

SEQUENCE LISTING

<110> Mab Discovery GmbH

<120> Agonistic CD40 antibodies

<130> B198-0013EP1

<160> 112

<170> PatentIn version 3.5

<210> 1

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 1

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

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

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

Val	Ser	Cys	Ile	Tyr	Thr	Thr	Ser	Gly	Ser	Thr	Tyr	Tyr	Ala	Ser	Trp
		50				55					60				

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

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

Cys	Ala	Arg	Ser	Ser	Gly	Val	Ser	Tyr	Pro	Ser	Tyr	Phe	His	Leu	Trp
			100					105					110		

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

<210> 2
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 2

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

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

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

Gly Cys Ile Tyr Thr Asn Ser Gly Val Thr Tyr Tyr Ala Asn Trp Ala
50 55 60

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

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

Ala Arg Gly Gly Ala Ile Tyr Asn Asp Tyr Asp Tyr Ala Phe Tyr Tyr
100 105 110

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

<210> 3
<211> 117
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<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 3

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Asn Ser Asn
20 25 30

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

Ala Ser Ile Tyr Ala Gly Gly Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Ile Thr Arg Leu Pro Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 4

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

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<400> 4

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

Ser Leu Arg Leu Ser Cys Ala Val Ser Gly Phe Asp Phe Ser Ser Asn
20 25 30

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

Ser Ser Ile Tyr Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Val Thr Arg Leu Pro Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 5
<211> 117
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<213> Artificial Sequence

<220>
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<400> 5

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Ser Asn
20 25 30

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

Ala Cys Ile Tyr Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Leu Ser Arg Phe Ser Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 6
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 6

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

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

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

Gly Ser Ile Ser Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Tyr Thr Tyr Leu Thr Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 7

<211> 117

<212> PRT

<213> Artificial Sequence

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<223> humanized antibody sequence

<400> 7

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Ser Asn
20 25 30

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

Val Thr Ile Tyr Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Ala Thr Tyr Leu Thr Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 8
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 8

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 Ala Ala Ser Gly Phe Asp Phe Ser Ser Asn
20 25 30

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

Gly Ile Ile Tyr Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Ala Thr Tyr Ile Thr Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 9
<211> 117

<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 9

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Ser Asn
20 25 30

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

Gly Thr Ile Tyr Ala Gly Ser Asn Gly Asn Thr Asp Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Ala Ser Tyr Phe Thr Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 10
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 10

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

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

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

Ala Cys Ile Ala Ala Gly Ser Ser Ile Ile Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Leu Ser Arg Phe Ala Leu Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 11
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 11

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

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

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

Val Ala Cys Tyr Ser Asn Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Ala Asp Tyr Ser Ala Gly Ala Ala Ala Phe Asn Leu
100 105 110

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

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

<220>
<223> humanized antibody sequence

<400> 12

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

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

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

Val Ala Cys Phe Ala Asn Gly Asp Gly Ser Thr Tyr Tyr Ala Ser Trp
50 55 60

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

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

Cys Ala Arg Gly Ala Asp Tyr Ser Gly Gly Ala Ala Ala Phe Asn Leu
100 105 110

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

<210> 13
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
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<400> 13

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

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

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

Val Ala Cys Ile Gly Pro Gly Val Ser Gly Asp Thr Tyr Tyr Ala Ser
50 55 60

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

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

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

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

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

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<223> humanized antibody sequence

<400> 14

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

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

Phe Tyr Val Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Val Gly Cys Phe Ala Asn His Asp Asp Ser Ile Tyr Tyr Ala Gly Trp
50 55 60

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

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

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

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

<210> 15
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
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<400> 15

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

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

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

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

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

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

Ser Ser Tyr Asp Tyr Gly Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 16
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 16

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

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

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

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

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

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

Ile Ser Tyr Asn Ala Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 17

<211> 110

<212> PRT

<213> Artificial Sequence

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<400> 17

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

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

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

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

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

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

Thr Ile Ser Ala Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 18

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 18

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

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

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

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

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

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

Thr Ile Ser Ala Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 19
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 19

