

SEQUENCE LISTING

<110> Juno Therapeutics, Inc.
Celgene Corporation
Brahmandam, Archana
Thompson, Lucas James
Mortensen, Deborah
Filvaroff, Ellen

<120> PROCESS FOR PRODUCING A T CELL
COMPOSITION

<130> 735042013440

<140> Not Yet Assigned

<141> Concurrently Herewith

<150> US 62/580,435

<151> 2017-11-01

<150> US 62/584,687

<151> 2017-11-10

<150> US 62/699,709

<151> 2018-07-17

<150> US 62/711,494

<151> 2018-07-28

<160> 62

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 12

<212> PRT

<213> Homo sapiens

<220>

<223> Spacer (IgG4hinge) (aa)

<400> 1

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
1 5 10

<210> 2

<211> 36
 <212> DNA
 <213> Homo sapiens

<220>
 <223> Spacer (IgG4hinge) (nt)

<400> 2
 gaatctaagt acggaccgcc ctgccccct tgccct

36

<210> 3
 <211> 119
 <212> PRT
 <213> Homo sapiens

<220>
 <223> Hinge-CH3 spacer

<400> 3
 Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Gly Gln Pro Arg
 1 5 10 15
 Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
 20 25 30
 Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
 35 40 45
 Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
 50 55 60
 Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
 65 70 75 80
 Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
 85 90 95
 Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
 100 105 110
 Leu Ser Leu Ser Leu Gly Lys
 115

<210> 4
 <211> 229
 <212> PRT
 <213> Homo sapiens

<220>
 <223> Hinge-CH2-CH3 spacer

<400> 4
 Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
 1 5 10 15

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Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 20 25 30
 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 35 40 45
 Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 50 55 60
 Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 65 70 75 80
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 85 90 95
 Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
 100 105 110
 Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 115 120 125
 Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
 130 135 140
 Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 145 150 155 160
 Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 165 170 175
 Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
 180 185 190
 Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
 195 200 205
 Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 210 215 220
 Leu Ser Leu Gly Lys
 225

<210> 5

<211> 282

<212> PRT

<213> Homo sapiens

<220>

<223> IgD-hinge-Fc

<400> 5

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

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```

65          70          75          80
Asp Leu Trp Leu Arg Asp Lys Ala Thr Phe Thr Cys Phe Val Val Gly
          85          90          95
Ser Asp Leu Lys Asp Ala His Leu Thr Trp Glu Val Ala Gly Lys Val
          100          105          110
Pro Thr Gly Gly Val Glu Glu Gly Leu Leu Glu Arg His Ser Asn Gly
          115          120          125
Ser Gln Ser Gln His Ser Arg Leu Thr Leu Pro Arg Ser Leu Trp Asn
          130          135          140
Ala Gly Thr Ser Val Thr Cys Thr Leu Asn His Pro Ser Leu Pro Pro
145          150          155          160
Gln Arg Leu Met Ala Leu Arg Glu Pro Ala Ala Gln Ala Pro Val Lys
          165          170          175
Leu Ser Leu Asn Leu Leu Ala Ser Ser Asp Pro Pro Glu Ala Ala Ser
          180          185          190
Trp Leu Leu Cys Glu Val Ser Gly Phe Ser Pro Pro Asn Ile Leu Leu
          195          200          205
Met Trp Leu Glu Asp Gln Arg Glu Val Asn Thr Ser Gly Phe Ala Pro
          210          215          220
Ala Arg Pro Pro Pro Gln Pro Gly Ser Thr Thr Phe Trp Ala Trp Ser
225          230          235          240
Val Leu Arg Val Pro Ala Pro Pro Ser Pro Gln Pro Ala Thr Tyr Thr
          245          250          255
Cys Val Val Ser His Glu Asp Ser Arg Thr Leu Leu Asn Ala Ser Arg
          260          265          270
Ser Leu Glu Val Ser Tyr Val Thr Asp His
          275          280

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<210> 6
 <211> 24
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> T2A

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<400> 6
Leu Glu Gly Gly Gly Glu Gly Arg Gly Ser Leu Leu Thr Cys Gly Asp
 1          5          10          15
Val Glu Glu Asn Pro Gly Pro Arg
          20

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<210> 7
 <211> 357
 <212> PRT
 <213> Artificial Sequence

