

<110> ABL Bio Inc.
 <120> Antibody specific to IGF1R and alpha-synuclein
 <130> OPP20202027KR
 <150> 10-2019-0071057
 <151> 2019-06-14
 <160> 178
 <170> koPatentIn 3.0
 <210> 1
 <211> 10
 <212> PRT
 <213> Artificial Sequence
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 <223> H-CDR1 of anti-IGF1R antibody

<400> 1
 Gly Phe Thr Phe Ser Ser Tyr Asp Met Ser
 1 5 10

<210> 2
 <211> 17
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> H-CDR2 of anti-IGF1R antibody

<400> 2
 Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 3
 <211> 17
 <212> PRT
 <213> Artificial Sequence
 <220>

<223> H-CDR2 of anti-IGF1R antibody

<400> 3

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

Gly

<210> 4

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR2 of anti-IGF1R antibody

<400> 4

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

Gly

<210> 5

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR2 of anti-IGF1R antibody

<400> 5

Ala Ile Ser Tyr Asp Asn Ala Asn Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 6

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR2 of anti-IGF1R antibody

<400> 6

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

Gly

<210> 7

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR2 of anti-IGF1R antibody

<400> 7

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

Gly

<210> 8

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR3 of anti-IGF1R antibody

<400> 8

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

<210> 9

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR3 of anti-IGF1R antibody

<400> 9
 Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser
 1 5 10

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

<220>
 <223> H-CDR1 of anti-IGF1R antibody

<400> 10
 Gly Phe Thr Phe Ser Ser Tyr Ala Met Ser
 1 5 10

<210> 11
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 <213> Artificial Sequence

<220>
 <223> H-CDR2 of anti-IGF1R antibody

<400> 11
 Ala Ile Ser Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 12
 <211> 17
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<220>
 <223> H-CDR2 of anti-IGF1R antibody

<400> 12
 Ala Ile Ser Gly Ser Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 13
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> H-CDR2 of anti-IGF1R antibody

<400> 13
Ala Ile Ser Gly Asp Asn Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 14
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> H-CDR2 of anti-IGF1R antibody

<400> 14
Ala Ile Ser Tyr Asp Asn Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 15
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> H-CDR2 of anti-IGF1R antibody

<400> 15
Ala Ile Ser Tyr Asp Gln Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys

1	5	10	15
Gly			

<210> 16
 <211> 17
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 <213> Artificial Sequence

<220>
 <223> H-CDR2 of anti-IGF1R antibody

<400> 16
 Ala Ile Ser Gly Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

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

<220>
 <223> H-CDR2 of anti-IGF1R antibody

<400> 17
 Ala Ile Ser Gly Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 18
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> H-CDR2 of anti-IGF1R antibody

<400> 18

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

Gly

<210> 19
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> H-CDR3 of anti-IGF1R antibody

<400> 19
 Gly Val Leu Thr Thr Leu Ala Asn Trp Phe Asp Tyr
 1 5 10

<210> 20
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> L-CDR1 of anti-IGF1R antibody

<400> 20
 Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn Asp Val Ser
 1 5 10

<210> 21
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> L-CDR2 of anti-IGF1R antibody

<400> 21
 Ala Asn Ser Asn Arg Pro Ser
 1 5

<210> 22

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

 <220>
 <223> L-CDR2 of anti-IGF1R antibody

<400> 22
 Ala Gln Ser Asn Arg Pro Ser
 1 5

<210> 23
 <211> 7
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> L-CDR2 of anti-IGF1R antibody

<400> 23
 Ala Asn Val Asn Arg Pro Ser
 1 5

<210> 24
 <211> 11
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> L-CDR3 of anti-IGF1R antibody

<400> 24
 Gly Ala Trp Asp Asp Ser Leu Asn Gly Tyr Val
 1 5 10

<210> 25
 <211> 11
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> L-CDR3 of anti-IGF1R antibody

<400> 25
Gly Ala Trp Asp Asp Ser Leu His Gly Tyr Val
1 5 10

<210> 26
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> L-CDR3 of anti-IGF1R antibody

<400> 26
Gly Thr Trp Ala Gly Ser Leu His Gly Tyr Val
1 5 10

<210> 27
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> L-CDR3 of anti-IGF1R antibody

<400> 27
Gly Thr Trp Ala Gly Ser Leu Asn Ala Tyr Val
1 5 10

<210> 28
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> L-CDR3 of anti-IGF1R antibody