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

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

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

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

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

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

Ser Tyr Val Val Ala Phe Gly Gly Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 20
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 20

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

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

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

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

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

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

Ser Tyr Val Ser Thr Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 21
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 21

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

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

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

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

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

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

Thr Tyr Asp Ser Thr Ala Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 22
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 22

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

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

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

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

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

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

Thr Thr Thr Tyr Asp Ser Ser Ala Phe Gly Gln Gly Thr Lys Val Val
100 105 110

Ile Lys

<210> 23
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 23

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

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

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

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

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

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

Ser Thr Asp Gly Thr Ala Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 24
<211> 111
<212> PRT
<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 24

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

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

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

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

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

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

Tyr Val Ser Asn Gly Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 25

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

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<400> 25

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

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

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

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

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

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

Glu Tyr Asn Thr Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 26
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 26

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

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

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

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

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

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

Glu Tyr Asn Ala Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105 110

<210> 27
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 27

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

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

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Thr Tyr Tyr Ser Ser Arg Thr
85 90 95

Tyr Ser Tyr Gly Ser Pro Asn Ala Phe Gly Gln Gly Thr Lys Val Val
100 105 110

Ile Lys

<210> 28
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 28

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

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

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

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

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Arg Asp Ser Ser
85 90 95

Ser Ser Ala Phe Gly Gln Gly Thr Lys Val Val Ile Lys
100 105

<210> 29
<211> 6
<212> PRT
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<220>
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<400> 29

Phe Ser Tyr Trp Ile Cys
1 5

<210> 30
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR

<400> 30

Gly Tyr Trp Met Cys
1 5

<210> 31
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
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<400> 31

Ser Asn Ala Met Ser
1 5

<210> 32
<211> 5
<212> PRT
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<220>
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<400> 32

Ser Asn Ala Met Ser
1 5

<210> 33
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
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<400> 33

Ser Asn Thr Met Cys
1 5

<210> 34
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
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<400> 34

Thr Asn Ala Val Ser
1 5

<210> 35
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
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<400> 35

Ser Asn Ala Met Ser
1 5

<210> 36
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
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<400> 36

Ser Asn Ala Met Ser
1 5

<210> 37
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
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<400> 37

Ser Asn Ala Met Ser
1 5

<210> 38
<211> 5
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<213> Artificial Sequence

<220>
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<400> 38

Thr Asn Ala Met Cys
1 5

<210> 39
<211> 6
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<213> Artificial Sequence

<220>
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<400> 39

Arg Tyr Tyr Tyr Met Cys
1 5

<210> 40
<211> 6
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<400> 40

Arg Tyr Tyr Tyr Ile Cys
1 5

<210> 41

<211> 6

<212> PRT

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<400> 41

Arg Tyr Phe Tyr Met Cys
1 5

<210> 42

<211> 6

<212> PRT

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<400> 42

Arg Tyr Phe Tyr Val Cys
1 5

<210> 43

<211> 17

<212> PRT

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<220>

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<400> 43

Cys Ile Tyr Thr Thr Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys
1 5 10 15

Gly

<210> 44
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<220>
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<400> 44

Cys Ile Tyr Thr Asn Ser Gly Val Thr Tyr Tyr Ala Asn Trp Ala Lys
1 5 10 15

Gly

<210> 45
<211> 18
<212> PRT
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<220>
<223> humanized antibody sequence

<400> 45

Ser Ile Tyr Ala Gly Gly Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala
1 5 10 15

Lys Gly

<210> 46
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 46

Ser Ile Tyr Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala
1 5 10 15

Lys Gly

<210> 47
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 47

Cys Ile Tyr Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala
1 5 10 15

Lys Gly

<210> 48
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 48

Ser Ile Ser Ala Gly Ser Ser Gly Ser Thr Tyr Tyr Ala Ser Trp Ala
1 5 10 15

Lys Gly

<210> 49
<211> 18
<212> PRT
<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 49

Thr	Ile	Tyr	Ala	Gly	Ser	Ser	Gly	Ser	Thr	Tyr	Tyr	Ala	Ser	Trp	Ala
1				5					10					15	

