Tyr
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<223> 0301 murine/humanized antibody HCDR1

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Gly Tyr Thr Phe Thr Asp Asn Tyr Met Ile
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Asp	Ile	Asn	Pro	Tyr	Asn	Gly	Gly	Thr	Thr	Phe	Asn	Gln	Lys	Phe	Lys
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Gly

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Glu	Ser	Pro	Tyr	Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr
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<223> Xaa is Asp or Glu

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Arg Ala Ser Gln Ser Val Xaa Tyr Xaa Gly Xaa Asn Tyr Leu Xaa
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<223> Xaa is Leu or Arg

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Xaa Ala Ser Xaa Xaa Xaa Thr
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Xaa Xaa Ser Xaa Xaa Xaa Leu Xaa Thr
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Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp Asn Tyr Met Asn
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<400> 23

Ala Ala Ser Asn Leu Glu Ser
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<223> 0301 murine/humanized antibody LCDR3

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His Leu Ser Asn Glu Asp Leu Ser Thr
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Gly Xaa Thr Phe Xaa Xaa Xaa Xaa Xaa Xaa
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Xaa	Gly	Xaa	Ile	Xaa	Pro	Xaa	Xaa	Gly	Xaa	Xaa	Xaa	Xaa	Xaa	Gln	Lys
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Phe Xaa Gly

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Arg	Ala	Ser	Gln	Ser	Val	Xaa	Tyr	Xaa	Gly	Xaa	Asn	Tyr	Leu	Xaa
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Xaa Ala Ser Xaa Xaa Xaa Thr

1

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<210> 30

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<220>

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<223> Xaa is Gln, His, or Asn

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<221> MISC_FEATURE

<222> (2)..(2)

<223> Xaa is Leu or Gln

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<221> MISC_FEATURE

<222> (4)..(4)

<223> Xaa is Asn or Ser

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> Xaa is Glu, Gln, or Asn

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> Xaa is Asp or Trp

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> Xaa is Leu or Ser

<400> 30

Xaa Xaa Ser Xaa Xaa Xaa Leu Xaa Thr
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<210> 31
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<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 31

Gly Tyr Thr Phe Ser Ser Tyr Tyr Met Ile
1 5 10

<210> 32
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

<400> 32

Met Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys
1 5 10 15

Phe Gln Gly

<210> 33
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 33

Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10

<210> 34
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 34

Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Gln	Gly	Glu	Asn	Tyr	Leu	Ala
1				5					10					15

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

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 35

Asp	Ala	Ser	Asn	Arg	Ala	Thr
1			5			

<210> 36
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 36

Gln	Leu	Ser	Asn	Gln	Asp	Leu	Leu	Thr
1			5					

<210> 37
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 37

Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Glu	Gly	Glu	Asn	Tyr	Leu	Asn
1				5					10					15

<210> 38
<211> 7

<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 38

Ala Ala Ser Asn Arg Ala Thr
1 5

<210> 39
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 39

Gln Leu Ser Asn Glu Asp Leu Leu Thr
1 5

<210> 40
<211> 15
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 40

Arg Ala Ser Gln Ser Val Ser Tyr Glu Gly Glu Asn Tyr Leu Ala
1 5 10 15

<210> 41
<211> 10
<212> PRT
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<220>
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<400> 41

Gly Tyr Thr Phe Thr Ser Tyr Tyr Met Ile
1 5 10

<210> 42
<211> 19
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

<400> 42

Met Gly Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr Tyr Ala Gln Lys
1 5 10 15

Phe Gln Gly

<210> 43
<211> 7
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 43

Ala Ala Ser Asn Leu Ala Thr
1 5

<210> 44
<211> 19
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

<400> 44

Met Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Phe Ala Gln Lys
1 5 10 15

Phe Gln Gly

<210> 45
<211> 15
<212> PRT
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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 45

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Gln	Gly	Asp	Asn	Tyr	Leu	Asn
1				5					10					15

<210> 46

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 46

Gly	Tyr	Thr	Phe	Thr	Ser	Tyr	Tyr	Ile	Ile
1				5					10

<210> 47

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

<400> 47

Met	Gly	Asp	Ile	Asn	Pro	Tyr	Asn	Gly	Gly	Ala	Thr	Tyr	Ala	Gln	Lys
1				5					10					15	

Phe Gln Gly

<210> 48

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 48

Glu	Pro	Pro	Tyr	Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr
1				5					10			

<210> 49
<211> 15
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 49

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Glu	Gly	Asp	Asn	Tyr	Leu	Asn
1				5					10					15

<210> 50
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 50

Gly	Tyr	Thr	Phe	Ser	Ser	Asn	Tyr	Met	Ile
1				5					10

<210> 51
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
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<400> 51

Met	Gly	Asp	Ile	Asn	Pro	Tyr	Asn	Gly	Gly	Ala	Thr	Tyr	Asn	Gln	Lys
1				5					10					15	

Phe Gln Gly

<210> 52
<211> 15
<212> PRT
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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 52

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Glu	Gly	Glu	Asn	Tyr	Leu	Asn
1				5					10					15

<210> 53

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 53

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Asn	Tyr	Leu	Asn
1				5					10					15

<210> 54

<211> 10

<212> PRT

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 54

Gly	Tyr	Thr	Phe	Thr	Ser	Asn	Tyr	Ile	Ile
1				5					10

<210> 55

<211> 19

<212> PRT

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

<400> 55

Met	Gly	Asp	Ile	Asn	Pro	Tyr	Asn	Gly	Gly	Thr	Asn	Tyr	Ala	Gln	Lys
1				5					10					15	

Phe Gln Gly

<210> 56
<211> 9
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 56

Gln Leu Ser Ser Glu Asp Leu Leu Thr
1 5

<210> 57
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 57

Gly Tyr Thr Phe Ser Ser Ala Tyr Met Ile
1 5 10

<210> 58
<211> 10
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 58

Gly Tyr Thr Phe Ser Ser Ser Tyr Met Ile
1 5 10

<210> 59
<211> 10
<212> PRT
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<220>
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<400> 59

Gly Tyr Thr Phe Ser Ser His Tyr Met Ile
1 5 10

<210> 60
<211> 7
<212> PRT
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<220>
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<400> 60

Ala Ala Ser Asp Arg Ala Thr
1 5

<210> 61
<211> 10
<212> PRT
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<222> (2)..(2)
<223> Xaa is Tyr or Gly

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<222> (5)..(5)
<223> Xaa is Thr or Ser

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<223> Xaa is Asp or Ser

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<223> Xaa is Asn, Ala, Ser, His or Tyr