<400> 28
Gly Ala Trp Asp Asp Ser Leu Asn Ala Tyr Val
1 5 10

<210> 29
<211> 11
<212> PRT

<213> Artificial Sequence

<220>

<223> L-CDR3 of anti-IGF1R antibody

<400> 29

Gly Ala Trp Glu Gln Trp Leu Asn Gly Tyr Val
1 5 10

<210> 30

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> L-CDR3 of anti-IGF1R antibody

<400> 30

Gly Ala Trp Glu Gln Trp Leu His Gly Tyr Val
1 5 10

<210> 31

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> L-CDR3 of anti-IGF1R antibody

<400> 31

Gly Thr Trp Ala Gly Ser Leu Asn Gly Tyr Val
1 5 10

<210> 32

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Framework 1 in heavy chain variable region of anti-IGF1R antibody

<400> 32

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1	5	10	15
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Ser Leu Arg Leu Ser Cys Ala Ala Ser
20 25

<210> 33
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Framework 2 in heavy chain variable region of anti-IGF1R antibody

<400> 33
Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
1 5 10

<210> 34
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Framework 2 in heavy chain variable region of anti-IGF1R antibody

<400> 34
Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val Ser
1 5 10

<210> 35
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Framework 3 in heavy chain variable region of anti-IGF1R antibody

<400> 35
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

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

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

 <220>
 <223> Framework 4 in heavy chain variable region of anti-IGF1R antibody

<400> 36
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 37
 <211> 22
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Framework 1 in light chain variable region of anti-IGF1R antibody

<400> 37
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15

 Arg Val Thr Ile Ser Cys
 20

<210> 38
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Framework 2 in light chain variable region of anti-IGF1R antibody

<400> 38
 Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr
 1 5 10 15

<210> 39
 <211> 32
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Framework 3 in light chain variable region of anti-IGF1R antibody

<400> 39
 Gly Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser
 1 5 10 15
 Leu Ala Ile Ser Gly Leu Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys
 20 25 30

<210> 40
 <211> 32
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Framework 3 in light chain variable region of anti-IGF1R antibody

<400> 40
 Gly Val Ser Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser
 1 5 10 15
 Leu Ala Ile Ser Gly Leu Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys
 20 25 30

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

 <220>
 <223> Framework 4 in light chain variable region of anti-IGF1R antibody

<400> 41
Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
1 5 10

<210> 42
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Framework 4 in light chain variable region of anti-IGF1R antibody

<400> 42
Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
1 5 10

<210> 43
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (1564 (IgG) clone)

<400> 43
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly

	100	105	110
Gln Gly Thr Leu Val Thr Val Ser Ser			
	115	120	
<210>	44		
<211>	121		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	Heavy chain variable region of anti-IGF1R antibody (1564 (scFv) clone)		
<400>	44		
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr			
	20	25	30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val			
	35	40	45
Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val			
	50	55	60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr			
	65	70	75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys			
	85	90	95
Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly			
	100	105	110
Gln Gly Thr Leu Val Thr Val Ser Ser			
	115	120	
<210>	45		
<211>	121		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	Heavy chain variable region of anti-IGF1R antibody (1564-3 clone)		

<400> 45
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 46
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (1564-DM clone)

<400> 46
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 47

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (1564-DMP
clone)

<400> 47

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 48

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

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH05-DM clone)

<400> 48
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
35 40 45
Ser Ala Ile Ser Gly Asp Gln Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110
Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 49
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH05-DMP clone)

<400> 49
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr

	20		25		30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val	35	40	45		
Ser Ala Ile Ser Gly Asp Gln Gly Ser Thr Tyr Tyr Ala Asp Ser Val	50	55	60		
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly	100	105	110		
Gln Gly Thr Leu Val Thr Val Ser Ser	115	120			

<210> 50
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (F06-DM clone)

<400>	50
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr	20 25 30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val	35 40 45
Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val	50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly	

	100	105	110
Gln Gly Thr Leu Val Thr Val Ser Ser			
	115	120	
<210>	51		
<211>	121		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	Heavy chain variable region of anti-IGF1R antibody (F06-DMP clone)		
<400>	51		
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr			
	20	25	30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val			
	35	40	45
Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val			
	50	55	60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr			
	65	70	75
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys			
	85	90	95
Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly			
	100	105	110
Gln Gly Thr Leu Val Thr Val Ser Ser			
	115	120	
<210>	52		
<211>	121		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	Heavy chain variable region of anti-IGF1R antibody (F06(de2)(StoP) clone)		

