

SEQUENCE LISTING

<110> Phanes Therapeutics, Inc.
 <120> Anti-CD73 Antibodies and Uses Thereof
 <130> 689204.10WO
 <150> US62/640,955
 <151> 2018-03-09
 <150> US62/721,044
 <151> 2018-08-22
 <150> US62/786,598
 <151> 2018-12-31
 <160> 299
 <170> PatentIn version 3.5
 <210> 1
 <211> 120
 <212> PRT
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 <220>
 <223> 37C7A Heavy Chain Variable Region
 <400> 1

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

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Thr Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala His Ile Trp Trp Asp Asp Asp Met Tyr Tyr Asn Pro Ala
 50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Phe Leu Lys Ile Ala Asn Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ser Pro Ile Thr Thr Val Val Ala Asp Tyr Trp Gly Gln

100

105

110

Gly Ser Thr Leu Thr Val Ser Ser
 115 120

<210> 2

<211> 112

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<213> Artificial Sequence

<220>

<223> 37C7A Light Chain Variable Region

<400> 2

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

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Asn Leu Val His Ser
 20 25 30

Tyr Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

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

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

Thr His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Gln
 100 105 110

<210> 3

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 38C16A Heavy Chain Variable Region

<400> 3

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala

1	5	10	15
Ser Val Lys Ile Ser Cys Lys Ala Thr Gly Tyr Thr Phe Ser Ser Tyr	20	25	30
Trp Ile Glu Trp Val Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile	35	40	45
Gly Glu Ile Leu Pro Gly Ser Gly Ser Thr Asn Tyr Asn Glu Lys Phe	50	55	60
Lys Gly Lys Ala Thr Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr	65	70	75
Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys	85	90	95
Ala Arg Gly Asp Tyr Phe Gly Ser Ser Tyr Arg Gly Pro Tyr Trp Gly	100	105	110
Gln Gly Thr Leu Val Thr Val Ser Ala	115	120	

<210> 4
 <211> 112
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 <220>
 <223> 38C16A Light Chain Variable Region

 <400> 4

Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly	1	5	10	15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser	20	25	30	
Asp Gly Arg Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser	35	40	45	
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro	50	55	60	

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

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Thr His Phe Pro His Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 5
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8A Heavy Chain Variable Region

<400> 5

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Met Pro Gly Ala
1 5 10 15

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

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

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

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

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

Ala Arg Asn Tyr Tyr Tyr Gly Ser Ser Gly Thr Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 6

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

<220>
<223> 39G8A Light Chain Variable Region

<400> 6

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

Gln Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

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

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

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

His Tyr Ser Thr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 7
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> 43E8A Heavy Chain Variable Region

<400> 7

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

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

20

25

30

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

Gly Glu Ile Leu Pro Gly Asn Val Ile Thr Asn Tyr Asn Glu Lys Phe
 50 55 60

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

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

Ala Arg Arg Gly Asp Asp Gly Tyr Leu Tyr Ala Met Asp Tyr Trp Gly
 100 105 110

Gln Gly Thr Ser Val Thr Val Ser Ser
 115 120

<210> 8

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A Light Chain Variable Region

<400> 8

Asp 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 Arg Ala Ser Glu Ser Val Asp Asn Tyr
 20 25 30

Gly Ile Ser Phe Met Asn Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro
 35 40 45

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

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

Pro Met Glu Glu Asp Asp Thr Ala Met Tyr Phe Cys Gln Gln Ser Lys
85 90 95

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

<210> 9
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A Heavy Chain Variable Region

<400> 9

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

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

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

Gly Glu Ile Tyr Pro Gly Ser Gly Asn Thr Tyr Tyr Asn Glu Lys Phe
50 55 60

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

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

Ala Arg Tyr Trp Asp Tyr Tyr Gly Ser Thr Tyr Gly Tyr Phe Asp Val
100 105 110

Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 10
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A Light Chain Variable Region

<400> 10

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

Glu Thr Ile Thr Ile Asn Cys Arg Ala Ser Lys Asn Ile Ser Lys Tyr
20 25 30

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

Tyr Ser Gly Ser Thr Leu Gln Ser Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Met Tyr Tyr Cys Gln Gln His Asn Glu Tyr Pro Phe
85 90 95

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

<210> 11
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> 46019A Heavy Chain Variable Region

<400> 11

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

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

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

Gly Tyr Ile Asn Pro Asn Asn Gly Gly Thr Ser Tyr Asn Gln Lys Phe

50

55

60

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

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

Ala Arg Asp Tyr Phe Trp Tyr Phe Asp Val Trp Gly Thr Gly Thr Thr
 100 105 110

Val Thr Val Ser Ser
 115

<210> 12

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> 46019A Light Chain Variable Region

<400> 12

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

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30

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

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

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

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

Asp Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
 100 105 110

Lys

<210> 13
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A Heavy Chain Variable Region

<400> 13

Gln	Val	Gln	Leu	Lys	Gln	Ser	Gly	Pro	Gly	Leu	Val	Gln	Pro	Ser	Gln
1				5					10					15	
Ser	Leu	Ser	Ile	Thr	Cys	Thr	Val	Ser	Gly	Phe	Ser	Leu	Thr	Ser	Tyr
			20					25					30		
Gly	Val	His	Trp	Val	Arg	Gln	Ser	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Leu
		35					40					45			
Gly	Val	Ile	Trp	Ser	Gly	Gly	Ser	Thr	Asp	Tyr	Asn	Ala	Ala	Phe	Ile
		50				55					60				
Ser	Arg	Leu	Ser	Ile	Ser	Lys	Asp	Asn	Ser	Lys	Ser	Gln	Val	Phe	Phe
65					70					75					80
Lys	Met	Asn	Ser	Leu	Gln	Ala	Asn	Asp	Thr	Ala	Ile	Tyr	Tyr	Cys	Ala
			85						90					95	
Ser	Gln	Tyr	Val	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser
			100					105					110		

Thr

<210> 14
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A Light Chain Variable Region

<400> 14

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

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

Leu Thr Trp Leu Gln Gln Glu Pro Asp Gly Thr Ile Lys Arg Leu Ile
35 40 45

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

Ser Arg Ser Gly Ser Asp Tyr Ser Leu Thr Ile Ser Ser Leu Glu Ser
65 70 75 80

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

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

<210> 15

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 4905A Heavy Chain Variable Region

<400> 15

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

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

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

Gly Asn Ile Asn Pro Ser Asn Gly Gly Thr Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr

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

Ala	Arg	Ser	Lys	Ser	Asn	Tyr
			100			
					Gly	Tyr
					105	
					Tyr	Ala
					Met	Asp
					Tyr	Trp
						110
					Gly	

Gln	Gly	Thr	Ser	Val	Thr	Val
					Ser	Ser
					120	

<210> 16
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 4905A Light Chain Variable Region

<400> 16

Asp	Ile	Gln	Met	Thr	Gln	Ser
					Ser	Ser
					10	
					Tyr	Leu
					Ser	Val
					Ser	Leu
						15
					Gly	