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<222> (8)..(8)
<223> Xaa is Tyr or Ala

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<223> Xaa is Met or Ile

<400> 61

Gly Xaa Thr Phe Xaa Xaa Xaa Xaa Xaa Ile
1 5 10

<210> 62

<211> 19

<212> PRT

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<222> (5)..(5)

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<220>

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<223> Xaa is Asn or Phe

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<222> (10)..(10)

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<223> Xaa is Thr or Ala

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<222> (12)..(12)

<223> Xaa is Thr or Asn

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<223> Xaa is Phe or Tyr

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<222> (14)..(14)

<223> Xaa is Asn or Ala

<400> 62

Met	Gly	Asp	Ile	Xaa	Pro	Tyr	Xaa	Gly	Xaa	Xaa	Xaa	Xaa	Gln	Lys
1				5				10					15	

Phe Gln Gly

<210> 63

<211> 13

<212> PRT

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<222> (1)..(1)

<223> Xaa is Glu or Asp

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<222> (3)..(3)

<223> Xaa is Pro, Thr, Asn, Glu, Leu, Ala, Asp, or Ser

<220>

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<222> (4)..(4)

<223> Xaa is Tyr, Lys, Arg, Met, or Pro

<220>

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Gly, Ala, or Ile

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<220>
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<223> Xaa is Tyr or Trp

<400> 63

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val Met Asp Tyr
1 5 10

<210> 64
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<220>
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<400> 64

Gly Tyr Thr Phe Xaa Ser Xaa Tyr Xaa Xaa
1 5 10

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<223> Xaa is Asn or Ala

<400> 65

Met	Gly	Asp	Ile	Asn	Pro	Tyr	Asn	Gly	Xaa	Xaa	Xaa	Tyr	Xaa	Gln	Lys
1				5					10					15	

Phe Gln Gly

<210> 66
<211> 13
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<223> Xaa is Gly, Pro or Asp

<400> 66

Glu Xaa Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10

<210> 67
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<223> Xaa is Ala or Asp

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<223> Xaa is Leu or Arg

<220>
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<222> (6)..(6)
<223> Xaa is Glu or Ala

<400> 67

Xaa Ala Ser Xaa Xaa Xaa Thr
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<210> 68
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<223> Xaa is Leu or Gln

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<223> Xaa is Glu, Gln or Asn

<400> 68

Xaa Xaa Ser Xaa Xaa Asp Leu Leu Thr
1 5

<210> 69
<211> 15
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<223> Xaa is Asp or Glu

<220>
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<222> (15)..(15)
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<400> 69

Arg Ala Ser Gln Ser Val Xaa Tyr Xaa Gly Xaa Asn Tyr Leu Xaa
1 5 10 15

<210> 70
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<220>
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<222> (5)..(5)
<223> Xaa is Leu or Arg

<400> 70

Xaa Ala Ser Xaa Xaa Ala Thr
1 5

<210> 71
<211> 9
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<220>
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<400> 71

Gln Leu Ser Asn Xaa Asp Leu Leu Thr
1 5

<210> 72
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<212> PRT
<213> Homo sapiens

<400> 72

Arg Asp Glu Leu Thr
1 5

<210> 73
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Arg Glu Glu Met
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<210> 74
<211> 5
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<220>
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<400> 74

Tyr Asp Gly Asp Asn
1 5

<210> 75
<211> 9
<212> PRT
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<220>
<223> TCED+ and LAF peptide

<400> 75

Phe Ala Val Tyr Tyr Cys His Leu Ser
1 5

<210> 76
<211> 9
<212> PRT
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<220>

<223> TCED+ and LAF peptide

<400> 76

Ile Tyr Ala Ala Ser Asn Leu Glu Ser
1 5

<210> 77

<211> 9

<212> PRT

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<220>

<223> LAF peptide

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Phe Lys Gly Arg Val Thr Ile Thr Ala
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<210> 78

<211> 10

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<213> Mus musculus

<400> 78

Gly Tyr Thr Phe Thr Asp Asn Tyr Met Ile
1 5 10

<210> 79

<211> 5

<212> PRT

<213> Mus musculus

<400> 79

Asp Asn Tyr Met Ile
1 5

<210> 80

<211> 7

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<213> Mus musculus

<400> 80

Gly Tyr Thr Phe Thr Asp Asn
1 5

<210> 81
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<400> 81

Gly Tyr Thr Phe Thr Asp Asn Tyr Met
1 5

<210> 82
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<400> 82

Thr Asp Asn Tyr Met Ile
1 5

<210> 83
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<400> 83

Ile Gly Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr Phe Asn Gln Lys
1 5 10 15

Phe Lys Gly

<210> 84
<211> 17
<212> PRT
<213> Mus musculus

<400> 84

Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr Phe Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 85

<211> 6
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<400> 85

Asn Pro Tyr Asn Gly Gly
1 5

<210> 86
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<400> 86

Ile Asn Pro Tyr Asn Gly Gly
1 5

<210> 87
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<400> 87

Ile Asn Pro Tyr Asn Gly Gly Thr Thr Phe Asn Gln Lys Phe Lys Gly
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<210> 88
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<400> 88

Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr
1 5 10

<210> 89
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<400> 89

Ile Gly Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr
1 5 10

<210> 90
<211> 13
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<400> 90

Glu Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10

<210> 91
<211> 15
<212> PRT
<213> Mus musculus

<400> 91

Ala Arg Glu Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10 15

<210> 92
<211> 12
<212> PRT
<213> Mus musculus

<400> 92

Glu Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp
1 5 10

<210> 93
<211> 15
<212> PRT
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<400> 93

Ala Arg Glu Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10 15

<210> 94
<211> 15
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<400> 94

Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp Asn Tyr Met Asn
1 5 10 15

<210> 95
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<400> 95

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

<210> 96
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<400> 96

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

<210> 97
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<400> 97

Asp Tyr Asp Gly Asp Asn Tyr Met Asn Trp Tyr
1 5 10

<210> 98
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<400> 98

Ala Ala Ser Asn Leu Glu Ser
1 5

<210> 99
<211> 10
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<400> 99

Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu
1 5 10

<210> 100
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<400> 100

His Leu Ser Asn Glu Asp Leu Ser Thr
1 5

<210> 101
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<400> 101

Ser Asn Glu Asp Leu Ser
1 5

<210> 102
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<400> 102

His Leu Ser Asn Glu Asp Leu Ser
1 5

<210> 103
<211> 122
<212> PRT
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<400> 103

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg Pro Gly Ala
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Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Asn
20 25 30

Tyr Met Ile Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
35 40 45

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr Phe Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Val Glu Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