<400> 52
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Ala Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 53
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody
 (VH5(de2)(StoP) clone)

<400> 53
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Gly Asp Asn Ala Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 54

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH16(de2Stop)
clone)

<400> 54

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 55
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody
(1564(de2)(StoP) clone)

<400> 55
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
35 40 45
Ser Ala Ile Ser Tyr Asp Asn Ala Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110
Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 56
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH2 (scFv)
clone)

<400> 56
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 57
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH2-3 clone)

<400> 57
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 58
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH2-DM clone)

<400> 58
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 59
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH2-DMP clone)

<400> 59
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 60
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH5 (scFv) clone)

<400> 60
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 61

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH5-3 clone)

<400> 61

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Ala Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 62

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

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH7 (scFv) clone)

<400> 62
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
35 40 45
Ser Ala Ile Ser Gly Ser Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Ala Asn Trp Phe Asp Tyr Trp Gly
100 105 110
Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 63
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH7-3 clone)

<400> 63
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Ala Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 64

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH7-DM clone)

<400> 64

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Ala Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 65
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH7-DMP clone)

<400> 65
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 66
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH9 (scFv) clone)

<400> 66
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Gly Asp Asn Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 67
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH9-3 clone)

<400> 67
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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	Lys	Gly	Val	Leu	Thr	Thr	Leu	Met	Asn	Trp	Phe	Asp	Tyr	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser							
		115					120								

<210> 68
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH9-DM clone)

<400>	68														
Glu	Val	Gln	Leu	Leu	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	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Cys	Leu	Glu	Trp	Val
		35					40					45			
Ser	Ala	Ile	Ser	Tyr	Asp	Asn	Gly	Ser	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	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	Lys	Gly	Val	Leu	Thr	Thr	Leu	Met	Asn	Trp	Phe	Asp	Tyr	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser							
		115					120								

<210> 69
 <211> 121
 <212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH9-DMP clone)

<400> 69

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 70

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH16 (scFv) clone)

<400> 70

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 71
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (VH16-3 clone)

<400> 71
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 72
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH16-DM clone)

<400> 72
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 73
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH16-DMP clone)

<400> 73
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Gly Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 74
 <211> 121
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH32 (scFv) clone)

<400> 74
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Gly Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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	Lys	Gly	Val	Leu	Thr	Thr	Leu	Met	Asn	Trp	Phe	Asp	Tyr	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser							
		115					120								

<210> 75
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH32-3 clone)

<400>	75														
Glu	Val	Gln	Leu	Leu	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	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Asp	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Cys	Leu	Glu	Trp	Val
		35					40					45			
Ser	Ala	Ile	Ser	Gly	Ser	Asn	Gly	Asn	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	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	Lys	Gly	Val	Leu	Thr	Thr	Leu	Met	Asn	Trp	Phe	Asp	Tyr	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser							
		115					120								

<210> 76
 <211> 121
 <212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH32-DM clone)

<400> 76

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 77

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH32-DMP clone)

<400> 77

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 78

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain variable region of anti-IGF1R antibody (VH35 (scFv) clone)

<400> 78

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 79
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH35-3 clone)

<400> 79
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Ala Asn Trp Phe Asp Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 80
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH35-DM clone)

<400> 80
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Ala Asn Trp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 81
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (VH35-DMP clone)

<400> 81
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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	Lys	Gly	Val	Leu	Thr	Thr	Leu	Ala	Asn	Trp	Phe	Asp	Tyr	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser							
		115					120								

<210> 82
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (C04 (scFv) clone)

<400>	82														
Glu	Val	Gln	Leu	Leu	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	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Cys	Leu	Glu	Trp	Val
		35					40					45			
Ser	Ala	Ile	Ser	Tyr	Asp	Gln	Gly	Asn	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	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	Lys	Gly	Val	Leu	Thr	Thr	Leu	Ala	Asn	Trp	Phe	Asp	Tyr	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser							
		115					120								

<210> 83
 <211> 121

<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (C04-3 clone)

<400> 83
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
35 40 45
Ser Ala Ile Ser Tyr Asp Asn Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser Trp Gly
100 105 110
Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 84
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-IGF1R antibody (C04-DM clone)

<400> 84
Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
20 25 30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val