Gly	Arg	Val	Thr	Ile	Thr	Cys
					Glu	Ala
					25	
					Ser	Asp
					His	Ile
					Asp	Asn
					30	Trp

Leu	Ala	Trp	Tyr	Gln	Gln	Lys
					Pro	Gly
					40	
					Asn	Ala
					Pro	Arg
					Leu	Leu
						Ile

Ser	Gly	Ala	Thr	Ser	Leu	Glu
					55	
					Thr	Gly
					Val	Pro
					Ser	Arg
					Phe	Ser
						Gly

Ser	Gly	Ser	Gly	Lys	Asp	Tyr
					70	
					Thr	Leu
					Ser	Ile
					75	
					Thr	Ser
					Leu	Gln
						80
					Thr	

Glu	Asp	Val	Ala	Thr	Tyr	Tyr
					85	
					Cys	Gln
					Gln	Tyr
					90	
					Trp	Ser
					Ser	Pro
						95
					Phe	

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

<210> 17
 <211> 124
 <212> PRT

<213> Artificial Sequence

<220>

<223> 50B10A Heavy Chain Variable Region

<400> 17

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

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

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

Gly Glu Ile Asn Pro Ser Asn Gly Arg Thr Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Ser Glu Gly Arg Val Tyr Tyr Asp Tyr Phe Tyr Ala Met Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 18

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> 50B10A Light Chain Variable Region

<400> 18

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

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

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
35 40 45

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

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Gln
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 19
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<212> PRT
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<220>
<223> 50H17A Heavy Chain Variable Region

<400> 19

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

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

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

Gly Val Ile Asn Pro Gly Ser Gly Gly Thr Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Asp Tyr Tyr Trp Tyr Phe Asp Val Trp Gly Thr Gly Thr Thr

100

105

110

Val Thr Val Ser Ser
115

<210> 20
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A Light Chain Variable Region

<400> 20

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

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

Gly Asn Gln Lys Asn Tyr Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

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

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

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

Asp Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
100 105 110

Lys

<210> 21
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A Heavy Chain Variable Region

<400> 21

Glu Leu Ala Arg Pro Trp Ala Ser Val Lys Ile Ser Cys Gln Ala Phe
1 5 10 15

Tyr Thr Phe Ser Arg Arg Met His Phe Ala Ile Arg Asp Thr Asn Tyr
20 25 30

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

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

Lys Val Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Ala Thr Tyr Tyr Ser Asn Tyr Gly Gly Ala Met Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 22

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> 50E16A Light Chain Variable Region

<400> 22

Asp Ile Val Met Thr Gln Phe His Lys Phe Met Ser Thr Ser Val Gly
1 5 10 15

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

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

Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly
50 55 60

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

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 23

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> 50F1A Heavy Chain Variable Region

<400> 23

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

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

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

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

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

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Asp Ile Phe Trp Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser
100 105 110

Val Thr Val Ser Ser

<210> 24
 <211> 113
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 50F1A Light Chain Variable Region

<400> 24

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

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
 20 25 30

Gly Asn Gln Lys Asn Tyr Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln
 35 40 45

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

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

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

Asp Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
 100 105 110

Lys

<210> 25
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 54I14A Heavy Chain Variable Region

<400> 25

Gln Ala Tyr Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala

1	5	10	15
Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr	20	25	30
Asn Met His Trp Val Lys Gln Thr Pro Arg Gln Gly Leu Glu Trp Ile	35	40	45
Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe	50	55	60
Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr	65	70	75
Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys	85	90	95
Ala Arg Tyr Asp Tyr Asp Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser	100	105	110
Val Thr Val Ser Ser	115		

<210> 26
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 54I14A Light Chain Variable Region

<400> 26

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly	1	5	10	15
Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Ser Tyr	20	25	30	
Phe Ala Trp Tyr Gln Gln Lys Gln Gly Lys Ser Pro Gln Leu Leu Val	35	40	45	
Tyr Asn Ala Lys Thr Leu Ala Glu Gly Val Pro Ser Arg Phe Ser Gly	50	55	60	

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

Glu Asp Phe Gly Ser Tyr Tyr Cys Gln His His Tyr Gly Thr Pro Phe
85 90 95

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

<210> 27
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A Heavy Chain Variable Region

<400> 27

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

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

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

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

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

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

Ala Gly Ser Ser Tyr Val Asp Tyr Ala Met Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Ser Val Thr Val Ser Ser
115

<210> 28

<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A Light Chain Variable Region

<400> 28

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

Thr Ser Ala Ser Ile Ser Cys Ser Ser Asn Lys Ser Leu Leu His Ser
20 25 30

Asn Asp Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Met
85 90 95

Leu Glu Arg Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 29
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> 53H21A Heavy Chain Variable Region

<400> 29

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

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

Val Met His Trp Val Lys Gln Lys Pro Gly Gln Gly Leu Glu Trp Ile

35

40

45

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

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

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

Ala Arg Trp Gly Asn Trp Asp Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser
 115

<210> 30

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> 53H21A Light Chain Variable Region

<400> 30

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

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30

Tyr Trp Tyr Gln Gln Lys Pro Arg Ser Ser Pro Lys Pro Trp Ile Tyr
 35 40 45

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

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
 65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Trp Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 31
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> 53I12A Heavy Chain Variable Region

<400> 31

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

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

Trp Ile Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Asn Ile Tyr Ala Gly Ser Ser Ser Ser Asn Tyr Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Thr Leu Thr Val Asp Thr Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Ser Gly His Gly Tyr Asp Gly Phe Ala Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ala
115

<210> 32
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> 53I12A Light Chain Variable Region

<400> 32

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

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

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
35 40 45

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

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Lys Leu Pro Arg
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 33

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A Heavy Chain Variable Region

<400> 33

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

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

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

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

Lys Gly Lys Ala Thr Leu Thr Ala Ala Lys Ser Ser Ser Thr Ala Tyr

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

Ala	Arg	Glu	Ala	Ile	Tyr	Tyr	Gly	Asn	Tyr	Val	Phe	Thr	Tyr	Trp	Gly
			100					105					110		

Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ala
			115				120	

<210> 34
 <211> 113
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> 60A9A Light Chain Variable Region

<400> 34

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

Gln	Lys	Val	Thr	Met	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Asn	Ser
			20					25					30		

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

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

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

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

His	Tyr	Ser	Thr	Pro	Leu	Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu
			100					105					110		

Lys

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

<220>
<223> 39J9A Heavy Chain Variable Region

<400> 35

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

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

Leu Ile Glu Trp Ile Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

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

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Arg Gly Asp Tyr Tyr Gly Asn Pro Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 36
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> 39J9A Light Chain Variable Region

<400> 36

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

Glu Thr Val Thr Ile Thr Cys Arg Ala Ser Glu Asn Ile Tyr Tyr Ser
20 25 30

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

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

Ser Gly Ser Gly Thr Gln Tyr Ser Met Lys Ile Asn Ser Met Gln Pro
65 70 75 80

Glu Asp Thr Ala Thr Tyr Phe Cys Lys Gln Ala Tyr Asp Val Pro Leu
85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 37
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> 49H8A Heavy Chain Variable Region

<400> 37

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

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

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

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

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

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Gly Tyr Tyr Gly Tyr Ser Pro Ser Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ala
 115 120