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<220>

<223> tEGFR

<400> 7

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Met Leu Leu Leu Val Thr Ser Leu Leu Leu Cys Glu Leu Pro His Pro
 1          5          10          15
Ala Phe Leu Leu Ile Pro Arg Lys Val Cys Asn Gly Ile Gly Ile Gly
 20          25          30
Glu Phe Lys Asp Ser Leu Ser Ile Asn Ala Thr Asn Ile Lys His Phe
 35          40          45
Lys Asn Cys Thr Ser Ile Ser Gly Asp Leu His Ile Leu Pro Val Ala
 50          55          60
Phe Arg Gly Asp Ser Phe Thr His Thr Pro Pro Leu Asp Pro Gln Glu
 65          70          75          80
Leu Asp Ile Leu Lys Thr Val Lys Glu Ile Thr Gly Phe Leu Leu Ile
 85          90          95
Gln Ala Trp Pro Glu Asn Arg Thr Asp Leu His Ala Phe Glu Asn Leu
100          105          110
Glu Ile Ile Arg Gly Arg Thr Lys Gln His Gly Gln Phe Ser Leu Ala
115          120          125
Val Val Ser Leu Asn Ile Thr Ser Leu Gly Leu Arg Ser Leu Lys Glu
130          135          140
Ile Ser Asp Gly Asp Val Ile Ile Ser Gly Asn Lys Asn Leu Cys Tyr
145          150          155          160
Ala Asn Thr Ile Asn Trp Lys Lys Leu Phe Gly Thr Ser Gly Gln Lys
165          170          175
Thr Lys Ile Ile Ser Asn Arg Gly Glu Asn Ser Cys Lys Ala Thr Gly
180          185          190
Gln Val Cys His Ala Leu Cys Ser Pro Glu Gly Cys Trp Gly Pro Glu
195          200          205
Pro Arg Asp Cys Val Ser Cys Arg Asn Val Ser Arg Gly Arg Glu Cys
210          215          220
Val Asp Lys Cys Asn Leu Glu Gly Glu Pro Arg Glu Phe Val Glu
225          230          235          240
Asn Ser Glu Cys Ile Gln Cys His Pro Glu Cys Leu Pro Gln Ala Met
245          250          255
Asn Ile Thr Cys Thr Gly Arg Gly Pro Asp Asn Cys Ile Gln Cys Ala
260          265          270
His Tyr Ile Asp Gly Pro His Cys Val Lys Thr Cys Pro Ala Gly Val
275          280          285
Met Gly Glu Asn Asn Thr Leu Val Trp Lys Tyr Ala Asp Ala Gly His
290          295          300
Val Cys His Leu Cys His Pro Asn Cys Thr Tyr Gly Cys Thr Gly Pro
305          310          315          320
Gly Leu Glu Gly Cys Pro Thr Asn Gly Pro Lys Ile Pro Ser Ile Ala
325          330          335
Thr Gly Met Val Gly Ala Leu Leu Leu Leu Leu Val Val Ala Leu Gly

```

Ile Gly Leu Phe Met 340 345 350
 355

<210> 8
 <211> 27
 <212> PRT
 <213> Homo sapiens

<220>
 <223> CD28 (amino acids 153-179 of Accession No. P10747)

<400> 8
 Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu
 1 5 10 15
 Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val
 20 25

<210> 9
 <211> 66
 <212> PRT
 <213> Homo sapiens

<220>
 <223> CD28 (amino acids 114-179 of Accession No. P10747)

<400> 9
 Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn
 1 5 10 15
 Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu
 20 25 30
 Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly
 35 40 45
 Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe
 50 55 60
 Trp Val
 65

<210> 10
 <211> 41
 <212> PRT
 <213> Homo sapiens

<220>
 <223> CD28 (amino acids 180-220 of P10747)

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<400> 10

Arg	Ser	Lys	Arg	Ser	Arg	Leu	Leu	His	Ser	Asp	Tyr	Met	Asn	Met	Thr
1				5					10					15	
Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro
			20					25					30		
Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser							
		35					40								

<210> 11

<211> 41

<212> PRT

<213> Homo sapiens

<220>

<223> CD28 (LL to GG)

<400> 11

Arg	Ser	Lys	Arg	Ser	Arg	Gly	Gly	His	Ser	Asp	Tyr	Met	Asn	Met	Thr
1				5					10					15	
Pro	Arg	Arg	Pro	Gly	Pro	Thr	Arg	Lys	His	Tyr	Gln	Pro	Tyr	Ala	Pro
			20					25					30		
Pro	Arg	Asp	Phe	Ala	Ala	Tyr	Arg	Ser							
		35					40								

<210> 12

<211> 42

<212> PRT

<213> Homo sapiens

<220>

<223> 4-1BB (amino acids 214-255 of Q07011.1)

<400> 12

Lys	Arg	Gly	Arg	Lys	Lys	Leu	Leu	Tyr	Ile	Phe	Lys	Gln	Pro	Phe	Met
1				5					10					15	
Arg	Pro	Val	Gln	Thr	Thr	Gln	Glu	Glu	Asp	Gly	Cys	Ser	Cys	Arg	Phe
			20					25					30		
Pro	Glu	Glu	Glu	Glu	Gly	Gly	Cys	Glu	Leu						
		35					40								

<210> 13

<211> 112

<212> PRT

<213> Homo sapiens

<220>

<223> CD3 zeta

<400> 13

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

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<210> 14

<211> 112

<212> PRT

<213> Homo sapiens

<220>

<223> CD3 zeta

<400> 14

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

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<210> 15

<211> 112

<212> PRT

<213> Homo sapiens

<220>

<223> CD3 zeta

<400> 15

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

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<210> 16

<211> 335

<212> PRT

<213> Artificial Sequence

<220>

<223> tEGFR

<400> 16

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Arg Lys Val Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu
 1           5           10           15
Ser Ile Asn Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile
          20           25           30
Ser Gly Asp Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe
          35           40           45
Thr His Thr Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr
          50           55           60
Val Lys Glu Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn
65           70           75           80
Arg Thr Asp Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg
          85           90           95
Thr Lys Gln His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile
          100          105          110
Thr Ser Leu Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val
          115          120          125

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Ile	Ile	Ser	Gly	Asn	Lys	Asn	Leu	Cys	Tyr	Ala	Asn	Thr	Ile	Asn	Trp
130						135					140				
Lys	Lys	Leu	Phe	Gly	Thr	Ser	Gly	Gln	Lys	Thr	Lys	Ile	Ile	Ser	Asn
145						150					155				160
Arg	Gly	Glu	Asn	Ser	Cys	Lys	Ala	Thr	Gly	Gln	Val	Cys	His	Ala	Leu
						165				170					175
Cys	Ser	Pro	Glu	Gly	Cys	Trp	Gly	Pro	Glu	Pro	Arg	Asp	Cys	Val	Ser
						180				185				190	
Cys	Arg	Asn	Val	Ser	Arg	Gly	Arg	Glu	Cys	Val	Asp	Lys	Cys	Asn	Leu
						195						200		205	
Leu	Glu	Gly	Glu	Pro	Arg	Glu	Phe	Val	Glu	Asn	Ser	Glu	Cys	Ile	Gln