Lys Gly

<210> 50

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 50

Ile	Ile	Tyr	Ala	Gly	Ser	Ser	Gly	Ser	Thr	Tyr	Tyr	Ala	Ser	Trp	Ala
1				5					10					15	

Lys Gly

<210> 51

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 51

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

Lys Gly

<210> 52

<211> 18

<212> PRT
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<220>
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<400> 52

Cys	Ile	Ala	Ala	Gly	Ser	Ser	Ile	Ile	Thr	Tyr	Tyr	Ala	Ser	Trp	Ala
1				5					10					15	

Lys Gly

<210> 53
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 53

Cys	Tyr	Ser	Asn	Gly	Asp	Gly	Ser	Thr	Tyr	Tyr	Ala	Ser	Trp	Ala	Lys
1				5					10					15	

Gly

<210> 54
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
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<400> 54

Cys	Phe	Ala	Asn	Gly	Asp	Gly	Ser	Thr	Tyr	Tyr	Ala	Ser	Trp	Ala	Lys
1				5					10					15	

Gly

<210> 55
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 55

Cys Ile Gly Pro Gly Val Ser Gly Asp Thr Tyr Tyr Ala Ser Trp Ala
1 5 10 15

Lys Gly

<210> 56
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
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<400> 56

Cys Phe Ala Asn His Asp Asp Ser Ile Tyr Tyr Ala Gly Trp Met Asn
1 5 10 15

Gly

<210> 57
<211> 12
<212> PRT
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<220>
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<400> 57

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

<210> 58
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
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<400> 58

Gly Gly Ala Ile Tyr Asn Asp Tyr Asp Tyr Ala Phe Tyr Tyr Ser Leu
1 5 10 15

<210> 59
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 59

Gly Ile Thr Arg Leu Pro Leu
1 5

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

Gly Val Thr Arg Leu Pro Leu
1 5

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

<220>

<223> humanized antibody sequence

<400> 61

Gly Leu Ser Arg Phe Ser Leu
1 5

<210> 62

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 62

Gly Tyr Thr Tyr Leu Thr Leu
1 5

<210> 63

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 63

Gly Ala Thr Tyr Leu Thr Leu
1 5

<210> 64

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 64

Gly Ala Thr Tyr Ile Thr Leu
1 5

<210> 65
<211> 7
<212> PRT
<213> Artificial Sequence

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<400> 65

Gly Ala Ser Tyr Phe Thr Leu
1 5

<210> 66
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 66

Gly Leu Ser Arg Phe Ala Leu
1 5

<210> 67
<211> 13
<212> PRT
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<400> 67

Gly Ala Asp Tyr Ser Ala Gly Ala Ala Ala Phe Asn Leu
1 5 10

<210> 68
<211> 13
<212> PRT
<213> Artificial Sequence

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<223> humanized antibody sequence

<400> 68

Gly Ala Asp Tyr Ser Gly Gly Ala Ala Ala Phe Asn Leu
1 5 10

<210> 69

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 69

Gly Val Asp Tyr Thr Tyr Gly Asp Ala Gly Ala Ala Phe Asn Leu
1 5 10 15

<210> 70

<211> 15

<212> PRT

<213> Artificial Sequence

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<223> humanized antibody sequence

<400> 70

Gly Val Asp Tyr Thr Val Gly Tyr Gly Gly Ala Ala Phe Asn Leu
1 5 10 15

<210> 71

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 71

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

<210> 72

<211> 11

<212> PRT
<213> Artificial Sequence

<220>
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<400> 72

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

<210> 73
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 73

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

<210> 74
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 74

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

<210> 75
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 75

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

<210> 76
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 76

Gln Ala Ser His Ser Ile Ser Ser Thr Tyr Leu Ser
1 5 10

<210> 77
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 77

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

<210> 78
<211> 11
<212> PRT
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<400> 78

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

<210> 79
<211> 13
<212> PRT
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<223> humanized antibody sequence