<210> 38

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> 49H8A Light Chain Variable Region

<400> 38

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

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30

Tyr Trp Tyr Gln Gln Lys Pro Arg Ser Ser Pro Lys Pro Trp Ile Tyr
 35 40 45

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

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
 65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Pro Thr
 85 90 95

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

<210> 39

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A Heavy Chain Variable Region

<400> 39

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

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

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

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

Lys Asp Lys Ala Ser Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Ser Tyr Tyr Gly Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser
100 105 110

Val Thr Val Ser Ser
115

<210> 40

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A Light Chain Variable Region

<400> 40

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

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

Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Ser Pro Lys Thr Leu Ile
35 40 45

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

Ser Gly Ser Gly Gln Asp Tyr Ser Leu Thr Ile Ser Ser Leu Glu Tyr
65 70 75 80

Glu Asp Met Gly Ile Tyr Tyr Cys Leu Gln Tyr Asp Glu Phe Pro Leu
85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 41
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 37C7A HC CDR1

<400> 41

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

<210> 42
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 37C7A HC CDR2

<400> 42

Ile Trp Trp Asp Asp Asp Met
1 5

<210> 43
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> 37C7A HC CDR3

<400> 43

Ala Arg Ser Pro Ile Thr Thr Val Val Ala Asp Tyr

1 5 10

<210> 44
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 38C16A HC CDR1

<400> 44

Gly Tyr Thr Phe Ser Ser Tyr Trp
1 5

<210> 45
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 38C16A HC CDR2

<400> 45

Ile Leu Pro Gly Ser Gly Ser Thr
1 5

<210> 46
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> 38C16A HC CDR3

<400> 46

Ala Arg Gly Asp Tyr Phe Gly Ser Ser Tyr Arg Gly Pro Tyr
1 5 10

<210> 47
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8A HC CDR1

<400> 47

Gly Tyr Thr Phe Thr Ser Tyr Trp

1 5

<210> 48
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8A HC CDR2

<400> 48

Ile Asp Pro Ser Gly Gly Tyr Thr
1 5

<210> 49
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8A HC CDR3

<400> 49

Ala Arg Asn Tyr Tyr Tyr Gly Ser Ser Gly Thr Met Asp Tyr
1 5 10

<210> 50
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 43E8A HC CDR1

<400> 50

Gly Tyr Thr Phe Ser Asn Tyr Trp
1 5

<210> 51
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 43E8A HC CDR2

<400> 51

Ile Leu Pro Gly Asn Val Ile Thr

1 5

<210> 52
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> 43E8A HC CDR3

<400> 52

Ala Arg Arg Gly Asp Asp Gly Tyr Leu Tyr Ala Met Asp Tyr
1 5 10

<210> 53
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A HC CDR1

<400> 53

Gly Tyr Thr Phe Thr Asp Tyr Tyr
1 5

<210> 54
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A HC CDR2

<400> 54

Ile Tyr Pro Gly Ser Gly Asn Thr
1 5

<210> 55
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A HC CDR3

<400> 55

Ala Arg Tyr Trp Asp Tyr Tyr Gly Ser Thr Tyr Gly Tyr Phe Asp Val

1 5 10 15

<210> 56
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 46019A HC CDR1

<400> 56

Gly Tyr Thr Phe Thr Asp Tyr Asn
1 5

<210> 57
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 46019A HC CDR2

<400> 57

Ile Asn Pro Asn Asn Gly Gly Thr
1 5

<210> 58
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 46019A HC CDR3

<400> 58

Ala Arg Asp Tyr Phe Trp Tyr Phe Asp Val
1 5 10

<210> 59
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A HC CDR1

<400> 59

Gly Phe Ser Leu Thr Ser Tyr Gly

1 5

<210> 60
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A HC CDR2

<400> 60

Ile Trp Ser Gly Gly Ser Thr
1 5

<210> 61
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A HC CDR3

<400> 61

Ala Ser Gln Tyr Val Ala Tyr
1 5

<210> 62
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 4905A HC CDR1

<400> 62

Gly Tyr Thr Phe Thr Ser Tyr Trp
1 5

<210> 63
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 4905A HC CDR2

<400> 63

Ile Asn Pro Ser Asn Gly Gly Thr

1 5

<210> 64
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> 4905A HC CDR3

<400> 64

Ala Arg Ser Lys Ser Asn Tyr Gly Tyr Tyr Ala Met Asp Tyr
1 5 10

<210> 65
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 50B10A HC CDR1

<400> 65

Gly Tyr Thr Phe Thr Ser Tyr Trp
1 5

<210> 66
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 50B10A HC CDR2

<400> 66

Ile Asn Pro Ser Asn Gly Arg Thr
1 5

<210> 67
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 50B10A HC CDR3

<400> 67

Ala Arg Ser Glu Gly Arg Val Tyr Tyr Asp Tyr Phe Tyr Ala Met Asp

1 5 10 15

Tyr

<210> 68
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A HC CDR1

<400> 68

Gly Tyr Ala Phe Thr Asn Tyr Leu
1 5

<210> 69
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A HC CDR2

<400> 69

Ile Asn Pro Gly Ser Gly Gly Thr
1 5

<210> 70
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A HC CDR3

<400> 70

Ala Arg Asp Tyr Tyr Trp Tyr Phe Asp Val
1 5 10

<210> 71
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A HC CDR1

<400> 71

Ala Ile Arg Asp Thr Asn Tyr Trp
1 5

<210> 72

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 50E16A HC CDR2

<400> 72

Ile Tyr Pro Gly Asn Gly Asp Thr
1 5

<210> 73

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> 50E16A HC CDR3

<400> 73

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

<210> 74

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 50F1A HC CDR1

<400> 74

Gly Tyr Thr Phe Thr Asp Tyr Ser
1 5

<210> 75

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 50F1A HC CDR2

<400> 75

Ile Asn Thr Glu Thr Gly Glu Pro
1 5

<210> 76

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 50F1A HC CDR3

<400> 76

Ala Arg Asp Ile Phe Trp Ala Met Asp Tyr
1 5 10

<210> 77

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 54I14A HC CDR1

<400> 77

Gly Tyr Thr Phe Thr Ser Tyr Asn
1 5

<210> 78

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 54I14A HC CDR2

<400> 78

Ile Tyr Pro Gly Asn Gly Asp Thr
1 5

<210> 79

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 54I14A HC CDR3

<400> 79

Ala Arg Tyr Asp Tyr Asp Ala Met Asp Tyr
1 5 10

<210> 80

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 52K11A HC CDR1

<400> 80

Gly Tyr Ser Phe Thr Gly Tyr Asn
1 5

<210> 81

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 52K11A HC CDR2

<400> 81

Ile Asn Pro Tyr Tyr Gly Ser Thr
1 5

<210> 82

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 52K11A HC CDR3

<400> 82

Ala Gly Ser Ser Tyr Val Asp Tyr Ala Met Asp Tyr
1 5 10

<210> 83

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 53H21A HC CDR1

<400> 83

Gly Tyr Thr Phe Thr Ser Tyr Val
1 5

<210> 84

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 53H21A HC CDR2

<400> 84

Ile Ile Pro Tyr Asn Asp Gly Thr
1 5

<210> 85

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 53H21A HC CDR3

<400> 85

Ala Arg Trp Gly Asn Trp Asp Tyr Phe Asp Tyr
1 5 10

<210> 86

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 53I12A HC CDR1