						210						215		220	
Cys	His	Pro	Glu	Cys	Leu	Pro	Gln	Ala	Met	Asn	Ile	Thr	Cys	Thr	Gly
225						230					235				240
Arg	Gly	Pro	Asp	Asn	Cys	Ile	Gln	Cys	Ala	His	Tyr	Ile	Asp	Gly	Pro
						245				250				255	
His	Cys	Val	Lys	Thr	Cys	Pro	Ala	Gly	Val	Met	Gly	Glu	Asn	Asn	Thr
						260				265				270	
Leu	Val	Trp	Lys	Tyr	Ala	Asp	Ala	Gly	His	Val	Cys	His	Leu	Cys	His
						275						280		285	
Pro	Asn	Cys	Thr	Tyr	Gly	Cys	Thr	Gly	Pro	Gly	Leu	Glu	Gly	Cys	Pro
						290						300			
Thr	Asn	Gly	Pro	Lys	Ile	Pro	Ser	Ile	Ala	Thr	Gly	Met	Val	Gly	Ala
305						310					315				320
Leu	Leu	Leu	Leu	Leu	Val	Val	Ala	Leu	Gly	Ile	Gly	Leu	Phe	Met	
						325				330				335	

<210> 17

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> T2A

<400> 17

Glu	Gly	Arg	Gly	Ser	Leu	Leu	Thr	Cys	Gly	Asp	Val	Glu	Glu	Asn	Pro
1				5					10					15	
Gly	Pro														

<210> 18

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> P2A

<400> 18

Gly	Ser	Gly	Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys	Gln	Ala	Gly	Asp	Val
1				5				10						15	
Glu	Glu	Asn	Pro	Gly	Pro										
			20												

<210> 19

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> P2A

<400> 19

Ala	Thr	Asn	Phe	Ser	Leu	Leu	Lys	Gln	Ala	Gly	Asp	Val	Glu	Glu	Asn
1				5				10						15	
Pro	Gly	Pro													

<210> 20

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> E2A

<400> 20

Gln	Cys	Thr	Asn	Tyr	Ala	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val	Glu	Ser
1				5				10						15	
Asn	Pro	Gly	Pro												
			20												

<210> 21

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> F2A

355976_1.txt

<400> 21

Val	Lys	Gln	Thr	Leu	Asn	Phe	Asp	Leu	Leu	Lys	Leu	Ala	Gly	Asp	Val
1				5				10						15	
Glu	Ser	Asn	Pro	Gly	Pro										
			20												

<210> 22

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary linker

<220>

<221> REPEAT

<222> (5)...(9)

<223> SGGGG is repeated 5 times

<400> 22

Pro	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Pro
1				5					10

<210> 23

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary Linker

<400> 23

Gly	Ser	Ala	Asp	Asp	Ala	Lys	Lys	Asp	Ala	Ala	Lys	Lys	Asp	Gly	Lys
1				5				10						15	
Ser															

<210> 24

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary Linker

<400> 24

Gly Ser Thr Ser Gly Ser Gly Lys Pro Gly Ser Gly Glu Gly Ser Thr
 1 5 10 15
 Lys Gly

<210> 25

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 25

Glu Val Val Val Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
 1 5 10

<210> 26

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<220>

<221> VARIANT

<222> (1)...(1)

<223> Xaa is glycine, cysteine or arginine

<220>

<221> VARIANT

<222> (4)...(4)

<223> Xaa is cysteine or threonine

<400> 26

Xaa Pro Pro Xaa Pro
 1 5

<210> 27

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 27

Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro
1				5					10				15	

<210> 28

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 28

Glu	Arg	Lys	Cys	Cys	Val	Glu	Cys	Pro	Pro	Cys	Pro
1			5					10			

<210> 29

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 29

Glu	Leu	Lys	Thr	Pro	Leu	Gly	Asp	Thr	His	Thr	Cys	Pro	Arg	Cys	Pro
1				5					10					15	
Glu	Pro	Lys	Ser	Cys	Asp	Thr	Pro	Pro	Pro	Cys	Pro	Arg	Cys	Pro	Glu
			20					25					30		
Pro	Lys	Ser	Cys	Asp	Thr	Pro	Pro	Pro	Cys	Pro	Arg	Cys	Pro	Glu	Pro
		35					40					45			
Lys	Ser	Cys	Asp	Thr	Pro	Pro	Pro	Cys	Pro	Arg	Cys	Pro			
	50					55				60					

<210> 30

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 30

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro
 1 5 10

<210> 31

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 31

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
 1 5 10

<210> 32

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 32

Tyr Gly Pro Pro Cys Pro Pro Cys Pro
 1 5

<210> 33

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary IgG Hinge

<400> 33

Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
 1 5 10

<210> 34

<211> 2549

<212> PRT

<213> Homo sapiens

<220>

<223> Human mTOR protein

<400> 34

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Met Leu Gly Thr Gly Pro Ala Ala Ala Thr Thr Ala Ala Thr Thr Ser
 1          5          10          15
Ser Asn Val Ser Val Leu Gln Gln Phe Ala Ser Gly Leu Lys Ser Arg
 20          25          30
Asn Glu Gly Thr Arg Ala Lys Ala Ala Lys Glu Leu Gln His Tyr Val
 35          40          45
Thr Met Glu Leu Arg Glu Met Ser Gln Glu Glu Ser Thr Arg Phe Tyr
 50          55          60
Asp Gln Leu Asn His His Ile Phe Glu Leu Val Ser Ser Ser Asp Ala
 65          70          75          80
Asn Glu Arg Lys Gly Gly Ile Leu Ala Ile Ala Ser Leu Ile Gly Val
 85          90          95
Glu Gly Gly Asn Ala Thr Arg Ile Gly Arg Phe Ala Asn Tyr Leu Arg
100          105          110
Asn Leu Leu Pro Ser Asn Asp Pro Val Val Met Glu Met Ala Ser Lys
115          120          125
Ala Ile Gly Arg Leu Ala Met Ala Gly Asp Thr Phe Thr Ala Glu Tyr
130          135          140
Val Glu Phe Glu Val Lys Arg Ala Leu Glu Trp Leu Gly Ala Asp Arg
145          150          155          160
Asn Glu Gly Arg Arg His Ala Ala Val Leu Val Leu Arg Glu Leu Ala
165          170          175
Ile Ser Val Pro Thr Phe Phe Phe Gln Gln Val Gln Pro Phe Phe Asp
180          185          190
Asn Ile Phe Val Ala Val Trp Asp Pro Lys Gln Ala Ile Arg Glu Gly
195          200          205
Ala Val Ala Ala Leu Arg Ala Cys Leu Ile Leu Thr Thr Gln Arg Glu
210          215          220
Pro Lys Glu Met Gln Lys Pro Gln Trp Tyr Arg His Thr Phe Glu Glu
225          230          235          240
Ala Glu Lys Gly Phe Asp Glu Thr Leu Ala Lys Glu Lys Gly Met Asn
245          250          255
Arg Asp Asp Arg Ile His Gly Ala Leu Leu Ile Leu Asn Glu Leu Val
260          265          270
Arg Ile Ser Ser Met Glu Gly Glu Arg Leu Arg Glu Glu Met Glu Glu
275          280          285
Ile Thr Gln Gln Gln Leu Val His Asp Lys Tyr Cys Lys Asp Leu Met
290          295          300
Gly Phe Gly Thr Lys Pro Arg His Ile Thr Pro Phe Thr Ser Phe Gln
305          310          315          320
Ala Val Gln Pro Gln Gln Ser Asn Ala Leu Val Gly Leu Leu Gly Tyr
325          330          335
Ser Ser His Gln Gly Leu Met Gly Phe Gly Thr Ser Pro Ser Pro Ala