35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 85
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (C04-DMP
 clone)

<400> 85
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Gln Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 86
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (F06 (scFv) clone)

<400> 86
 Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Gln Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Ser Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 87
 <211> 121
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-IGF1R antibody (F06-3 clone)

<400> 87

Glu Val Gln Leu Leu 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 Thr Phe Ser Ser Tyr
 20 25 30
 Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
 35 40 45
 Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn 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 Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 88
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody (1564 (IgG) clone)

<400> 88
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80

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

Asn Gly Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 89
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (1564 (scFv) clone)

<400> 89
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 90
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (1564-3 clone)

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

<210> 91
 <211> 110
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Light chain variable region of anti-IGF1R antibody (1564-DM clone)

<400> 91
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu

	85	90	95
His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu			
	100	105	110
<210>	92		
<211>	110		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	Light chain variable region of anti-IGF1R antibody (1564-DMP clone)		
<400>	92		
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln			
1 5 10 15			
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn			
20 25 30			
Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu			
35 40 45			
Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser			
50 55 60			
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg			
65 70 75 80			
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu			
85 90 95			
His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu			
100 105 110			
<210>	93		
<211>	110		
<212>	PRT		
<213>	Artificial Sequence		
<220>			
<223>	Light chain variable region of anti-IGF1R antibody (VH05-DM clone)		
<400>	93		

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

<210> 94
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody (VH05-DMP clone)

<400> 94
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
 85 90 95

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 95
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (F06-DM clone)

<400> 95
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 96
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (F06-DMP clone)

<400> 96
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

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

<210> 97
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody
 (F06(de2)(StoP) clone)

<400> 97
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Asn Val Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Thr Trp Ala Gly Ser Leu
 85 90 95
 Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu

100

105

110

<210> 98
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody
 (VH5(de2)(StoP) clone)

<400> 98
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Asn Val Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
 85 90 95
 Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 99
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody (VH16(de2Stop)
 clone)

<400> 99
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 100

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody
(1564(de2)(StoP) clone)

<400> 100

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 101
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH2 (scFv) clone)

<400> 101
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45
Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe Ser
50 55 60
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
65 70 75 80
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
85 90 95
Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 102
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH2-3 clone)

<400> 102
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 103

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH2-DM clone)

<400> 103

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 104

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

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH2-DMP clone)

<400> 104
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45
Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
65 70 75 80
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
85 90 95
His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 105
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH5 (scFv) clone)

<400> 105
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu

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

<210> 106
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody (VH5-3 clone)

<400> 106
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
 85 90 95
 Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 107
 <211> 110
 <212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH7 (scFv) clone)

<400> 107

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 108

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH7-3 clone)

<400> 108

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser

50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
 85 90 95
 Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 109
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody (VH7-DM clone)

<400> 109
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
 85 90 95
 His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

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

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH7-DMP clone)

<400> 110

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

<210> 111

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH9 (scFv) clone)

<400> 111

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 112
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH9-3 clone)

<400> 112
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 113
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH9-DM clone)

<400> 113
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
 85 90 95
 His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 114
 <211> 110
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Light chain variable region of anti-IGF1R antibody (VH9-DMP
 clone)

<400> 114
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 115

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH16 (scFv) clone)

<400> 115

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 116

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH16-3 clone)

<400> 116

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 117

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH16-DM clone)

<400> 117

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 118
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH16-DMP clone)

<400> 118
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 119
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (VH32 (scFv) clone)

<400> 119
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln

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

<210> 120

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH32-3 clone)

<400> 120

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn	20	25	30
---	----	----	----

Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu	35	40	45
---	----	----	----

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

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg	65	70	75
---	----	----	----

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu	85	90	95
---	----	----	----

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu

100

105

110

<210> 121

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH32-DM clone)

<400> 121

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 122

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH32-DMP clone)

<400> 122

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 123

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH35 (scFv) clone)

<400> 123

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 124
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody (VH35-3 clone)

<400> 124
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu
 85 90 95
 Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 125
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of anti-IGF1R antibody (VH35-DM clone)

<400> 125
 Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 126

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (VH35-DMP clone)

<400> 126

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 127
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (C04 (scFv) clone)

<400> 127
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45
Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe Ser
50 55 60
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg
65 70 75 80
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Glu Gln Trp Leu
85 90 95
Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 128
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Light chain variable region of anti-IGF1R antibody (C04-3 clone)