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

<210> 104
<211> 122
<212> PRT
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<220>
<223> Hu0301-VH IGHV1-69

<400> 104

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

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

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr Phe Asn Gln Lys Phe
50 55 60

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

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

Ala Arg Glu Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

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

<210> 105
<211> 122
<212> PRT
<213> Artificial Sequence

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<223> VH-graft IGHV1-69

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Asn
20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr Phe Asn Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

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

<210> 106
<211> 111
<212> PRT
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<400> 106

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

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

Gly Asp Asn Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala
50 55 60

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

Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys His Leu Ser Asn
85 90 95

Glu Asp Leu Ser Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 107

<211> 111

<212> PRT

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<223> Hu0301-VL IGKV3-11

<400> 107

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

Glu Arg Ala Thr Leu Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp
20 25 30

Gly Asp Asn Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
35 40 45

Arg Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala

50

55

60

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

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Leu Ser Asn
85 90 95

Glu Asp Leu Ser Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 108

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> VL-graft IGKV3-11

<400> 108

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

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asp Tyr Asp
20 25 30

Gly Asp Asn Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
35 40 45

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

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

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Leu Ser Asn
85 90 95

Glu Asp Leu Ser Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 109

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

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 109

Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Asp	Gly	Glu	Asn	Tyr	Leu	Asn
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<210> 110
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<212> PRT
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<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 110

Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Glu	Gly	Asp	Asn	Tyr	Leu	Asn
1			5						10				15	

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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 111

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Asp	Gly	Glu	Asn	Tyr	Leu	Asn
1			5						10				15	

<210> 112
<211> 15
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 112

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Gln	Gly	Asp	Asn	Tyr	Leu	Ala
1			5						10				15	

<210> 113
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 113

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Glu	Gly	Glu	Asn	Tyr	Leu	Asn
1				5					10					15

<210> 114
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<212> PRT
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<220>
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<400> 114

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<220>
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<400> 115

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<212> PRT
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<220>
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<400> 116

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Asp	Gly	Glu	Asn	Tyr	Leu	Asn
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1 5 10 15

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<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 117

Arg Ala Ser Gln Ser Val Ser Tyr Gln Gly Asp Asn Tyr Leu Asn
1 5 10 15

<210> 118
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 118

Arg Ala Ser Gln Ser Val Asp Tyr Glu Gly Asp Asn Tyr Leu Asn
1 5 10 15

<210> 119
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 119

Arg Ala Ser Gln Ser Val Asp Tyr Gln Gly Glu Asn Tyr Leu Asn
1 5 10 15

<210> 120
<211> 15
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<220>
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<400> 120

Arg Ala Ser Gln Ser Val Glu Tyr Asp Gly Asp Asn Tyr Leu Asn
1 5 10 15

<210> 121
<211> 15
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 121

Arg Ala Ser Gln Ser Val Ser Tyr Asp Gly Asp Asn Tyr Leu Asn
1 5 10 15

<210> 122
<211> 15
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 122

Arg Ala Ser Gln Ser Val Ser Tyr Asp Gly Glu Asn Tyr Leu Ala
1 5 10 15

<210> 123
<211> 15
<212> PRT
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<220>
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<400> 123

Arg Ala Ser Gln Ser Val Glu Tyr Asp Gly Asp Asn Tyr Leu Ala
1 5 10 15

<210> 124
<211> 15
<212> PRT
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<220>
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<400> 124

Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Asp	Gly	Asp	Asn	Tyr	Leu	Ala
1				5					10					15

<210> 125

<211> 15

<212> PRT

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 125

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Asp	Gly	Glu	Asn	Tyr	Leu	Ala
1				5					10					15

<210> 126

<211> 15

<212> PRT

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 126

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Gln	Gly	Glu	Asn	Tyr	Leu	Ala
1				5					10					15

<210> 127

<211> 15

<212> PRT

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 127

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Gln	Gly	Asp	Asn	Tyr	Leu	Asn
1				5					10					15

<210> 128

<211> 15

<212> PRT

<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 128

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Asp	Gly	Glu	Asn	Tyr	Leu	Ala
1				5					10				15	

<210> 129
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<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 129

Arg	Ala	Ser	Gln	Ser	Val	Ser	Tyr	Asn	Gly	Asp	Asn	Tyr	Leu	Asn
1				5					10				15	

<210> 130
<211> 15
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 130

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	His	Gly	Asp	Asn	Tyr	Leu	Asn
1				5					10				15	

<210> 131
<211> 15
<212> PRT
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<400> 131

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Gln	Gly	Asp	Asn	Tyr	Leu	Ala
1				5					10				15	

<210> 132
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<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 132

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Asp	Gly	Asp	Asn	Tyr	Leu	Ala
1				5					10				15	

<210> 133

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 133

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Glu	Gly	Asp	Asn	Tyr	Leu	Ala
1				5					10				15	

<210> 134

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 134

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Glu	Gly	Glu	Asn	Tyr	Leu	Ala
1				5					10				15	

<210> 135

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 135

Arg	Ala	Ser	Gln	Ser	Val	Glu	Tyr	Glu	Gly	Glu	Asn	Tyr	Leu	Ala
1				5					10				15	

<210> 136

<211> 15
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 136

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Glu	Gly	Asp	Asn	Tyr	Leu	Ala
1			5					10					15	

<210> 137
<211> 15
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR1

<400> 137

Arg	Ala	Ser	Gln	Ser	Val	Asp	Tyr	Gln	Gly	Glu	Asn	Tyr	Leu	Ala
1			5					10					15	

<210> 138
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<212> PRT
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<220>
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<400> 138

Ala	Ala	Ser	Asn	Leu	Glu	Thr
1			5			

<210> 139
<211> 7
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 139

Ala	Ala	Ser	Asn	Arg	Glu	Thr
1			5			

<210> 140
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 140

Asp Ala Ser Asn Leu Ala Thr
1 5

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

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 141

Asp Ala Ser Asn Arg Glu Thr
1 5

<210> 142
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 142

Asp Ala Ser Asn Leu Glu Thr
1 5

<210> 143
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR2

<400> 143

Gly Ala Ser Asn Arg Ala Thr

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5

<210> 144
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 144

His Leu Ser Asn Glu Asp Leu Leu Thr
1 5

<210> 145
<211> 9
<212> PRT
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<220>
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<400> 145

Gln Leu Ser Asn Glu Trp Leu Leu Thr
1 5

<210> 146
<211> 9
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 146

Gln Leu Ser Asn Glu Asp Leu Ser Thr
1 5

<210> 147
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 147

Gln Leu Ser Ser Glu Trp Leu Leu Thr
1 5

<210> 148
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 148

Gln Leu Ser Asn Asn Asp Leu Leu Thr
1 5

<210> 149
<211> 9
<212> PRT
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<220>
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<400> 149