```

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```

          340          345          350
Lys Ser Thr Leu Val Glu Ser Arg Cys Cys Arg Asp Leu Met Glu Glu
          355          360          365
Lys Phe Asp Gln Val Cys Gln Trp Val Leu Lys Cys Arg Asn Ser Lys
          370          375          380
Asn Ser Leu Ile Gln Met Thr Ile Leu Asn Leu Leu Pro Arg Leu Ala
385          390          395          400
Ala Phe Arg Pro Ser Ala Phe Thr Asp Thr Gln Tyr Leu Gln Asp Thr
          405          410          415
Met Asn His Val Leu Ser Cys Val Lys Lys Glu Lys Glu Arg Thr Ala
          420          425          430
Ala Phe Gln Ala Leu Gly Leu Leu Ser Val Ala Val Arg Ser Glu Phe
          435          440          445
Lys Val Tyr Leu Pro Arg Val Leu Asp Ile Ile Arg Ala Ala Leu Pro
450          455          460
Pro Lys Asp Phe Ala His Lys Arg Gln Lys Ala Met Gln Val Asp Ala
465          470          475          480
Thr Val Phe Thr Cys Ile Ser Met Leu Ala Arg Ala Met Gly Pro Gly
          485          490          495
Ile Gln Gln Asp Ile Lys Glu Leu Leu Glu Pro Met Leu Ala Val Gly
500          505          510
Leu Ser Pro Ala Leu Thr Ala Val Leu Tyr Asp Leu Ser Arg Gln Ile
515          520          525
Pro Gln Leu Lys Lys Asp Ile Gln Asp Gly Leu Leu Lys Met Leu Ser
530          535          540
Leu Val Leu Met His Lys Pro Leu Arg His Pro Gly Met Pro Lys Gly
545          550          555          560
Leu Ala His Gln Leu Ala Ser Pro Gly Leu Thr Thr Leu Pro Glu Ala
          565          570          575
Ser Asp Val Gly Ser Ile Thr Leu Ala Leu Arg Thr Leu Gly Ser Phe
          580          585          590
Glu Phe Glu Gly His Ser Leu Thr Gln Phe Val Arg His Cys Ala Asp
          595          600          605
His Phe Leu Asn Ser Glu His Lys Glu Ile Arg Met Glu Ala Ala Arg
610          615          620
Thr Cys Ser Arg Leu Leu Thr Pro Ser Ile His Leu Ile Ser Gly His
625          630          635          640
Ala His Val Val Ser Gln Thr Ala Val Gln Val Val Ala Asp Val Leu
          645          650          655
Ser Lys Leu Leu Val Val Gly Ile Thr Asp Pro Asp Pro Asp Ile Arg
          660          665          670
Tyr Cys Val Leu Ala Ser Leu Asp Glu Arg Phe Asp Ala His Leu Ala
675          680          685
Gln Ala Glu Asn Leu Gln Ala Leu Phe Val Ala Leu Asn Asp Gln Val
690          695          700
Phe Glu Ile Arg Glu Leu Ala Ile Cys Thr Val Gly Arg Leu Ser Ser
705          710          715          720
Met Asn Pro Ala Phe Val Met Pro Phe Leu Arg Lys Met Leu Ile Gln

```

355976_1.txt