<400> 128
Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu

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

<210> 129
 <211> 110
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Light chain variable region of anti-IGF1R antibody (C04-DM clone)

<400>	129														
Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln
1				5					10					15	
Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	Asn
			20					25					30		
Asp	Val	Ser	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu
		35					40					45			
Ile	Tyr	Ala	Gln	Ser	Asn	Arg	Pro	Ser	Gly	Val	Ser	Asp	Arg	Phe	Ser
	50					55					60				
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Arg
65					70					75					80
Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gly	Ala	Trp	Glu	Gln	Trp	Leu
				85					90					95	
His	Gly	Tyr	Val	Phe	Gly	Cys	Gly	Thr	Lys	Leu	Thr	Val	Leu		
			100					105					110		

<210> 130
 <211> 110
 <212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (C04-DMP clone)

<400> 130

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 131

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (F06 (scFv) clone)

<400> 131

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 132

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-IGF1R antibody (F06-3 clone)

<400> 132

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

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

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

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

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

Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 133

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker

<400> 133

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

<210> 134

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker

<400> 134

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

Gly Gly Gly Ser
20

<210> 135

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR1 of anti-alpha-syn antibody

<400> 135

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

<210> 136

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> H-CDR2 of anti-alpha-syn antibody

<400> 136

Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala Ser
 1 5 10 15

Val Lys Gly

<210> 137
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> H-CDR2 of anti-alpha-syn antibody

<400> 137
 Ala Ile Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ala Ala Ser
 1 5 10 15

Val Lys Gly

<210> 138
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> H-CDR3 of anti-alpha-syn antibody

<400> 138
 Asp Ala His Gly Lys Pro Phe Ala Tyr
 1 5

<210> 139
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> L-CDR1 of anti-alpha-syn antibody

<400> 139
 Lys Ser Ser Gln Ser Leu Leu Tyr Ser Ser Asn Gln Lys Asn Tyr Leu
 1 5 10 15

Ala

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

<220>
<223> L-CDR2 of anti-alpha-syn antibody

<400> 140
Trp Ala Ser Thr Arg Glu Ser
1 5

<210> 141
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> L-CDR3 of anti-alpha-syn antibody

<400> 141
Gln Gln Tyr Tyr Ser Tyr Pro Trp Thr
1 5

<210> 142
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-alpha-syn antibody
(Hu11F11-VH-v1 clone)

<400> 142
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
20 25 30

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

Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
50 55 60

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

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

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 143
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-alpha-syn antibody
(Hu11F11-VH-v2 clone)

<400> 143
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
20 25 30

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

Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
50 55 60

Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser
65 70 75 80

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

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 144
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-alpha-syn antibody
(Hu11F11-VH-v3 clone)

<400> 144
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
20 25 30

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

Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
50 55 60

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

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

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 145
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain variable region of anti-alpha-syn antibody
(Hu11F11-VH-v4 clone)

<400> 145
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile
 35 40 45
 Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Thr Ser Lys Ser Ser
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr
 85 90 95
 Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
 100 105 110
 Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 146
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of anti-alpha-syn antibody
 (Hu11F11-VH2 clone)

<400> 146
 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 Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45
 Ala Ala Ile Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ala Ala
 50 55 60

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

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

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 147

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain variable region of anti-alpha-syn antibody
(Hu11F11-VLv3 4c clone)

<400> 147

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

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

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

Lys

<210> 148

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

<220>
<223> Light chain variable region of anti-alpha-syn antibody
(Hu11F11-VL4 clone)

<400> 148
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 Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30
Ser Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys
35 40 45
Ala Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60
Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80
Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
85 90 95
Tyr Tyr Ser Tyr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
100 105 110
Lys

<210> 149
<211> 450
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain of anti-alpha-syn antibody (Hu11F11-VH-ver 2 clone)

<400> 149
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
20 25 30

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

290		295		300											
Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys
305					310					315					320
Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu
				325					330					335	
Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr
			340					345					350		
Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu
		355					360					365			
Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp
	370					375					380				
Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val
385					390					395					400
Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp
				405					410					415	
Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His
			420					425					430		
Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro
		435					440					445			
Gly	Lys														
	450														

<210> 150
 <211> 220
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain of anti-alpha-syn antibody (Hu11F11-VH-ver 2 clone)