Gln Leu Ser Ser Gln Asp Leu Leu Thr
1 5

<210> 150
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 150

His Leu Ser Asn Gln Asp Leu Leu Thr
1 5

<210> 151
<211> 9
<212> PRT
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<220>
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<400> 151

Gln Gln Ser Asn Gln Asp Leu Leu Thr
1 5

<210> 152

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 152

Gln Leu Ser Asn Glu Trp Leu Ser Thr
1 5

<210> 153

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 153

Gln Leu Ser Asn Gln Trp Leu Leu Thr
1 5

<210> 154

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 154

Asn Leu Ser Asn Glu Asp Leu Leu Thr
1 5

<210> 155

<211> 9

<212> PRT

<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 155

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1 5

<210> 156
<211> 9
<212> PRT
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<220>
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<400> 156

His Leu Ser Asn Asn Asp Leu Leu Thr
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<210> 157
<211> 9
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 157

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1 5

<210> 158
<211> 9
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 158

Gln Gln Ser Asn Glu Asp Leu Leu Thr
1 5

<210> 159
<211> 9
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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 159

Gln Leu Ser Ser Glu Asp Leu Ser Thr
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<210> 160

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 160

His Gln Ser Asn Glu Asp Leu Leu Thr
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<210> 161

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 161

Gln Leu Ser Ser Asn Asp Leu Leu Thr
1 5

<210> 162

<211> 9

<212> PRT

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion LCDR3

<400> 162

Gln Leu Ser Asn Asn Asp Leu Ser Thr
1 5

<210> 163

<211> 9
<212> PRT
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<220>
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<400> 163

Gln Gln Ser Ser Glu Asp Leu Leu Thr
1 5

<210> 164
<211> 10
<212> PRT
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<220>
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<400> 164

Gly Tyr Thr Phe Thr Ser Asn Tyr Met Ile
1 5 10

<210> 165
<211> 10
<212> PRT
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<220>
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<400> 165

Gly Tyr Thr Phe Thr Asp Tyr Tyr Met Ile
1 5 10

<210> 166
<211> 10
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<220>
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<400> 166

Gly Tyr Thr Phe Ser Asp Asn Tyr Met Ile
1 5 10

<210> 167
<211> 10
<212> PRT
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<220>
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<400> 167

Gly Tyr Thr Phe Ser Ser Asn Tyr Ile Ile
1 5 10

<210> 168
<211> 10
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 168

Gly Tyr Thr Phe Thr Asp Asn Tyr Ile Ile
1 5 10

<210> 169
<211> 10
<212> PRT
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<220>
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<400> 169

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

<210> 170
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<212> PRT
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<220>
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<400> 170

Gly Gly Thr Phe Ser Ser Asn Tyr Ile Ile

1 5 10

<210> 171
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<220>
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<400> 171

Gly Tyr Thr Phe Ser Asp Tyr Tyr Met Ile
1 5 10

<210> 172
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<220>
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<400> 172

Gly Tyr Thr Phe Ser Ser Tyr Tyr Ile Ile
1 5 10

<210> 173
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<220>
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<400> 173

Gly Tyr Thr Phe Thr Asp Tyr Tyr Ile Ser
1 5 10

<210> 174
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<220>
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<400> 174

Gly Gly Thr Phe Ser Asp Tyr Tyr Met Ile
1 5 10

<210> 175
<211> 10
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<220>
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<400> 175

Gly Gly Thr Phe Thr Ser Tyr Tyr Met Ile
1 5 10

<210> 176
<211> 10
<212> PRT
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<220>
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<400> 176

Gly Tyr Thr Phe Thr Ser Tyr Tyr Ile Ser
1 5 10

<210> 177
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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<400> 177

Gly Tyr Thr Phe Thr Ser Tyr Tyr Met Ser
1 5 10

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

<220>
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<400> 178

Gly Tyr Thr Phe Ser Ser Asn Tyr Ile Ser
1 5 10

<210> 179

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 179

Gly Tyr Thr Phe Ser Ser Asn Tyr Met Ser
1 5 10

<210> 180

<211> 10

<212> PRT

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 180

Gly Gly Thr Phe Ser Asp Asn Tyr Met Ile
1 5 10

<210> 181

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 181

Gly Tyr Thr Phe Ser Ser Tyr Tyr Met Ser
1 5 10

<210> 182

<211> 10

<212> PRT

<213> Artificial Sequence

<220>
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<400> 182

Gly Tyr Thr Phe Thr Asp Tyr Tyr Ile Ile
1 5 10

<210> 183
<211> 10
<212> PRT
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<220>
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<400> 183

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

<210> 184
<211> 10
<212> PRT
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<220>
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<400> 184

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

<210> 185
<211> 10
<212> PRT
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<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 185

Gly Tyr Thr Phe Ser Ser Tyr Tyr Ile Ser
1 5 10

<210> 186
<211> 10
<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 186

Gly	Tyr	Thr	Phe	Thr	Ser	Asn	Tyr	Ile	Ser
1				5					10

<210> 187

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 187

Gly	Tyr	Thr	Phe	Ser	Asp	Tyr	Tyr	Ile	Ser
1				5					10

<210> 188

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 188

Gly	Gly	Thr	Phe	Thr	Asp	Tyr	Tyr	Met	Ile
1				5					10

<210> 189

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 189

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

<210> 190

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<220>
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<400> 190

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

<210> 191
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<400> 194

Gly Tyr Thr Phe Ser Asp Tyr Tyr Met Ser
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Gly Gly Thr Phe Thr Asp Tyr Tyr Ile Ser
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<210> 196
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<400> 196

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Phe Gln Gly

<210> 197
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Phe Gln Gly

<210> 198

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Met Gly Asp Ile Asn Pro Tyr Asn Gly Thr Ala Thr Tyr Ala Gln Lys
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Phe Gln Gly

<210> 199

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Phe Gln Gly

<210> 200

<211> 19

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 201

<211> 19

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<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Lys Gly

<210> 202

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<212> PRT

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 203

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Phe Gln Gly

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 205

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<212> PRT

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 206

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Phe Gln Gly

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Phe Gln Gly

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Phe Gln Gly

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Phe Gln Gly

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<211> 19

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Phe Gln Gly

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Phe Gln Gly

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 214

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Phe Gln Gly

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Phe Gln Gly

<210> 216

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Phe Gln Gly

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<210> 218

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 219

<211> 19

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 220

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 221

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Phe Gln Gly

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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1 5 10 15