```

725      730      735
Ile Leu Thr Glu Leu Glu His Ser Gly Ile Gly Arg Ile Lys Glu Gln
740      745      750
Ser Ala Arg Met Leu Gly His Leu Val Ser Asn Ala Pro Arg Leu Ile
755      760      765
Arg Pro Tyr Met Glu Pro Ile Leu Lys Ala Leu Ile Leu Lys Leu Lys
770      775      780
Asp Pro Asp Pro Asp Pro Asn Pro Gly Val Ile Asn Asn Val Leu Ala
785      790      795      800
Thr Ile Gly Glu Leu Ala Gln Val Ser Gly Leu Glu Met Arg Lys Trp
805      810      815
Val Asp Glu Leu Phe Ile Ile Ile Met Asp Met Leu Gln Asp Ser Ser
820      825      830
Leu Leu Ala Lys Arg Gln Val Ala Leu Trp Thr Leu Gly Gln Leu Val
835      840      845
Ala Ser Thr Gly Tyr Val Val Glu Pro Tyr Arg Lys Tyr Pro Thr Leu
850      855      860
Leu Glu Val Leu Leu Asn Phe Leu Lys Thr Glu Gln Asn Gln Gly Thr
865      870      875      880
Arg Arg Glu Ala Ile Arg Val Leu Gly Leu Leu Gly Ala Leu Asp Pro
885      890      895
Tyr Lys His Lys Val Asn Ile Gly Met Ile Asp Gln Ser Arg Asp Ala
900      905      910
Ser Ala Val Ser Leu Ser Glu Ser Lys Ser Ser Gln Asp Ser Ser Asp
915      920      925
Tyr Ser Thr Ser Glu Met Leu Val Asn Met Gly Asn Leu Pro Leu Asp
930      935      940
Glu Phe Tyr Pro Ala Val Ser Met Val Ala Leu Met Arg Ile Phe Arg
945      950      955      960
Asp Gln Ser Leu Ser His His His Thr Met Val Val Gln Ala Ile Thr
965      970      975
Phe Ile Phe Lys Ser Leu Gly Leu Lys Cys Val Gln Phe Leu Pro Gln
980      985      990
Val Met Pro Thr Phe Leu Asn Val Ile Arg Val Cys Asp Gly Ala Ile
995      1000      1005
Arg Glu Phe Leu Phe Gln Gln Leu Gly Met Leu Val Ser Phe Val Lys
1010      1015      1020
Ser His Ile Arg Pro Tyr Met Asp Glu Ile Val Thr Leu Met Arg Glu
1025      1030      1035      1040
Phe Trp Val Met Asn Thr Ser Ile Gln Ser Thr Ile Ile Leu Leu Ile
1045      1050      1055
Glu Gln Ile Val Val Ala Leu Gly Gly Glu Phe Lys Leu Tyr Leu Pro
1060      1065      1070
Gln Leu Ile Pro His Met Leu Arg Val Phe Met His Asp Asn Ser Pro
1075      1080      1085
Gly Arg Ile Val Ser Ile Lys Leu Leu Ala Ala Ile Gln Leu Phe Gly
1090      1095      1100
Ala Asn Leu Asp Asp Tyr Leu His Leu Leu Leu Pro Pro Ile Val Lys

```

355976_1.txt

```

1105          1110          1115          1120
Leu Phe Asp Ala Pro Glu Ala Pro Leu Pro Ser Arg Lys Ala Ala Leu
          1125          1130          1135
Glu Thr Val Asp Arg Leu Thr Glu Ser Leu Asp Phe Thr Asp Tyr Ala
          1140          1145          1150
Ser Arg Ile Ile His Pro Ile Val Arg Thr Leu Asp Gln Ser Pro Glu
          1155          1160          1165
Leu Arg Ser Thr Ala Met Asp Thr Leu Ser Ser Leu Val Phe Gln Leu
          1170          1175          1180
Gly Lys Lys Tyr Gln Ile Phe Ile Pro Met Val Asn Lys Val Leu Val
1185          1190          1195          1200
Arg His Arg Ile Asn His Gln Arg Tyr Asp Val Leu Ile Cys Arg Ile
          1205          1210          1215
Val Lys Gly Tyr Thr Leu Ala Asp Glu Glu Glu Asp Pro Leu Ile Tyr
          1220          1225          1230
Gln His Arg Met Leu Arg Ser Gly Gln Gly Asp Ala Leu Ala Ser Gly
          1235          1240          1245
Pro Val Glu Thr Gly Pro Met Lys Lys Leu His Val Ser Thr Ile Asn
          1250          1255          1260
Leu Gln Lys Ala Trp Gly Ala Ala Arg Arg Val Ser Lys Asp Asp Trp
1265          1270          1275          1280
Leu Glu Trp Leu Arg Arg Leu Ser Leu Glu Leu Leu Lys Asp Ser Ser
          1285          1290          1295
Ser Pro Ser Leu Arg Ser Cys Trp Ala Leu Ala Gln Ala Tyr Asn Pro
          1300          1305          1310
Met Ala Arg Asp Leu Phe Asn Ala Ala Phe Val Ser Cys Trp Ser Glu
          1315          1320          1325
Leu Asn Glu Asp Gln Gln Asp Glu Leu Ile Arg Ser Ile Glu Leu Ala
          1330          1335          1340
Leu Thr Ser Gln Asp Ile Ala Glu Val Thr Gln Thr Leu Leu Asn Leu
1345          1350          1355          1360
Ala Glu Phe Met Glu His Ser Asp Lys Gly Pro Leu Pro Leu Arg Asp
          1365          1370          1375
Asp Asn Gly Ile Val Leu Leu Gly Glu Arg Ala Ala Lys Cys Arg Ala
          1380          1385          1390
Tyr Ala Lys Ala Leu His Tyr Lys Glu Leu Glu Phe Gln Lys Gly Pro
          1395          1400          1405
Thr Pro Ala Ile Leu Glu Ser Leu Ile Ser Ile Asn Asn Lys Leu Gln
          1410          1415          1420
Gln Pro Glu Ala Ala Ala Gly Val Leu Glu Tyr Ala Met Lys His Phe
1425          1430          1435          1440
Gly Glu Leu Glu Ile Gln Ala Thr Trp Tyr Glu Lys Leu His Glu Trp
          1445          1450          1455
Glu Asp Ala Leu Val Ala Tyr Asp Lys Lys Met Asp Thr Asn Lys Asp
          1460          1465          1470
Asp Pro Glu Leu Met Leu Gly Arg Met Arg Cys Leu Glu Ala Leu Gly
          1475          1480          1485
Glu Trp Gly Gln Leu His Gln Gln Cys Cys Glu Lys Trp Thr Leu Val

```

355976_1.txt