<400> 86

Gly Tyr Thr Phe Thr Ser Tyr Trp
1 5

<210> 87

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 53I12A HC CDR2

<400> 87

Ile Tyr Ala Gly Ser Ser Ser Ser
1 5

<210> 88

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 53I12A HC CDR3

<400> 88

Ala Arg Ser Gly His Gly Tyr Asp Gly Phe Ala Tyr
1 5 10

<210> 89

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A HC CDR1

<400> 89

Gly Tyr Ala Phe Ser Ser Tyr Trp
1 5

<210> 90

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A HC CDR2

<400> 90

Ile Tyr Pro Gly Asp Gly Asp Thr
1 5

<210> 91

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A HC CDR3

<400> 91

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr
1 5 10

<210> 92

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 39J9A HC CDR1

<400> 92

Gly Tyr Ala Phe Thr Asn Tyr Leu
1 5

<210> 93

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 39J9A HC CDR2

<400> 93

Ile Asn Pro Gly Ser Gly Gly Thr
1 5

<210> 94

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> 39J9A HC CDR3

<400> 94

Ala Arg Arg Gly Asp Tyr Tyr Gly Asn Pro Phe Asp Tyr
1 5 10

<210> 95

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 49H8A HC CDR1

<400> 95

Gly Tyr Thr Phe Thr Asn Tyr Trp
1 5

<210> 96

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 49H8A HC CDR2

<400> 96

Ile Asp Pro Ser Asp Asn Tyr Thr
1 5

<210> 97

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> 49H8A HC CDR3

<400> 97

Ala Arg Gly Tyr Tyr Gly Tyr Ser Pro Ser Trp Phe Ala Tyr
1 5 10

<210> 98

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A HC CDR1

<400> 98

Gly Tyr Ser Phe Thr Gly Tyr Tyr
1 5

<210> 99

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A HC CDR2

<400> 99

Ile Asn Pro Tyr Ser Gly Ala Thr
1 5

<210> 100

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A HC CDR3

<400> 100

Ala Arg Ser Tyr Tyr Gly Ala Met Asp Tyr
1 5 10

<210> 101

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 37C7A LC CDR1

<400> 101

Gln Asn Leu Val His Ser Tyr Gly Asn Thr Tyr
1 5 10

<210> 102

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 37C7A LC CDR2

<400> 102

Lys Val Ser
1

<210> 103

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 37C7A LC CDR3

<400> 103

Ser Gln Asn Thr His Val Pro Trp Thr
1 5

<210> 104

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 38C16A LC CDR1

<400> 104

Gln Ser Leu Leu Asp Ser Asp Gly Arg Thr Tyr
1 5 10

<210> 105

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 38C16A LC CDR2

<400> 105

Leu Val Ser
1

<210> 106

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 38C16A LC CDR3

<400> 106

Trp Gln Gly Thr His Phe Pro His Thr
1 5

<210> 107

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8A LC CDR1

<400> 107

Gln Ser Leu Leu Asn Ser Ser Asn Gln Lys Asn Tyr
1 5 10

<210> 108

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8A LC CDR2

<400> 108

Phe Ala Ser

1

<210> 109

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8A LC CDR3

<400> 109

Gln Gln His Tyr Ser Thr Pro Tyr Thr

1 5

<210> 110

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A LC CDR1

<400> 110

Glu Ser Val Asp Asn Tyr Gly Ile Ser Phe

1 5 10

<210> 111

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A LC CDR2

<400> 111

Ala Ala Ser
1

<210> 112

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A LC CDR3

<400> 112

Gln Gln Ser Lys Glu Val Pro Phe Thr
1 5

<210> 113

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> 46J3A LC CDR1

<400> 113

Lys Asn Ile Ser Lys Tyr
1 5

<210> 114

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 46J3A LC CDR2

<400> 114

Ser Gly Ser
1

<210> 115

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 46J3A LC CDR3

<400> 115

Gln Gln His Asn Glu Tyr Pro Phe Thr
1 5

<210> 116

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 46019A LC CDR1

<400> 116

Gln Ser Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr
1 5 10

<210> 117

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 46019A LC CDR2

<400> 117

Trp Ala Ser
1

<210> 118

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 46019A LC CDR3

<400> 118

Gln Asn Asp Tyr Ser Tyr Pro Leu Thr
1 5

<210> 119

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> 47H24A LC CDR1

<400> 119

Gln Asp Ile Gly Ser Arg
1 5

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<211> 3

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<223> 47H24A LC CDR2

<400> 120

Ala Thr Ser
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<210> 121

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<223> 47H24A LC CDR3

<400> 121

Leu Gln Tyr Ala Ser Ser Pro Phe Thr
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<211> 6

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<223> 4905A LC CDR1

<400> 122

Asp His Ile Asp Asn Trp
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<223> 4905A LC CDR2

<400> 123

Gly Ala Thr
1

<210> 124

<211> 9

<212> PRT

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<400> 124

Gln Gln Tyr Trp Ser Ser Pro Phe Thr
1 5

<210> 125

<211> 6

<212> PRT

<213> Artificial Sequence

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<223> 50B10A LC CDR1

<400> 125

Gln Asp Ile Ser Asn Tyr
1 5

<210> 126

<211> 3

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<223> 50B10A LC CDR2

<400> 126

Tyr Thr Ser
1

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<211> 9

<212> PRT

<213> Artificial Sequence

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<400> 127

Gln Gln Gly Asn Thr Leu Pro Trp Thr
1 5

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<211> 12

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<220>

<223> 50H17A LC CDR1

<400> 128

Gln Ser Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr
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<210> 129

<211> 3

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<220>

<223> 50H17A LC CDR2

<400> 129

Trp Ala Ser
1

<210> 130

<211> 9

<212> PRT

<213> Artificial Sequence

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<400> 130

Gln Asn Asp Tyr Ser Tyr Pro Leu Thr
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<211> 8

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<223> 50E16A LC CDR1

<400> 131

Gln Asp Val Gly Thr Ala Val Ala
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<210> 132

<211> 3

<212> PRT

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<223> 50E16A LC CDR2

<400> 132

Trp Ala Ser
1

<210> 133

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 50E16A LC CDR3

<400> 133

Gln Gln Tyr Ser Ser Tyr Pro Tyr Thr
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<210> 134

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 50F1A LC CDR1

<400> 134

Gln Ser Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr
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<210> 135

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 50F1A LC CDR2

<400> 135

Trp Ala Ser
1

<210> 136

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 50F1A LC CDR3

<400> 136

Gln Asn Asp Tyr Ser Tyr Pro Leu Thr
1 5

<210> 137

<211> 6

<212> PRT

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<220>

<223> 54I14A LC CDR1

<400> 137

Glu Asn Ile Tyr Ser Tyr
1 5

<210> 138

<211> 3

<212> PRT

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<220>

<223> 54I14A LC CDR2

<400> 138

Asn Ala Lys
1

<210> 139

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 54I14A LC CDR3

<400> 139

Gln His His Tyr Gly Thr Pro Phe Thr
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<211> 11