Phe Gln Gly

<210> 223

<211> 19

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR2

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Phe Gln Gly

<210> 224

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Phe Gln Gly

<210> 225

<211> 19

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Phe Gln Gly

<210> 226

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Phe Gln Gly

<210> 227

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

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<210> 228

<211> 13

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

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<210> 229

<211> 13

<212> PRT

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 229

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<211> 13

<212> PRT

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<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 230

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<400> 231

Glu Ser Pro Tyr Thr Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10

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<400> 232

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<400> 233

Glu Ser Pro Tyr Asp Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10

<210> 234
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<400> 234

Glu Thr Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
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<400> 241

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<400> 242

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Glu	Ser	Leu	Tyr	Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr
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<210> 248
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Glu Ser Ser Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
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<400> 273

Glu Gly Pro Tyr Thr Ser Asn Leu Tyr Val Met Asp Tyr

1 5 10

<210> 274
<211> 13
<212> PRT
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<400> 274

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<210> 275
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<400> 276

Glu Gly Pro Tyr Phe Asp Asn Leu Tyr Val Met Asp Tyr
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<210> 277
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<210> 278
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<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 280

Glu Pro Pro Tyr Phe Ser Asn His Tyr Val Met Asp Tyr
1 5 10

<210> 281
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 281

Glu Ser Pro Tyr Trp Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10

<210> 282

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 282

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

<210> 283

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 283

Glu Pro Pro Tyr Phe Ser Glu Leu Tyr Val Met Asp Tyr
1 5 10

<210> 284

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 284

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

<210> 285

<211> 13

<212> PRT

<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR3

<400> 285

Asp Ser Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr
1 5 10

<210> 286
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CSF1R antibody molecule or antigen-binding portion HCDR1

<400> 286

Gly Gly Thr Phe Ser Ser Tyr Tyr Ile Ile
1 5 10

<210> 287
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 287

Tyr Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 288
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 288

Ala Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 289
<211> 9
<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 289

Asp Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 290

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 290

Gly Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 291

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 291

His Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 292

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 292

Asn Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 293

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

<220>
<223> T cell epitope in antibody variable region

<400> 293

Ser Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 294
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 294

Thr Tyr Met Ile Trp Val Arg Gln Ala
1 5

<210> 295
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 295

Tyr Asp Met Ile Trp Val Arg Gln Ala
1 5

<210> 296
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 296

Tyr Tyr Met Gly Trp Val Arg Gln Ala
1 5

<210> 297
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 297

Tyr Tyr Met His Trp Val Arg Gln Ala
1 5

<210> 298
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 298

Tyr Tyr Met Asn Trp Val Arg Gln Ala
1 5

<210> 299
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 299

Tyr Tyr Met Ser Trp Val Arg Gln Ala
1 5

<210> 300
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 300

Tyr Tyr Met Thr Trp Val Arg Gln Ala

1 5

<210> 301
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 301

Tyr Tyr Met Trp Trp Val Arg Gln Ala
1 5

<210> 302
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 302

Tyr Tyr Met Tyr Trp Val Arg Gln Ala
1 5

<210> 303
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 303

Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp Gly Gln
1 5 10

<210> 304
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 304

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

<210> 305
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 305

His Ser Asn Leu Tyr Val Met Asp Tyr Trp Gly Gln
1 5 10

<210> 306
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 306

Thr Ser Asn Leu Tyr Val Met Asp Tyr Trp Gly Gln
1 5 10

<210> 307
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 307

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

<210> 308
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 308

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

<210> 309

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 309

Phe Ser Asn Arg Tyr Val Met Asp Tyr Trp Gly Gln
1 5 10

<210> 310

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 310

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

<210> 311

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 311

Phe Ser Asn Thr Tyr Val Met Asp Tyr Trp Gly Gln
1 5 10

<210> 312

<211> 12

<212> PRT

<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 312

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

<210> 313
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 313

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

<210> 314
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 314

Phe	Ser	Asn	Leu	Asp	Val	Met	Asp	Tyr	Trp	Gly	Gln
1				5					10		

<210> 315
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 315

Phe	Ser	Asn	Leu	Ser	Val	Met	Asp	Tyr	Trp	Gly	Gln
1				5					10		

<210> 316
<211> 12
<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 316

Phe	Ser	Asn	Leu	Trp	Val	Met	Asp	Tyr	Trp	Gly	Gln
1			5						10		

<210> 317

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 317

Phe	Ser	Asn	Leu	Tyr	Asp	Met	Asp	Tyr	Trp	Gly	Gln
1			5						10		

<210> 318

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 318

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

<210> 319

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 319

Phe	Ser	Asn	Leu	Tyr	Val	Glu	Asp	Tyr	Trp	Gly	Gln
1			5						10		

<210> 320

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

<220>
<223> T cell epitope in antibody variable region

<400> 320

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

<210> 321
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 321

Phe	Ser	Asn	Leu	Tyr	Val	His	Asp	Tyr	Trp	Gly	Gln
1				5					10		

<210> 322
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 322

Phe	Ser	Asn	Leu	Tyr	Val	Pro	Asp	Tyr	Trp	Gly	Gln
1				5					10		

<210> 323
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 323

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

<210> 324
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 324

Phe	Ser	Asn	Leu	Tyr	Val	Thr	Asp	Tyr	Trp	Gly	Gln
1				5					10		

<210> 325
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 325

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

<210> 326
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 326

Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr	Trp	Gly	Lys
1				5					10		

<210> 327
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 327

Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr	Trp	Gly	Arg
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1 **5** **10**

<220>
<223> T cell epitope in antibody variable region

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

<220>
<223> T cell epitope in antibody variable region

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

<220>
<223> T cell epitope in antibody variable region

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

<220>
<223> T cell epitope in antibody variable region

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

<210> 332
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 332

Thr Leu Ile Tyr Ala Ala Ser Asn Arg Ala
1 5 10

<210> 333
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 333

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

<210> 334
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 334

Leu Leu Leu Tyr Ala Ala Ser Asn Arg Ala
1 5 10

<210> 335
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 335

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

<210> 336

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 336

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

<210> 337

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 337

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

<210> 338

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 338

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

<210> 339

<211> 10

<212> PRT

<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 339

Leu Leu Ile Tyr Glu Ala Ser Asn Arg Ala
1 5 10

<210> 340
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 340

Leu Leu Ile Tyr Thr Ala Ser Asn Arg Ala
1 5 10

<210> 341
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 341

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

<210> 342
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 342

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

<210> 343
<211> 10
<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 343

Leu	Leu	Ile	Tyr	Ala	Ala	Asp	Asn	Arg	Ala
1				5					10

<210> 344

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 344

Leu	Leu	Ile	Tyr	Ala	Ala	Gly	Asn	Arg	Ala
1				5					10

<210> 345

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 345

Leu	Leu	Ile	Tyr	Ala	Ala	Ser	Asp	Arg	Ala
1				5					10

<210> 346

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> T cell epitope in antibody variable region