<400> 79

Gln Ala Ser Glu Ser Val Val Ser Asn Asn Arg Leu Ala
1 5 10

<210> 80

<211> 11

<212> PRT

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<223> humanized antibody sequence

<400> 80

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

<210> 81

<211> 11

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<223> humanized antibody sequence

<400> 81

Gln Ala Ser Glu Ser Ile Gly Asn Ala Leu Val
1 5 10

<210> 82

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 82

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

<210> 83
<211> 11
<212> PRT
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<220>
<223> humanized antibody sequence

<400> 83

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

<210> 84
<211> 11
<212> PRT
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<400> 84

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

<210> 85
<211> 7
<212> PRT
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<220>
<223> humanized antibody sequence

<400> 85

Ser Ala Ser Lys Leu Pro Ser
1 5

<210> 86
<211> 7
<212> PRT
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<220>

<223> humanized antibody sequence

<400> 86

Lys Ala Ser Thr Leu Ala Ser
1 5

<210> 87

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 87

Asp Ala Ser Lys Leu Ala Ser
1 5

<210> 88

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 88

Asp Ala Ser Thr Leu Ala Ser
1 5

<210> 89

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 89

Asp Ala Ser Lys Leu Ala Ser
1 5

<210> 90
<211> 7
<212> PRT
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<220>
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<400> 90

Arg Ala Ser Thr Leu Ala Ser
1 5

<210> 91
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 91

Arg Ala Ser Thr Leu Pro Ser
1 5

<210> 92
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 92

Arg Ala Ser Thr Leu Ala Ser
1 5

<210> 93
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 93

Leu Ala Ser Thr Leu Pro Ser
1 5

<210> 94

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 94

Leu Thr Ser Thr Leu Ala Ser
1 5

<210> 95

<211> 7

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<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 95

Arg Ala Ser Ile Leu Ala Ser
1 5

<210> 96

<211> 7

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<213> Artificial Sequence

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<223> humanized antibody sequence

<400> 96

Arg Ala Ser Thr Leu Ala Ser
1 5

<210> 97

<211> 7

<212> PRT
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<220>
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<400> 97

Arg Ala Ser Ile Leu Ala Ser
1 5

<210> 98
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 98

Arg Ala Thr Thr Leu Ala Ser
1 5

<210> 99
<211> 14
<212> PRT
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<400> 99

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

<210> 100
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<400> 100

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

<210> 101
<211> 12
<212> PRT
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<220>
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<400> 101

Gln Gly Thr Tyr Tyr Gly Ser Thr Thr Ile Ser Ala
1 5 10

<210> 102
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 102

Gln Gly Thr Val Tyr Gly Ser Ser Thr Ile Ser Ala
1 5 10

<210> 103
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> humanized antibody sequence

<400> 103

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

<210> 104
<211> 12
<212> PRT
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<220>

<223> humanized antibody sequence

<400> 104

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

<210> 105

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 105

Gln Gly Tyr Tyr Tyr Ser Gly Thr Thr Tyr Asp Ser Thr Ala
1 5 10

<210> 106

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 106

Gln Gly Tyr Tyr Tyr Ser Thr Thr Thr Thr Tyr Asp Ser Ser Ala
1 5 10 15

<210> 107

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> humanized antibody sequence

<400> 107

Ala Gly Tyr Lys Ser Ser Ser Thr Asp Gly Thr Ala
1 5 10

<210> 108
<211> 13
<212> PRT
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<400> 108

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

<210> 109
<211> 12
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<400> 109

Gln Asp Tyr Tyr Gly Ser Ser Thr Glu Tyr Asn Thr
1 5 10

<210> 110
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<400> 110

Gln Asp Tyr Tyr Gly Ser Ser Thr Glu Tyr Asn Ala
1 5 10

<210> 111
<211> 16
<212> PRT
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<220>

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<400> 111

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

<210> 112

<211> 11

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<223> CDR

<400> 112

Gln	Ser	Tyr	Tyr	Arg	Asp	Ser	Ser	Ser	Ser	Ala
1				5					10	