<212> PRT

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<400> 140

Lys Ser Leu Leu His Ser Asn Asp Ile Thr Tyr
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<210> 141

<211> 3

<212> PRT

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<400> 141

Arg Met Ser
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<210> 142

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<220>

<223> 52K11A LC CDR3

<400> 142

Ala Gln Met Leu Glu Arg Pro Trp Thr
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<210> 143

<211> 5

<212> PRT

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<223> 53H21A LC CDR1

<400> 143

Ser Ser Val Ser Tyr
1 5

<210> 144

<211> 3

<212> PRT

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<220>

<223> 53H21A LC CDR2

<400> 144

Leu Thr Ser
1

<210> 145

<211> 9

<212> PRT

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<220>

<223> 53H21A LC CDR3

<400> 145

Gln Gln Trp Ser Ser Asn Pro Trp Thr
1 5

<210> 146

<211> 6

<212> PRT

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<220>

<223> 53I12A LC CDR1

<400> 146

Gln Gly Ile Ser Asn Tyr
1 5

<210> 147

<211> 3

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<223> 53I12A LC CDR2

<400> 147

Tyr Thr Ser
1

<210> 148

<211> 9

<212> PRT

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<220>

<223> 53I12A LC CDR3

<400> 148

Gln Gln Tyr Ser Lys Leu Pro Arg Thr
1 5

<210> 149

<211> 12

<212> PRT

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<220>

<223> 60A9A LC CDR1

<400> 149

Gln Ser Leu Leu Asn Ser Ser Asn Gln Lys Asn Tyr
1 5 10

<210> 150

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A LC CDR2

<400> 150

Phe Ala Ser
1

<210> 151

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A LC CDR3

<400> 151

Gln Gln His Tyr Ser Thr Pro Leu Thr
1 5

<210> 152

<211> 6

<212> PRT

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<220>

<223> 39J9A LC CDR1

<400> 152

Glu Asn Ile Tyr Tyr Ser
1 5

<210> 153

<211> 3

<212> PRT

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<220>

<223> 39J9A LC CDR2

<400> 153

Asn Ala Asp
1

<210> 154

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 39J9A LC CDR3

<400> 154

Lys Gln Ala Tyr Asp Val Pro Leu Thr
1 5

<210> 155

<211> 5

<212> PRT

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<220>

<223> 49H8A LC CDR1

<400> 155

Ser Ser Val Ser Tyr
1 5

<210> 156

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 49H8A LC CDR2

<400> 156

Leu Thr Ser
1

<210> 157

<211> 9

<212> PRT

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<220>

<223> 49H8A LC CDR3

<400> 157

Gln Gln Trp Ser Ser Asn Pro Pro Thr
1 5

<210> 158

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A LC CDR1

<400> 158

Gln Asp Ile Asn Ser Tyr
1 5

<210> 159

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A LC CDR2

<400> 159

Arg Ala Asn
1

<210> 160

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 51B10A LC CDR3

<400> 160

Leu Gln Tyr Asp Glu Phe Pro Leu Thr
1 5

<210> 161

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 37C7A HC CDR1

<400> 161

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Thr
1 5 10

<210> 162

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> 37C7A HC CDR2

<400> 162

His Ile Trp Trp Asp Asp Asp Met Tyr Tyr Asn Pro Ala Leu Lys Ser
1 5 10 15

<210> 163

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 37C7A HC CDR3

<400> 163

Ala	Arg	Ser	Pro	Ile	Thr	Thr	Val	Val	Ala	Asp	Tyr
1				5					10		

<210> 164

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 38C16A HC CDR1

<400> 164

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

<210> 165

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 38C16A HC CDR2

<400> 165

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

Gly

<210> 166

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> 38C16A HC CDR3

<400> 166

Ala	Arg	Gly	Asp	Tyr	Phe	Gly	Ser	Ser	Tyr	Arg	Gly	Pro	Tyr
1				5					10				

<210> 167

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8A HC CDR1

<400> 167

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

<210> 168

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8A HC CDR2

<400> 168

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

Gly

<210> 169

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8A HC CDR3

<400> 169

Ala Arg Asn Tyr Tyr Tyr Gly Ser Ser Gly Thr Met Asp Tyr
1 5 10

<210> 170

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A HC CDR1

<400> 170

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

<210> 171
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 43E8A HC CDR2

<400> 171

Glu	Ile	Leu	Pro	Gly	Asn	Val	Ile	Thr	Asn	Tyr	Asn	Glu	Lys	Phe	Lys
1				5					10					15	

Gly

<210> 172
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> 43E8A HC CDR3

<400> 172

Ala	Arg	Arg	Gly	Asp	Asp	Gly	Tyr	Leu	Tyr	Ala	Met	Asp	Tyr
1				5					10				

<210> 173
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A HC CDR1

<400> 173

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

<210> 174
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A HC CDR2

<400> 174

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

Gly

<210> 175
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> 46J3A HC CDR3

<400> 175

Ala Arg Tyr Trp Asp Tyr Tyr Gly Ser Thr Tyr Gly Tyr Phe Asp Val
1 5 10 15

<210> 176
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 46O19A HC CDR1

<400> 176

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

<210> 177
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 46O19A HC CDR2

<400> 177

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

Gly

<210> 178

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

<220>
<223> 46019A HC CDR3

<400> 178

Ala Arg Asp Tyr Phe Trp Tyr Phe Asp Val
1 5 10

<210> 179
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A HC CDR1

<400> 179

Gly Phe Ser Leu Thr Ser Tyr Gly Val His
1 5 10

<210> 180
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A HC CDR2

<400> 180

Val Ile Trp Ser Gly Gly Ser Thr Asp Tyr Asn Ala Ala Phe Ile Ser
1 5 10 15

Arg

<210> 181
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 47H24A HC CDR3

<400> 181

Ala Ser Gln Tyr Val Ala Tyr

1 5

<210> 182
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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<400> 182