<400> 346

Leu	Leu	Ile	Tyr	Ala	Ala	Ser	Glu	Arg	Ala
1				5					10

<210> 347

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

<220>
<223> T cell epitope in antibody variable region

<400> 347

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

<210> 348
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 348

Leu Leu Ile Tyr Ala Ala Ser Asn Arg Glu
1 5 10

<210> 349
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 349

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

<210> 350
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> T cell epitope in antibody variable region

<400> 350

Leu Leu Ile Tyr Ala Ala Ser Asn Arg Pro
1 5 10

<210> 351
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody MH5 light chain variable (VL) region

<400> 351

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

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

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

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

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

Ser Pro Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Leu Ser Asn
85 90 95

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

<210> 352
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody MH5 heavy chain variable (VH) region

<400> 352

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Tyr

20

25

30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
 100 105 110

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

<210> 353

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> Antibody MH12 light chain variable (VL) region

<400> 353

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Asn
 20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr

65		70		75		80
Met	Glu	Leu	Ser	Ser	Leu	Arg
			85			
				Glu	Asp	Thr
				90		
					Ala	Val
						Tyr
						Tyr
						Cys
						95

Ala	Arg	Glu	Gly	Pro	Tyr	Phe	Ser	Asn	Leu	Tyr	Val	Met	Asp	Tyr	Trp
			100					105					110		

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

<210> 354
 <211> 111
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Antibody MH12 heavy chain variable (VH) region

<400> 354

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

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

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

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

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

Ser	Pro	Glu	Pro	Glu	Asp	Phe	Ala	Val	Tyr	Tyr	Cys	Gln	Leu	Ser	Asn
				85					90					95	

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

<210> 355

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

<220>
<223> Antibody MH16 light chain variable (VL) region

<400> 355

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Ala
20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Ala Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

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

<210> 356
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody MH16 heavy chain variable (VH) region

<400> 356

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

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

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

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

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

Ser Pro Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Leu Ser Asn
85 90 95

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

<210> 357
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 30E06 light chain variable (VL) region

<400> 357

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

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

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

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

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

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Leu Ser Asn
85 90 95

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

<210> 358
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Antibody 30E06 heavy chain variable (VH) region

<400> 358

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

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

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

Gly Asp Ile Asn Pro Tyr Asn Gly Gly Thr Thr Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Gly Pro Tyr Phe Ser Asn Leu Tyr Val Met Asp Tyr Trp
100 105 110

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

<210> 359
<211> 327
<212> PRT

<213> Homo sapiens

<400> 359

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

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro
100 105 110

Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
305 310 315 320

Leu Ser Leu Ser Leu Gly Lys
325

<210> 360
<211> 327
<212> PRT
<213> Homo sapiens

<400> 360

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

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser

50

55

60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
100 105 110

Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
305 310 315 320

Leu Ser Leu Ser Leu Gly Lys
325

<210> 361
<211> 330
<212> PRT
<213> Homo sapiens

<400> 361

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

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225 230 235 240

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 362
<211> 330
<212> PRT
<213> Homo sapiens

<400> 362

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

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Ala Ala Gly Ala Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225 230 235 240

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 363
<211> 330
<212> PRT
<213> Homo sapiens

<400> 363

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

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 364
<211> 329
<212> PRT
<213> Homo sapiens

<400> 364

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

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

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

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Ala Ala Gly Ala Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
225 230 235 240