```

1490          1495          1500
Asn Asp Glu Thr Gln Ala Lys Met Ala Arg Met Ala Ala Ala Ala Ala
1505          1510          1515          1520
Trp Gly Leu Gly Gln Trp Asp Ser Met Glu Glu Tyr Thr Cys Met Ile
          1525          1530          1535
Pro Arg Asp Thr His Asp Gly Ala Phe Tyr Arg Ala Val Leu Ala Leu
          1540          1545          1550
His Gln Asp Leu Phe Ser Leu Ala Gln Gln Cys Ile Asp Lys Ala Arg
          1555          1560          1565
Asp Leu Leu Asp Ala Glu Leu Thr Ala Met Ala Gly Glu Ser Tyr Ser
          1570          1575          1580
Arg Ala Tyr Gly Ala Met Val Ser Cys His Met Leu Ser Glu Leu Glu
1585          1590          1595          1600
Glu Val Ile Gln Tyr Lys Leu Val Pro Glu Arg Arg Glu Ile Ile Arg
          1605          1610          1615
Gln Ile Trp Trp Glu Arg Leu Gln Gly Cys Gln Arg Ile Val Glu Asp
          1620          1625          1630
Trp Gln Lys Ile Leu Met Val Arg Ser Leu Val Val Ser Pro His Glu
          1635          1640          1645
Asp Met Arg Thr Trp Leu Lys Tyr Ala Ser Leu Cys Gly Lys Ser Gly
          1650          1655          1660
Arg Leu Ala Leu Ala His Lys Thr Leu Val Leu Leu Leu Gly Val Asp
1665          1670          1675          1680
Pro Ser Arg Gln Leu Asp His Pro Leu Pro Thr Val His Pro Gln Val
          1685          1690          1695
Thr Tyr Ala Tyr Met Lys Asn Met Trp Lys Ser Ala Arg Lys Ile Asp
          1700          1705          1710
Ala Phe Gln His Met Gln His Phe Val Gln Thr Met Gln Gln Gln Ala
          1715          1720          1725
Gln His Ala Ile Ala Thr Glu Asp Gln Gln His Lys Gln Glu Leu His
          1730          1735          1740
Lys Leu Met Ala Arg Cys Phe Leu Lys Leu Gly Glu Trp Gln Leu Asn
1745          1750          1755          1760
Leu Gln Gly Ile Asn Glu Ser Thr Ile Pro Lys Val Leu Gln Tyr Tyr
          1765          1770          1775
Ser Ala Ala Thr Glu His Asp Arg Ser Trp Tyr Lys Ala Trp His Ala
          1780          1785          1790
Trp Ala Val Met Asn Phe Glu Ala Val Leu His Tyr Lys His Gln Asn
          1795          1800          1805
Gln Ala Arg Asp Glu Lys Lys Lys Leu Arg His Ala Ser Gly Ala Asn
          1810          1815          1820
Ile Thr Asn Ala Thr Thr Ala Ala Thr Thr Ala Ala Thr Ala Thr Thr
1825          1830          1835          1840
Thr Ala Ser Thr Glu Gly Ser Asn Ser Glu Ser Glu Ala Glu Ser Thr
          1845          1850          1855
Glu Asn Ser Pro Thr Pro Ser Pro Leu Gln Lys Lys Val Thr Glu Asp
          1860          1865          1870
Leu Ser Lys Thr Leu Leu Met Tyr Thr Val Pro Ala Val Gln Gly Phe

```

355976_1.txt

```

1875      1880      1885
Phe Arg Ser Ile Ser Leu Ser Arg Gly Asn Asn Leu Gln Asp Thr Leu
1890      1895      1900
Arg Val Leu Thr Leu Trp Phe Asp Tyr Gly His Trp Pro Asp Val Asn
1905      1910      1915      1920
Glu Ala Leu Val Glu Gly Val Lys Ala Ile Gln Ile Asp Thr Trp Leu
1925      1930      1935
Gln Val Ile Pro Gln Leu Ile Ala Arg Ile Asp Thr Pro Arg Pro Leu
1940      1945      1950
Val Gly Arg Leu Ile His Gln Leu Leu Thr Asp Ile Gly Arg Tyr His
1955      1960      1965
Pro Gln Ala Leu Ile Tyr Pro Leu Thr Val Ala Ser Lys Ser Thr Thr
1970      1975      1980
Thr Ala Arg His Asn Ala Ala Asn Lys Ile Leu Lys Asn Met Cys Glu
1985      1990      1995      2000
His Ser Asn Thr Leu Val Gln Gln Ala Met Met Val Ser Glu Glu Leu
2005      2010      2015
Ile Arg Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu
2020      2025      2030
Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe
2035      2040      2045
Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr
2050      2055      2060
Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu
2065      2070      2075      2080
Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp
2085      2090      2095
Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
2100      2105      2110
Lys Gln Leu Pro Gln Leu Thr Ser Leu Glu Leu Gln Tyr Val Ser Pro
2115      2120      2125
Lys Leu Leu Met Cys Arg Asp Leu Glu Leu Ala Val Pro Gly Thr Tyr
2130      2135      2140
Asp Pro Asn Gln Pro Ile Ile Arg Ile Gln Ser Ile Ala Pro Ser Leu
2145      2150      2155      2160
Gln Val Ile Thr Ser Lys Gln Arg Pro Arg Lys Leu Thr Leu Met Gly
2165      2170      2175
Ser Asn Gly His Glu Phe Val Phe Leu Leu Lys Gly His Glu Asp Leu
2180      2185      2190
Arg Gln Asp Glu Arg Val Met Gln Leu Phe Gly Leu Val Asn Thr Leu
2195      2200      2205
Leu Ala Asn Asp Pro Thr Ser Leu Arg Lys Asn Leu Ser Ile Gln Arg
2210      2215      2220
Tyr Ala Val Ile Pro Leu Ser Thr Asn Ser Gly Leu Ile Gly Trp Val
2225      2230      2235      2240
Pro His Cys Asp Thr Leu His Ala Leu Ile Arg Asp Tyr Arg Glu Lys
2245      2250      2255
Lys Lys Ile Leu Leu Asn Ile Glu His Arg Ile Met Leu Arg Met Ala

```

355976_1.txt