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

<210> 183
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 4905A HC CDR2

<400> 183

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

Ser

<210> 184
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> 4905A HC CDR3

<400> 184

Ala Arg Ser Lys Ser Asn Tyr Gly Tyr Tyr Ala Met Asp Tyr
1 5 10

<210> 185
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 50B10A HC CDR1

<400> 185

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

<210> 186

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 50B10A HC CDR2

<400> 186

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

Ser

<210> 187

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 50B10A HC CDR3

<400> 187

Ala Arg Ser Glu Gly Arg Val Tyr Tyr Asp Tyr Phe Tyr Ala Met Asp
1 5 10 15

Tyr

<210> 188

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 50H17A HC CDR1

<400> 188

Gly Tyr Ala Phe Thr Asn Tyr Leu Ile Glu
1 5 10

<210> 189
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A HC CDR2

<400> 189

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

Gly

<210> 190
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A HC CDR3

<400> 190

Ala	Arg	Asp	Tyr	Tyr	Trp	Tyr	Phe	Asp	Val
1				5					10

<210> 191
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A HC CDR1

<400> 191

Ala	Ile	Arg	Asp	Thr	Asn	Tyr	Trp	Met	Gln
1				5					10

<210> 192
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A HC CDR2

<400> 192

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

Val

<210> 193
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A HC CDR3

<400> 193

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

<210> 194
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 50F1A HC CDR1

<400> 194

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

<210> 195
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 50F1A HC CDR2

<400> 195

Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 196

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

<220>
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<400> 196

Ala Arg Asp Ile Phe Trp Ala Met Asp Tyr
1 5 10

<210> 197
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 54I14A HC CDR1

<400> 197

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

<210> 198
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 54I14A HC CDR2

<400> 198

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

Gly

<210> 199
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 54I14A HC CDR3

<400> 199

Ala Arg Tyr Asp Tyr Asp Ala Met Asp Tyr

1 5 10

<210> 200
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A HC CDR1

<400> 200

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

<210> 201
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A HC CDR2

<400> 201

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

Gly

<210> 202
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A HC CDR3

<400> 202

Ala Gly Ser Ser Tyr Val Asp Tyr Ala Met Asp Tyr
1 5 10

<210> 203
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 53H21A HC CDR1

<400> 203

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

<210> 204

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 53H21A HC CDR2

<400> 204

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

Gly

<210> 205

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 53H21A HC CDR3

<400> 205

Ala	Arg	Trp	Gly	Asn	Trp	Asp	Tyr	Phe	Asp	Tyr
1				5					10	

<210> 206

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 53I12A HC CDR1

<400> 206

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

<210> 207

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 53I12A HC CDR2

<400> 207

Asn	Ile	Tyr	Ala	Gly	Ser	Ser	Ser	Ser	Asn	Tyr	Asn	Glu	Lys	Phe	Lys
1				5					10					15	

Ser

<210> 208

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 53I12A HC CDR3

<400> 208

Ala	Arg	Ser	Gly	His	Gly	Tyr	Asp	Gly	Phe	Ala	Tyr
1				5					10		

<210> 209

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A HC CDR1

<400> 209

Gly	Tyr	Ala	Phe	Ser	Ser	Tyr	Trp	Met	Asn
1				5					10

<210> 210

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9A HC CDR2

<400> 210

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

Gly

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

<220>
<223> 60A9A HC CDR3

<400> 211

Ala	Arg	Glu	Ala	Ile	Tyr	Tyr	Gly	Asn	Tyr	Val	Phe	Thr	Tyr
1				5				10					

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

<220>
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<400> 212

Gly	Tyr	Ala	Phe	Thr	Asn	Tyr	Leu	Ile	Glu
1				5				10	

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

<220>
<223> 39J9A HC CDR2

<400> 213

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

Gly

<210> 214
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> 39J9A HC CDR3

<400> 214

Ala Arg Arg Gly Asp Tyr Tyr Gly Asn Pro Phe Asp Tyr
1 5 10

<210> 215
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 49H8A HC CDR1

<400> 215

Gly Tyr Thr Phe Thr Asn Tyr Trp Met Gln
1 5 10

<210> 216
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 49H8A HC CDR2

<400> 216

Glu Ile Asp Pro Ser Asp Asn Tyr Thr His Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 217
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> 49H8A HC CDR3

<400> 217

Ala Arg Gly Tyr Tyr Gly Tyr Ser Pro Ser Trp Phe Ala Tyr
1 5 10

<210> 218

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

<220>
<223> 51B10A HC CDR1

<400> 218

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

<210> 219
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 51B10A HC CDR2

<400> 219

Arg Ile Asn Pro Tyr Ser Gly Ala Thr Asn Ser Asn Gln Asn Phe Lys
1 5 10 15

Asp

<210> 220
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 51B10A HC CDR3

<400> 220

Ala Arg Ser Tyr Tyr Gly Ala Met Asp Tyr
1 5 10

<210> 221
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> 37C7A LC CDR1

<400> 221

Arg Ser Ser Gln Asn Leu Val His Ser Tyr Gly Asn Thr Tyr Leu His

1 5 10 15

<210> 222
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 37C7A LC CDR2

<400> 222

Lys Val Ser Asn Arg Phe Ser
1 5

<210> 223
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 37C7A LC CDR3

<400> 223

Ser Gln Asn Thr His Val Pro Trp Thr
1 5

<210> 224
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> 38C16A LC CDR1

<400> 224

Lys Ser Ser Gln Ser Leu Leu Asp Ser Asp Gly Arg Thr Tyr Leu Asn
1 5 10 15

<210> 225
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 38C16A LC CDR2

<400> 225

Leu Val Ser Lys Leu Asp Ser

1 5

<210> 226
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 38C16A LC CDR3

<400> 226

Trp Gln Gly Thr His Phe Pro His Thr
1 5

<210> 227
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8A LC CDR1

<400> 227

Lys Ser Ser Gln Ser Leu Leu Asn Ser Ser Asn Gln Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 228
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8A LC CDR2

<400> 228

Phe Ala Ser Thr Arg Glu Ser
1 5

<210> 229
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8A LC CDR3

<400> 229

Gln Gln His Tyr Ser Thr Pro Tyr Thr
1 5

<210> 230

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A LC CDR1

<400> 230

Arg Ala Ser Glu Ser Val Asp Asn Tyr Gly Ile Ser Phe Met Asn
1 5 10 15

<210> 231

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A LC CDR2

<400> 231

Ala Ala Ser Asn Gln Gly Ser
1 5

<210> 232

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 43E8A LC CDR3

<400> 232

Gln Gln Ser Lys Glu Val Pro Phe Thr
1 5

<210> 233

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 46J3A LC CDR1

<400> 233

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

<210> 234

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> 46J3A LC CDR2

<400> 234

Ser Gly Ser Thr Leu Gln Ser
1 5

<210> 235

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 46J3A LC CDR3

<400> 235

Gln Gln His Asn Glu Tyr Pro Phe Thr
1 5

<210> 236

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 46019A LC CDR1

<400> 236

Lys Ser Ser Gln Ser Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr Leu
1 5 10 15

Thr

<210> 237

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> 46019A LC CDR2

<400> 237

Trp Ala Ser Thr Arg Glu Ser
1 5

<210> 238

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 46019A LC CDR3

<400> 238

Gln Asn Asp Tyr Ser Tyr Pro Leu Thr
1 5

<210> 239

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 47H24A LC CDR1

<400> 239

Arg Ala Ser Gln Asp Ile Gly Ser Arg Leu Thr
1 5 10

<210> 240

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> 47H24A LC CDR2

<400> 240

Ala Thr Ser Ser Leu Asp Ser
1 5

<210> 241

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 47H24A LC CDR3

<400> 241

Leu Gln Tyr Ala Ser Ser Pro Phe Thr
1 5

<210> 242

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 4905A LC CDR1

<400> 242

Glu Ala Ser Asp His Ile Asp Asn Trp Leu Ala
1 5 10

<210> 243

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> 4905A LC CDR2

<400> 243

Gly Ala Thr Ser Leu Glu Thr
1 5

<210> 244

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 4905A LC CDR3

<400> 244

Gln Gln Tyr Trp Ser Ser Pro Phe Thr
1 5

<210> 245

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> 50B10A LC CDR1

<400> 245

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

<210> 246

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> 50B10A LC CDR2

<400> 246

Tyr Thr Ser Arg Leu His Ser
1 5

<210> 247

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> 50B10A LC CDR3

<400> 247

Gln Gln Gly Asn Thr Leu Pro Trp Thr
1 5

<210> 248

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> 50H17A LC CDR1

<400> 248

Lys Ser Ser Gln Ser Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr Leu
1 5 10 15