Met Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
245 250 255

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
260 265 270

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
275 280 285

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
290 295 300

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
305 310 315 320

Lys Ser Leu Ser Leu Ser Pro Gly Lys

<210> 365
 <211> 972
 <212> PRT
 <213> Homo sapiens

<400> 365

Met Gly Pro Gly Val Leu Leu Leu Leu Leu Val Ala Thr Ala Trp His
 1 5 10 15

Gly Gln Gly Ile Pro Val Ile Glu Pro Ser Val Pro Glu Leu Val Val
 20 25 30

Lys Pro Gly Ala Thr Val Thr Leu Arg Cys Val Gly Asn Gly Ser Val
 35 40 45

Glu Trp Asp Gly Pro Pro Ser Pro His Trp Thr Leu Tyr Ser Asp Gly
 50 55 60

Ser Ser Ser Ile Leu Ser Thr Asn Asn Ala Thr Phe Gln Asn Thr Gly
 65 70 75 80

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

Ile His Leu Tyr Val Lys Asp Pro Ala Arg Pro Trp Asn Val Leu Ala
 100 105 110

Gln Glu Val Val Val Phe Glu Asp Gln Asp Ala Leu Leu Pro Cys Leu
 115 120 125

Leu Thr Asp Pro Val Leu Glu Ala Gly Val Ser Leu Val Arg Val Arg
 130 135 140

Gly Arg Pro Leu Met Arg His Thr Asn Tyr Ser Phe Ser Pro Trp His
 145 150 155 160

Gly Phe Thr Ile His Arg Ala Lys Phe Ile Gln Ser Gln Asp Tyr Gln
 165 170 175

Cys Ser Ala Leu Met Gly Gly Arg Lys Val Met Ser Ile Ser Ile Arg
180 185 190

Leu Lys Val Gln Lys Val Ile Pro Gly Pro Pro Ala Leu Thr Leu Val
195 200 205

Pro Ala Glu Leu Val Arg Ile Arg Gly Glu Ala Ala Gln Ile Val Cys
210 215 220

Ser Ala Ser Ser Val Asp Val Asn Phe Asp Val Phe Leu Gln His Asn
225 230 235 240

Asn Thr Lys Leu Ala Ile Pro Gln Gln Ser Asp Phe His Asn Asn Arg
245 250 255

Tyr Gln Lys Val Leu Thr Leu Asn Leu Asp Gln Val Asp Phe Gln His
260 265 270

Ala Gly Asn Tyr Ser Cys Val Ala Ser Asn Val Gln Gly Lys His Ser
275 280 285

Thr Ser Met Phe Phe Arg Val Val Glu Ser Ala Tyr Leu Asn Leu Ser
290 295 300

Ser Glu Gln Asn Leu Ile Gln Glu Val Thr Val Gly Glu Gly Leu Asn
305 310 315 320

Leu Lys Val Met Val Glu Ala Tyr Pro Gly Leu Gln Gly Phe Asn Trp
325 330 335

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

Asn Ala Thr Thr Lys Asp Thr Tyr Arg His Thr Phe Thr Leu Ser Leu
355 360 365

Pro Arg Leu Lys Pro Ser Glu Ala Gly Arg Tyr Ser Phe Leu Ala Arg
370 375 380

Asn Pro Gly Gly Trp Arg Ala Leu Thr Phe Glu Leu Thr Leu Arg Tyr
385 390 395 400

Pro Pro Glu Val Ser Val Ile Trp Thr Phe Ile Asn Gly Ser Gly Thr
405 410 415

Leu Leu Cys Ala Ala Ser Gly Tyr Pro Gln Pro Asn Val Thr Trp Leu
420 425 430

Gln Cys Ser Gly His Thr Asp Arg Cys Asp Glu Ala Gln Val Leu Gln
435 440 445

Val Trp Asp Asp Pro Tyr Pro Glu Val Leu Ser Gln Glu Pro Phe His
450 455 460

Lys Val Thr Val Gln Ser Leu Leu Thr Val Glu Thr Leu Glu His Asn
465 470 475 480

Gln Thr Tyr Glu Cys Arg Ala His Asn Ser Val Gly Ser Gly Ser Trp
485 490 495

Ala Phe Ile Pro Ile Ser Ala Gly Ala His Thr His Pro Pro Asp Glu
500 505 510

Phe Leu Phe Thr Pro Val Val Val Ala Cys Met Ser Ile Met Ala Leu
515 520 525

Leu Leu Leu Leu Leu Leu Leu Leu Tyr Lys Tyr Lys Gln Lys Pro
530 535 540

Lys Tyr Gln Val Arg Trp Lys Ile Ile Glu Ser Tyr Glu Gly Asn Ser
545 550 555 560

Tyr Thr Phe Ile Asp Pro Thr Gln Leu Pro Tyr Asn Glu Lys Trp Glu
565 570 575

Phe Pro Arg Asn Asn Leu Gln Phe Gly Lys Thr Leu Gly Ala Gly Ala
580 585 590

Phe Gly Lys Val Val Glu Ala Thr Ala Phe Gly Leu Gly Lys Glu Asp
595 600 605

Ala Val Leu Lys Val Ala Val Lys Met Leu Lys Ser Thr Ala His Ala
610 615 620

Asp Glu Lys Glu Ala Leu Met Ser Glu Leu Lys Ile Met Ser His Leu
625 630 635 640

Gly Gln His Glu Asn Ile Val Asn Leu Leu Gly Ala Cys Thr His Gly
645 650 655

Gly Pro Val Leu Val Ile Thr Glu Tyr Cys Cys Tyr Gly Asp Leu Leu
660 665 670

Asn Phe Leu Arg Arg Lys Ala Glu Ala Met Leu Gly Pro Ser Leu Ser
675 680 685

Pro Gly Gln Asp Pro Glu Gly Gly Val Asp Tyr Lys Asn Ile His Leu
690 695 700

Glu Lys Lys Tyr Val Arg Arg Asp Ser Gly Phe Ser Ser Gln Gly Val
705 710 715 720

Asp Thr Tyr Val Glu Met Arg Pro Val Ser Thr Ser Ser Asn Asp Ser
725 730 735

Phe Ser Glu Gln Asp Leu Asp Lys Glu Asp Gly Arg Pro Leu Glu Leu
740 745 750

Arg Asp Leu Leu His Phe Ser Ser Gln Val Ala Gln Gly Met Ala Phe
755 760 765

Leu Ala Ser Lys Asn Cys Ile His Arg Asp Val Ala Ala Arg Asn Val
770 775 780

Leu Leu Thr Asn Gly His Val Ala Lys Ile Gly Asp Phe Gly Leu Ala
785 790 795 800

Arg Asp Ile Met Asn Asp Ser Asn Tyr Ile Val Lys Gly Asn Ala Arg
805 810 815

Leu Pro Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asp Cys Val Tyr
820 825 830