```

                2260                2265                2270
Pro Asp Tyr Asp His Leu Thr Leu Met Gln Lys Val Glu Val Phe Glu
    2275                2280                2285
His Ala Val Asn Asn Thr Ala Gly Asp Asp Leu Ala Lys Leu Leu Trp
    2290                2295                2300
Leu Lys Ser Pro Ser Ser Glu Val Trp Phe Asp Arg Arg Thr Asn Tyr
2305                2310                2315                2320
Thr Arg Ser Leu Ala Val Met Ser Met Val Gly Tyr Ile Leu Gly Leu
    2325                2330                2335
Gly Asp Arg His Pro Ser Asn Leu Met Leu Asp Arg Leu Ser Gly Lys
    2340                2345                2350
Ile Leu His Ile Asp Phe Gly Asp Cys Phe Glu Val Ala Met Thr Arg
    2355                2360                2365
Glu Lys Phe Pro Glu Lys Ile Pro Phe Arg Leu Thr Arg Met Leu Thr
    2370                2375                2380
Asn Ala Met Glu Val Thr Gly Leu Asp Gly Asn Tyr Arg Ile Thr Cys
2385                2390                2395                2400
His Thr Val Met Glu Val Leu Arg Glu His Lys Asp Ser Val Met Ala
    2405                2410                2415
Val Leu Glu Ala Phe Val Tyr Asp Pro Leu Leu Asn Trp Arg Leu Met
    2420                2425                2430
Asp Thr Asn Thr Lys Gly Asn Lys Arg Ser Arg Thr Arg Thr Asp Ser
    2435                2440                2445
Tyr Ser Ala Gly Gln Ser Val Glu Ile Leu Asp Gly Val Glu Leu Gly
    2450                2455                2460
Glu Pro Ala His Lys Lys Thr Gly Thr Thr Val Pro Glu Ser Ile His
2465                2470                2475                2480
Ser Phe Ile Gly Asp Gly Leu Val Lys Pro Glu Ala Leu Asn Lys Lys
    2485                2490                2495
Ala Ile Gln Ile Ile Asn Arg Val Arg Asp Lys Leu Thr Gly Arg Asp
    2500                2505                2510
Phe Ser His Asp Asp Thr Leu Asp Val Pro Thr Gln Val Glu Leu Leu
    2515                2520                2525
Ile Lys Gln Ala Thr Ser His Glu Asn Leu Cys Gln Cys Tyr Ile Gly
    2530                2535                2540
Trp Cys Pro Phe Trp
2545

```

<210> 35

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR L3

<400> 35

Gln Gln Gly Asn Thr Leu Pro Tyr Thr
1 5

<210> 36
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR L1

<400> 36
Arg Ala Ser Gln Asp Ile Ser Lys Tyr Leu Asn
1 5 10

<210> 37
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR L2

<400> 37
Ser Arg Leu His Ser Gly Val
1 5

<210> 38
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> CDR L3

<400> 38
Gly Asn Thr Leu Pro Tyr Thr Phe Gly
1 5

<210> 39
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> CDR H1

<400> 39

Asp Tyr Gly Val Ser

1 5

<210> 40

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR H2

<400> 40

Val Ile Trp Gly Ser Glu Thr Thr Tyr Tyr Asn Ser Ala Leu Lys Ser

1 5 10 15

<210> 41

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR H3

<400> 41

Tyr Ala Met Asp Tyr Trp Gly

1 5

<210> 42

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 42

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

1 5 10 15

Ser Leu Ser Val Thr Cys Thr Val Ser Gly Val Ser Leu Pro Asp Tyr

20 25 30

Gly Val Ser Trp Ile Arg Gln Pro Pro Arg Lys Gly Leu Glu Trp Leu

355976_1.txt

```

      35              40              45
Gly Val Ile Trp Gly Ser Glu Thr Thr Tyr Tyr Asn Ser Ala Leu Lys
  50              55              60
Ser Arg Leu Thr Ile Ile Lys Asp Asn Ser Lys Ser Gln Val Phe Leu
  65              70              75              80
Lys Met Asn Ser Leu Gln Thr Asp Asp Thr Ala Ile Tyr Tyr Cys Ala
      85              90              95
Lys His Tyr Tyr Tyr Gly Gly Ser Tyr Ala Met Asp Tyr Trp Gly Gln
      100              105              110
Gly Thr Ser Val Thr Val Ser Ser
      115              120

```

<210> 43
 <211> 107
 <212> PRT
 <213> Artificial

<220>
 <223> VL

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<400> 43
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 Lys Tyr
      20              25              30
Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
      35              40              45
Tyr His 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 Tyr
      85              90              95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Thr
      100              105

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<210> 44
 <211> 245
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> scFv

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<400> 44
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly

```

355976_1.txt

1	5	10	15
Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Lys Tyr			
20	25	30	
Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile			
35	40	45	
Tyr His 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 Tyr			
85	90	95	
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Thr Gly Ser Thr Ser Gly			
100	105	110	
Ser Gly Lys Pro Gly Ser Gly Glu Gly Ser Thr Lys Gly Glu Val Lys			
115	120	125	
Leu Gln Glu Ser Gly Pro Gly Leu Val Ala Pro Ser Gln Ser Leu Ser			
130	135	140	
Val Thr Cys Thr Val Ser Gly Val Ser Leu Pro Asp Tyr Gly Val Ser			
145	150	155	160
Trp Ile Arg Gln Pro Pro Arg Lys Gly Leu Glu Trp Leu Gly Val Ile			
165	170	175	
Trp Gly Ser Glu Thr Thr Tyr Tyr Asn Ser Ala Leu Lys Ser Arg Leu			
180	185	190	
Thr Ile Ile Lys Asp Asn Ser Lys Ser Gln Val Phe Leu Lys Met Asn			
195	200	205	
Ser Leu Gln Thr Asp Asp Thr Ala Ile Tyr Tyr Cys Ala Lys His Tyr			
210	215	220	
Tyr Tyr Gly Gly Ser Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser			
225	230	235	240
Val Thr Val Ser Ser			
245			

<210> 45

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR L1

<400> 45

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

<210> 46

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR L2

<400> 46

Ser	Ala	Thr	Tyr	Arg	Asn	Ser
1				5		

<210> 47

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR L3

<400> 47

Gln	Gln	Tyr	Asn	Arg	Tyr	Pro	Tyr	Thr
1			5					

<210> 48

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR H1

<400> 48

Ser	Tyr	Trp	Met	Asn
1			5	

<210> 49

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> CDR H2

<400> 49

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

Gly

<210> 50
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CDR H3

<400> 50
 Lys Thr Ile Ser Ser Val Val Asp Phe Tyr Phe Asp Tyr
 1 5 10

<210> 51
 <211> 122
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> VH

<400> 51
 Glu Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ser
 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 Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Gln Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe
 50 55 60
 Lys Gly Gln Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80
 Met Gln Leu Ser Gly Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
 85 90 95
 Ala Arg Lys Thr Ile Ser Ser Val Val Asp Phe Tyr Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 52
 <211> 108
 <212> PRT
 <213> Artificial Sequence

<220>

<223> VL

<400> 52

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

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<210> 53

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker

<400> 53

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Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1           5           10           15

```

<210> 54

<211> 245

<212> PRT

<213> Artificial Sequence

<220>

<223> scFv

<400> 54

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Glu Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ser
 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 Gln Gly Leu Glu Trp Ile

```

355976_1.txt

35	40	45
Gly Gln Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe		
50	55	60
Lys Gly Gln Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr		
65	70	75
Met Gln Leu Ser Gly Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys		
85	90	95
Ala Arg Lys Thr Ile Ser Ser Val Val Asp Phe Tyr Phe Asp Tyr Trp		
100	105	110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly		
115	120	125
Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser		
130	135	140
Pro Lys Phe Met Ser Thr Ser Val Gly Asp Arg Val Ser Val Thr Cys		
145	150	155
Lys Ala Ser Gln Asn Val Gly Thr Asn Val Ala Trp Tyr Gln Gln Lys		
165	170	175
Pro Gly Gln Ser Pro Lys Pro Leu Ile Tyr Ser Ala Thr Tyr Arg Asn		
180	185	190
Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe		
195	200	205
Thr Leu Thr Ile Thr Asn Val Gln Ser Lys Asp Leu Ala Asp Tyr Phe		
210	215	220
Cys Gln Gln Tyr Asn Arg Tyr Pro Tyr Thr Ser Gly Gly Gly Thr Lys		
225	230	235
Leu Glu Ile Lys Arg		240
245		

<210> 55
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> CDR H3

<400> 55
 His Tyr Tyr Tyr Gly Gly Ser Tyr Ala Met Asp Tyr
 1 5 10

<210> 56
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>

<223> CDR L2

<400> 56

His Thr Ser Arg Leu His Ser
1 5

<210> 57

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker

<400> 57

Gly Ser Thr Ser Gly Ser Gly Lys Pro Gly Ser Gly Glu Gly Ser Thr
1 5 10 15
Lys Gly

<210> 58

<211> 735

<212> DNA

<213> Artificial Sequence

<220>

<223> Sequence encoding scFv

<400> 58

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gacatccaga tgacccagac cacctccagc ctgagcgcca gcctggggcga ccgggtgacc 60
atcagctgcc gggccagcca ggacatcagc aagtacctga actggtatca gcagaagccc 120
gacggcaccg tcaagctgct gatctaccac accagccggc tgcacagcgg cgtgcccagc 180
cggtttagcg gcagcggctc cggcaccgac tacagcctga ccatctcaa cctggaacag 240
gaagatatcg ccacctactt ttgccagcag ggcaacacac tgccctacac ctttggcggc 300
ggaacaaaagc tggaaatcac cggcagcacc tccggcagcg gcaagcctgg cagcggcgag 360
ggcagcacca agggcgaggt gaagctgcag gaaagcggcc ctggccttgt ggcccccagc 420
cagagcctga gcgtgacctg caccgtgagc ggcgtgagcc tgcccgacta cggcgtgagc 480
tggatccggc agccccccag gaagggcctg gaatggctgg gcgtgatctg gggcagcgag 540
accacctact acaacagcgc cctgaagagc cggctgacca tcatcaagga caacagcaag 600
agccaggtgt tcctgaagat gaacagcctg cagaccgacg acaccgccat ctactactgc 660
gccaagcact actactacgg cggcagctac gccatggact actggggcca gggcaccagc 720
gtgaccgtga gcagc                                     735

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<210> 59

<211> 16

<212> PRT

<213> Hmo sapiens

<220>

<223> CD33 signal peptide

<400> 59

Met Pro Leu Leu Leu Leu Pro Leu Leu Trp Ala Gly Ala Leu Ala
 1 5 10 15

<210> 60

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> CD8 alpha signal peptide

<400> 60

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

<210> 61

<211> 66

<212> DNA

<213> Artificial Sequence

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355976_1.txt

Ala Phe Leu Leu Ile Pro
20