Thr

<210> 249
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A LC CDR2

<400> 249

Trp Ala Ser Thr Arg Glu Ser
1 5

<210> 250
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 50H17A LC CDR3

<400> 250

Gln Asn Asp Tyr Ser Tyr Pro Leu Thr
1 5

<210> 251
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A LC CDR1

<400> 251

Lys Ala Ser Gln Asp Val Gly Thr Ala Val Ala
1 5 10

<210> 252
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A LC CDR2

<400> 252

Trp Ala Ser Thr Arg His Thr
1 5

<210> 253
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 50E16A LC CDR3

<400> 253

Gln Gln Tyr Ser Ser Tyr Pro Tyr Thr
1 5

<210> 254
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 50F1A LC CDR1

<400> 254

Lys Ser Ser Gln Ser Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr Leu
1 5 10 15

Thr

<210> 255
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 50F1A LC CDR2

<400> 255

Trp Ala Ser Thr Arg Glu Ser
1 5

<210> 256
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 50F1A LC CDR3

<400> 256

Gln Asn Asp Tyr Ser Tyr Pro Leu Thr
1 5

<210> 257
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> 54I14A LC CDR1

<400> 257

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

<210> 258
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 54I14A LC CDR2

<400> 258

Asn Ala Lys Thr Leu Ala Glu
1 5

<210> 259
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 54I14A LC CDR3

<400> 259

Gln His His Tyr Gly Thr Pro Phe Thr
1 5

<210> 260
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A LC CDR1

<400> 260

Ser Ser Asn Lys Ser Leu Leu His Ser Asn Asp Ile Thr Tyr Leu Tyr
1 5 10 15

<210> 261
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A LC CDR2

<400> 261

Arg Met Ser Asn Leu Ala Ser
1 5

<210> 262
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 52K11A LC CDR3

<400> 262

Ala Gln Met Leu Glu Arg Pro Trp Thr
1 5

<210> 263
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 53H21A LC CDR1

<400> 263

Ser Ala Ser Ser Ser Val Ser Tyr Met Tyr
1 5 10

<210> 264
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 53H21A LC CDR2

<400> 264

Leu Thr Ser Asn Leu Ala Ser
1 5

<210> 265
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 53H21A LC CDR3

<400> 265

Gln Gln Trp Ser Ser Asn Pro Trp Thr
1 5

<210> 266
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> 53I12A LC CDR1

<400> 266

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

<210> 267
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 53I12A LC CDR2

<400> 267

Tyr Thr Ser Ser Leu His Ser
1 5

<210> 268
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 53I12A LC CDR3

<400> 268

Gln Gln Tyr Ser Lys Leu Pro Arg Thr
1 5

<210> 269
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> 60A9A LC CDR1

<400> 269

Lys Ser Ser Gln Ser Leu Leu Asn Ser Ser Asn Gln Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 270
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 60A9A LC CDR2