Thr Val Gln Ser Asp Val Trp Ser Tyr Gly Ile Leu Leu Trp Glu Ile
835 840 845

Phe Ser Leu Gly Leu Asn Pro Tyr Pro Gly Ile Leu Val Asn Ser Lys
850 855 860

Phe Tyr Lys Leu Val Lys Asp Gly Tyr Gln Met Ala Gln Pro Ala Phe
865 870 875 880

Ala Pro Lys Asn Ile Tyr Ser Ile Met Gln Ala Cys Trp Ala Leu Glu
885 890 895

Pro Thr His Arg Pro Thr Phe Gln Gln Ile Cys Ser Phe Leu Gln Glu
900 905 910

Gln Ala Gln Glu Asp Arg Arg Glu Arg Asp Tyr Thr Asn Leu Pro Ser
915 920 925

Ser Ser Arg Ser Gly Gly Ser Gly Ser Ser Ser Ser Glu Leu Glu Glu
930 935 940

Glu Ser Ser Ser Glu His Leu Thr Cys Cys Glu Gln Gly Asp Ile Ala
945 950 955 960

Gln Pro Leu Leu Gln Pro Asn Asn Tyr Gln Phe Cys
965 970

<210> 366
<211> 976
<212> PRT
<213> *Macaca fascicularis*

<400> 366

Met Gly Pro Gly Val Leu Leu Leu Leu Leu Val Val Thr Ala Trp His
1 5 10 15

Gly Gln Gly Ile Pro Val Ile Glu Pro Ser Gly Pro Glu Leu Val Val
20 25 30

Lys Pro Gly Glu Thr Val Thr Leu Arg Cys Val Gly Asn Gly Ser Val

35

40

45

Glu Trp Asp Gly Pro Ile Ser Pro His Trp Thr Leu Tyr Ser Asp Gly
 50 55 60

Pro Ser Ser Val Leu Thr Thr Asn Asn Ala Thr Phe Gln Asn Thr Arg
 65 70 75 80

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

Ile His Leu Tyr Val Lys Asp Pro Ala Arg Pro Trp Asn Val Leu Ala
 100 105 110

Lys Glu Val Val Val Phe Glu Asp Gln Asp Ala Leu Leu Pro Cys Leu
 115 120 125

Leu Thr Asp Pro Val Leu Glu Ala Gly Val Ser Leu Val Arg Leu Arg
 130 135 140

Gly Arg Pro Leu Leu Arg His Thr Asn Tyr Ser Phe Ser Pro Trp His
 145 150 155 160

Gly Phe Ile Ile His Arg Ala Lys Phe Ile Gln Gly Gln Asp Tyr Gln
 165 170 175

Cys Ser Ala Leu Met Gly Gly Arg Lys Val Met Ser Ile Ser Ile Arg
 180 185 190

Leu Lys Val Gln Lys Val Ile Pro Gly Pro Pro Ala Leu Thr Leu Val
 195 200 205

Pro Ala Glu Leu Val Arg Ile Arg Gly Glu Ala Ala Gln Ile Val Cys
 210 215 220

Ser Ala Ser Asn Ile Asp Val Asp Phe Asp Val Phe Leu Gln His Asn
 225 230 235 240

Thr Thr Lys Leu Ala Ile Pro Gln Arg Ser Asp Phe His Asp Asn Arg
 245 250 255

Tyr Gln Lys Val Leu Thr Leu Ser Leu Gly Gln Val Asp Phe Gln His
260 265 270

Ala Gly Asn Tyr Ser Cys Val Ala Ser Asn Val Gln Gly Lys His Ser
275 280 285

Thr Ser Met Phe Phe Arg Val Val Glu Ser Ala Tyr Leu Asp Leu Ser
290 295 300

Ser Glu Gln Asn Leu Ile Gln Glu Val Thr Val Gly Glu Gly Leu Asn
305 310 315 320

Leu Lys Val Met Val Glu Ala Tyr Pro Gly Leu Gln Gly Phe Asn Trp
325 330 335

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

Asn Ala Thr Thr Lys Asp Thr Tyr Arg His Thr Phe Thr Leu Ser Leu
355 360 365

Pro Arg Leu Lys Pro Ser Glu Ala Gly Arg Tyr Ser Phe Leu Ala Arg
370 375 380

Asn Pro Gly Gly Trp Arg Ala Leu Thr Phe Glu Leu Thr Leu Arg Tyr
385 390 395 400

Pro Pro Glu Val Ser Val Ile Trp Thr Ser Ile Asn Gly Ser Gly Thr
405 410 415

Leu Leu Cys Ala Ala Ser Gly Tyr Pro Gln Pro Asn Val Thr Trp Leu
420 425 430

Gln Cys Ala Gly His Thr Asp Arg Cys Asp Glu Ala Gln Val Leu Gln
435 440 445

Val Trp Val Asp Pro His Pro Glu Val Leu Ser Gln Glu Pro Phe Gln
450 455 460

Lys Val Thr Val Gln Ser Leu Leu Thr Ala Glu Thr Leu Glu His Asn

465		470		475		480
Gln Thr Tyr Glu Cys Arg Ala His Asn Ser Val Gly Ser Gly Ser Trp						
		485		490		495
Ala Phe Ile Pro Ile Ser Ala Gly Ala Arg Thr His Pro Pro Asp Glu						
		500		505		510
Phe Leu Phe Thr Pro Val Val Val Ala Cys Met Ser Val Met Ala Leu						
		515		520		525
Leu Leu Leu Leu Leu Leu Leu Leu Leu Tyr Lys Tyr Lys Gln Lys Pro						
		530		535		540
Lys Tyr Gln Val Arg Trp Lys Ile Ile Glu Ser Tyr Glu Gly Asn Ser						
545				550		555
						560
Tyr Thr Phe Ile Asp Pro Thr Gln Leu Pro Tyr Asn Glu Lys Trp Glu						
		565		570		575
Phe Pro Arg Asn Asn Leu Gln Phe Gly Lys Thr Leu Gly Ala Gly Ala						
		580		585		590
Phe Gly Lys Val Val Glu Ala Thr Ala Phe Gly Leu Gly Lys Glu Asp						
		595		600		605
Ala Val Leu Lys Val Ala Val Lys Met Leu Lys Ser Thr Ala His Ala						
		610		615		620
Asp Glu Lys Glu Ala Leu Met Ser Glu Leu Lys Ile Met Ser His Leu						
625				630		635
						640
Gly Gln His Glu Asn Ile Val Asn Leu Leu Gly Ala Cys Thr His Gly						
		645		650		655
Gly Pro Val Leu Val Ile Thr Glu Tyr Cys Cys Tyr Gly Asp Leu Leu						
		660		665		670
Asn Phe Leu Arg Arg Lys Ala Glu Ala Met Leu Gly Pro Ser Leu Ser						
		675		680		685

Pro Gly Gln Asp Pro Glu Gly Gly Ala Asp Tyr Lys Asn Ile His Leu
690 695 700

Glu Lys Lys Tyr Val Arg Arg Asp Ser Gly Phe Ser Ser Gln Gly Val
705 710 715 720

Asp Thr Tyr Val Glu Met Arg Pro Val Ser Thr Ser Ser Asn Asp Ser
725 730 735

Phe Ser Glu Gln Asp Leu Asp Lys Glu Asp Gly Arg Pro Leu Glu Leu
740 745 750

Trp Asp Leu Leu His Phe Ser Ser Gln Val Ala Gln Gly Met Ala Phe
755 760 765

Leu Ala Ser Lys Asn Cys Ile His Arg Asp Val Ala Ala Arg Asn Val
770 775 780

Leu Leu Thr Asn Gly His Val Ala Lys Ile Gly Asp Phe Gly Leu Ala
785 790 795 800

Arg Asp Ile Met Asn Asp Ser Asn Tyr Ile Val Lys Gly Asn Ala Arg
805 810 815

Leu Pro Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asp Cys Val Tyr
820 825 830

Thr Val Gln Ser Asp Val Trp Ser Tyr Gly Ile Leu Leu Trp Glu Ile
835 840 845

Phe Ser Leu Gly Leu Asn Pro Tyr Pro Gly Ile Leu Val Asn Ser Lys
850 855 860

Phe Tyr Lys Leu Val Lys Asp Gly Tyr Gln Met Ala Gln Pro Ala Phe
865 870 875 880

Ala Pro Lys Asn Ile Tyr Ser Ile Met Gln Ala Cys Trp Ala Leu Glu
885 890 895

Pro Thr His Arg Pro Thr Phe Gln Gln Ile Cys Ser Leu Leu Gln Glu

900

905

910

Gln Ala Gln Glu Asp Arg Arg Glu Arg Asp Tyr Thr Asn Leu Pro Ser
915 920 925

Ser Ser Arg Ser Gly Gly Ser Gly Ser Gly Ser Ser Ser Ser Ser Ser
930 935 940

Glu Pro Glu Glu Glu Ser Ser Ser Glu His Leu Ala Cys Cys Glu Gln
945 950 955 960

Gly Asp Ile Ala Gln Pro Leu Leu Gln Pro Asn Asn Tyr Gln Phe Cys
965 970 975