<400> 270

Phe Ala Ser Thr Arg Asp Ser
1 5

<210> 271
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 60A9A LC CDR3

<400> 271

Gln Gln His Tyr Ser Thr Pro Leu Thr
1 5

<210> 272
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> 39J9A LC CDR1

<400> 272

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

<210> 273
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 39J9A LC CDR2

<400> 273

Asn Ala Asp Thr Leu Glu Asp
1 5

<210> 274
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 39J9A LC CDR3

<400> 274

Lys Gln Ala Tyr Asp Val Pro Leu Thr
1 5

<210> 275
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> 49H8A LC CDR1

<400> 275

Ser Ala Ser Ser Ser Val Ser Tyr Met Tyr
1 5 10

<210> 276
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 49H8A LC CDR2

<400> 276

Leu Thr Ser Asn Leu Ala Ser
1 5

<210> 277
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 49H8A LC CDR3

<400> 277

Gln Gln Trp Ser Ser Asn Pro Pro Thr
1 5

<210> 278
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> 51B10A LC CDR1

<400> 278

Lys Ala Ser Gln Asp Ile Asn Ser Tyr Leu Ser
1 5 10

<210> 279
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> 51B10A LC CDR2

<400> 279

Arg Ala Asn Arg Leu Val Asp
1 5

<210> 280
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> 51B10A LC CDR3

<400> 280

Leu Gln Tyr Asp Glu Phe Pro Leu Thr
1 5

<210> 281
<211> 574
<212> PRT
<213> Homo sapiens

<400> 281

Met Cys Pro Arg Ala Ala Arg Ala Pro Ala Thr Leu Leu Leu Ala Leu
1 5 10 15

Gly Ala Val Leu Trp Pro Ala Ala Gly Ala Trp Glu Leu Thr Ile Leu
20 25 30

His Thr Asn Asp Val His Ser Arg Leu Glu Gln Thr Ser Glu Asp Ser
35 40 45

Ser Lys Cys Val Asn Ala Ser Arg Cys Met Gly Gly Val Ala Arg Leu
50 55 60

Phe Thr Lys Val Gln Gln Ile Arg Arg Ala Glu Pro Asn Val Leu Leu
65 70 75 80

Leu Asp Ala Gly Asp Gln Tyr Gln Gly Thr Ile Trp Phe Thr Val Tyr
85 90 95

Lys Gly Ala Glu Val Ala His Phe Met Asn Ala Leu Arg Tyr Asp Ala
100 105 110

Met Ala Leu Gly Asn His Glu Phe Asp Asn Gly Val Glu Gly Leu Ile
115 120 125

Glu Pro Leu Leu Lys Glu Ala Lys Phe Pro Ile Leu Ser Ala Asn Ile
130 135 140

Lys Ala Lys Gly Pro Leu Ala Ser Gln Ile Ser Gly Leu Tyr Leu Pro
145 150 155 160

Tyr Lys Val Leu Pro Val Gly Asp Glu Val Val Gly Ile Val Gly Tyr
165 170 175

Thr Ser Lys Glu Thr Pro Phe Leu Ser Asn Pro Gly Thr Asn Leu Val
180 185 190

Phe Glu Asp Glu Ile Thr Ala Leu Gln Pro Glu Val Asp Lys Leu Lys
195 200 205

Thr Leu Asn Val Asn Lys Ile Ile Ala Leu Gly His Ser Gly Phe Glu
210 215 220

Met Asp Lys Leu Ile Ala Gln Lys Val Arg Gly Val Asp Val Val Val
225 230 235 240

Gly Gly His Ser Asn Thr Phe Leu Tyr Thr Gly Asn Pro Pro Ser Lys
245 250 255

Glu Val Pro Ala Gly Lys Tyr Pro Phe Ile Val Thr Ser Asp Asp Gly
260 265 270

Arg Lys Val Pro Val Val Gln Ala Tyr Ala Phe Gly Lys Tyr Leu Gly
275 280 285

Tyr Leu Lys Ile Glu Phe Asp Glu Arg Gly Asn Val Ile Ser Ser His
290 295 300

Gly Asn Pro Ile Leu Leu Asn Ser Ser Ile Pro Glu Asp Pro Ser Ile
305 310 315 320

Lys Ala Asp Ile Asn Lys Trp Arg Ile Lys Leu Asp Asn Tyr Ser Thr
325 330 335

Gln Glu Leu Gly Lys Thr Ile Val Tyr Leu Asp Gly Ser Ser Gln Ser
340 345 350

Cys Arg Phe Arg Glu Cys Asn Met Gly Asn Leu Ile Cys Asp Ala Met
355 360 365

Ile Asn Asn Asn Leu Arg His Thr Asp Glu Met Phe Trp Asn His Val
370 375 380

Ser Met Cys Ile Leu Asn Gly Gly Gly Ile Arg Ser Pro Ile Asp Glu
385 390 395 400

Arg Asn Asn Gly Thr Ile Thr Trp Glu Asn Leu Ala Ala Val Leu Pro
405 410 415

Phe Gly Gly Thr Phe Asp Leu Val Gln Leu Lys Gly Ser Thr Leu Lys
420 425 430

Lys Ala Phe Glu His Ser Val His Arg Tyr Gly Gln Ser Thr Gly Glu
435 440 445

Phe Leu Gln Val Gly Gly Ile His Val Val Tyr Asp Leu Ser Arg Lys
450 455 460

Pro Gly Asp Arg Val Val Lys Leu Asp Val Leu Cys Thr Lys Cys Arg
465 470 475 480

Val Pro Ser Tyr Asp Pro Leu Lys Met Asp Glu Val Tyr Lys Val Ile
485 490 495

Leu Pro Asn Phe Leu Ala Asn Gly Gly Asp Gly Phe Gln Met Ile Lys
500 505 510

Asp Glu Leu Leu Arg His Asp Ser Gly Asp Gln Asp Ile Asn Val Val
515 520 525

Ser Thr Tyr Ile Ser Lys Met Lys Val Ile Tyr Pro Ala Val Glu Gly
530 535 540

Arg Ile Lys Phe Ser Thr Gly Ser His Cys His Gly Ser Phe Ser Leu
545 550 555 560

Ile Phe Leu Ser Leu Trp Ala Val Ile Phe Val Leu Tyr Gln
565 570

<210> 282

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H1 Heavy Chain Variable Region

<400> 282

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

Ser Leu Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Tyr
20 25 30

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

Gly Gln Ile Tyr Pro Gly Asp Gly Asp Thr Tyr Tyr Asn Pro Ser Val
50 55 60

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

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

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 283

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H2 Heavy Chain Variable Region

<400> 283

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

Ser Leu Arg Leu Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Tyr
20 25 30

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

Gly Gln Ile Tyr Pro Gly Asp Gly Asp Thr Tyr Tyr Asn Pro Ser Val
50 55 60

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

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

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 284

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H3 Heavy Chain Variable Region

<400> 284

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

Ser Leu Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Tyr
20 25 30

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

Gly Gln Ile Tyr Pro Gly Asp Gly Asp Thr Tyr Tyr Asn Pro Ser Val
50 55 60

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

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

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 285

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H4 Heavy Chain Variable Region

<400> 285

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

Ser Leu Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Tyr
20 25 30

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

Gly Gln Ile Tyr Pro Gly Asp Gly Asp Thr Tyr Tyr Ser Gly Ser Val
50 55 60

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

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

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 286

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H5 Heavy Chain Variable Region

<400> 286

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

Ser Leu Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Tyr
20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

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

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

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

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 287

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8-H1 Heavy Chain Variable Region

<400> 287

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

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

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

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

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

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

Ala Arg Asn Tyr Tyr Tyr Gly Ser Ser Gly Thr Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 288

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8-H2 Heavy Chain Variable Region

<400> 288

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

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

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

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

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

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

Ala Arg Asn Tyr Tyr Tyr Gly Ser Ser Gly Thr Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 289

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 39G8-H3 Heavy Chain Variable Region

<400> 289

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

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

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

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

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

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

Ala Arg Asn Tyr Tyr Tyr Gly Ser Ser Gly Thr Met Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 290

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-L1 Light Chain Variable Region

<400> 290

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

Asp Arg Val Thr Ile Thr Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

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

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

Ile Ser Ser Leu Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
85 90 95

His Tyr Ser Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 291

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-L2 Light Chain Variable Region

<400> 291

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

Asp Arg Val Thr Ile Thr Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

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

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

Ile Ser Ser Leu Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
85 90 95

His Tyr Ser Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 292
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> 60A9-L3 Light Chain Variable Region

<400> 292

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

Asp Arg Val Thr Ile Thr Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

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

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

Ile Ser Ser Leu Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
85 90 95

His Tyr Ser Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 293
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> 60A9-L4 Light Chain Variable Region

<400> 293

Asp	Ile	Val	Met	Thr	Gln	Ser	Pro	Ser	Leu	Leu	Ser	Ala	Ser	Leu	Gly
1				5					10					15	
Asp	Arg	Val	Thr	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Asn	Ser
			20					25						30	
Ser	Asn	Gln	Lys	Asn	Tyr	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln
			35				40					45			
Ser	Pro	Lys	Leu	Leu	Val	Tyr	Phe	Ala	Ser	Thr	Arg	Asp	Ser	Gly	Val
						55					60				
Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Thr
65					70					75				80	
Ile	Ser	Ser	Leu	Glu	Pro	Glu	Asp	Phe	Ala	Thr	Tyr	Phe	Cys	Gln	Gln
				85					90					95	
His	Tyr	Ser	Thr	Pro	Leu	Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Ile
				100				105					110		

Lys

<210> 294
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> 39G8-L3 Light Chain Variable Region

<400> 294

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

Glu Arg Ala Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

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

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

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

His Tyr Ser Thr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
100 105 110

Lys

<210> 295

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H6 Heavy Chain Variable Region

<400> 295

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

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

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

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

Gln Gly Arg Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 296

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H7 Heavy Chain Variable Region

<400> 296

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

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

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

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

Gln Gly Arg Ala Thr Leu 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 Phe Cys
85 90 95

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 297

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H8 Heavy Chain Variable Region

<400> 297

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

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

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

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

Gln Gly Arg Ala Thr Leu 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 Phe Cys
85 90 95

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 298

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-H9 Heavy Chain Variable Region

<400> 298

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

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

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

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

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

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

Ala Arg Glu Ala Ile Tyr Tyr Gly Asn Tyr Val Phe Thr Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 299

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> 60A9-L5 Light Chain Variable Region

<400> 299

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

Glu Arg Ala Thr Leu Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

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

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

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

His Tyr Ser Thr Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Val
100 105 110

Lys