<400>	150														
Asp	Ile	Val	Met	Thr	Gln	Ser	Pro	Ser	Ser	Leu	Ala	Val	Ser	Leu	Gly
1	5	10	15												
Glu	Arg	Val	Thr	Met	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Tyr	Ser
	20						25					30			
Ser	Asn	Gln	Lys	Asn	Tyr	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350

Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365

Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445

Gly Lys
 450

<210> 152
 <211> 450
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2) (IGG) WITH KNOB MUTATION for the heavy chain combination of the bispecific antibody

<400> 152
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30

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

290		295		300
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys				
305		310		315 320
Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu				
		325	330	335
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr				
		340	345	350
Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu				
		355	360	365
Trp Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp				
		370	375	380
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val				
385		390	395	400
Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp				
		405	410	415
Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His				
		420	425	430
Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro				
		435	440	445
Gly Lys				
450				

<210> 153
 <211> 450
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2) (IGG), M428L MUTATION for the heavy chain combination of the bispecific antibody

<400>	153
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe	
	20 25 30

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

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys
 450

<210> 154
 <211> 450
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2) (IGG) M428L, HOLE MUTATION for the heavy chain combination of the bispecific antibody

<400> 154
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile

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

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys
 450

<210> 155
 <211> 450
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2 (IGG), M428L, KNOB MUTATION for the heavy chain combination of the bispecific antibody

<400> 155
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile
 35 40 45

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

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

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly

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

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln

595	600	605
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe		
610	615	620
Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu		
625	630	635
Glu Trp Val Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala		
	645	650
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn		
	660	665
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val		
	675	680
Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp		
	690	695
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser		
705	710	715

<210> 158
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)-1564-3 monovalent (HC 1, -hole)
 for the heavy chain combination of the bispecific antibody

<400> 158
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
20 25 30
Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile
35 40 45
Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
50 55 60
Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser
65 70 75 80

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

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350

Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe

610	615	620
Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu		
625	630	635 640
Glu Trp Val Ser Ala Ile Ser Tyr Asp Asn Gly Asn Thr Tyr Tyr Ala		
	645	650 655
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn		
	660	665 670
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val		
	675	680 685
Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp		
	690	695 700
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser		
705	710	715

<210> 159
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)-1564 (scFv) monovalent (HC 1, -hole) for the heavy chain combination of the bispecific antibody

<400>	159
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe	
	20 25 30
Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile	
	35 40 45
Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala	
	50 55 60
Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser	
65	70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr	
	85 90 95

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
 100 105 110
 Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 115 120 125
 Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 130 135 140
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365

Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Asn Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu Asn Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu

625		630		635		640									
Glu	Trp	Val	Ser	Ala	Ile	Ser	Tyr	Asp	Asn	Gly	Asn	Thr	Tyr	Tyr	Ala
				645					650					655	
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn
			660					665					670		
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val
		675					680					685			
Tyr	Tyr	Cys	Ala	Lys	Gly	Val	Leu	Thr	Thr	Leu	Met	Asn	Trp	Phe	Asp
	690					695					700				
Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser				
705					710					715					

<210> 160
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)(M428L)-1564-DMP bivalent(HC) for the heavy chain combination of the bispecific antibody

<400>	160														
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	Thr	Ser	Gly	Phe	Thr	Phe	Ser	Asp	Phe
			20					25					30		
Tyr	Met	Glu	Trp	Val	Arg	Gln	Pro	Pro	Gly	Lys	Arg	Leu	Glu	Trp	Ile
	35					40						45			
Ala	Ala	Ser	Arg	Asn	Lys	Ala	Asn	Asp	Tyr	Thr	Thr	Glu	Tyr	Ser	Ala
	50				55						60				
Ser	Val	Lys	Gly	Arg	Phe	Thr	Val	Ser	Arg	Asp	Asp	Ser	Lys	Ser	Ser
65				70					75					80	
Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Ile	Tyr
			85					90						95	
Tyr	Cys	Ala	Arg	Asp	Ala	His	Gly	Lys	Pro	Phe	Ala	Tyr	Trp	Gly	Gln
		100						105					110		

Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 115 120 125
 Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 130 135 140
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380

Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	385	390	395	400
Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	405	410	415	
Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Leu	His	420	425	430	
Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	435	440	445	
Gly	Lys	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	450	455	460	
Ser	Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	465	470	475	480
Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser	485	490	495	
Asn	Asp	Val	Ser	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	500	505	510	
Leu	Ile	Tyr	Ala	Gln	Ser	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	515	520	525	
Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	530	535	540	
Arg	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gly	Ala	Trp	Asp	Asp	Ser	545	550	555	560
Leu	His	Gly	Tyr	Val	Phe	Gly	Cys	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly	565	570	575	
Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	580	585	590	
Gly	Gly	Ser	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	595	600	605	
Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	610	615	620	
Ser	Ser	Tyr	Asp	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Cys	Leu	625	630	635	640
Glu	Trp	Val	Ser	Ala	Ile	Ser	Tyr	Asp	Gln	Gly	Asn	Thr	Tyr	Tyr	Ala				

	645		650		655
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn					
	660		665		670
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val					
	675		680		685
Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp					
	690		695		700
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser					
705		710		715	

<210> 161
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)(M428L)-1564-DM bivalent(HC) for the heavy chain combination of the bispecific antibody

<400>	161
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe	
	20 25 30
Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile	
	35 40 45
Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala	
	50 55 60
Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser	
65	70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr	
	85 90 95
Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln	
	100 105 110
Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val	
	115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
130 135 140
Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160
Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165 170 175
Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190
Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
195 200 205
Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
210 215 220
Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225 230 235 240
Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
245 250 255
Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
260 265 270
Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
275 280 285
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
290 295 300
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
305 310 315 320
Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
325 330 335
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
340 345 350
Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
355 360 365
Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
370 375 380
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
 625 630 635 640
 Glu Trp Val Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala
 645 650 655
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn

660	665	670
Thr Leu Tyr Leu Gln Met Asn Ser	Leu Arg Ala Glu Asp Thr Ala Val	
675	680	685
Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp		
690	695	700
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser		
705	710	715

<210> 162
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)(M428L)-1564-DMP monovalent (HC 1,
 -hole for the heavy chain combination of the bispecific antibody

<400>	162
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe	
	20 25 30
Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile	
	35 40 45
Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala	
	50 55 60
Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser	
65	70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr	
	85 90 95
Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln	
	100 105 110
Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val	
	115 120 125
Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala	
130	135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
 625 630 635 640
 Glu Trp Val Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala
 645 650 655
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 660 665 670
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val

675 680 685

Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp
690 695 700

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
705 710 715

<210> 163
<211> 716
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain of hu11F11(ver.2)(M428L)-1564-DM monovalent, (HC 1, -hole) for the heavy chain combination of the bispecific antibody

<400> 163
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
20 25 30

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

Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
50 55 60

Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser
65 70 75 80

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

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Ser Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
 625 630 635 640
 Glu Trp Val Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala
 645 650 655
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 660 665 670
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 675 680 685
 Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp

690	695	700
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser		
705	710	715

<210> 164
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)(M428L)-F06-DMP monovalent (HC 1, -hole) for the heavy chain combination of the bispecific antibody

<400> 164
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile
 35 40 45
 Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr
 85 90 95
 Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
 100 105 110
 Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 115 120 125
 Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 130 135 140
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445

Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Gln Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Thr Trp Ala Gly Ser
 545 550 555 560
 Leu His Gly Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
 625 630 635 640
 Glu Trp Val Ser Ala Ile Ser Tyr Asp Gln Gly Asn Thr Tyr Tyr Ala
 645 650 655
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 660 665 670
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 675 680 685
 Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp
 690 695 700
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser

705

710

715

<210> 165

<211> 682

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain of hu11F11(ver.2)(M428L)-F06-DM monovalent (HC 1, -hole) for the heavy chain combination of the bispecific antibody

<400> 165

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

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

Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser Leu Tyr
 35 40 45

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr Tyr Cys
 50 55 60

Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln Gly Thr
 65 70 75 80

Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 85 90 95

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
 100 105 110

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
 115 120 125

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 130 135 140

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
 145 150 155 160

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
 165 170 175

Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr
 180 185 190

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
 195 200 205
 Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 210 215 220
 Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 225 230 235 240
 Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 245 250 255
 Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 260 265 270
 Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 275 280 285
 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 290 295 300
 Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 305 310 315 320
 Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Ser Cys
 325 330 335
 Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 340 345 350
 Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
 355 360 365
 Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp Lys Ser
 370 375 380
 Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala
 385 390 395 400
 Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 405 410 415
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
 420 425 430
 Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln Arg
 435 440 445
 Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn Asp
 450 455 460

Val	Ser	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	Ile	465	470	475	480
Tyr	Ala	Gln	Ser	Asn	Arg	Pro	Ser	Gly	Val	Ser	Asp	Arg	Phe	Ser	Gly		485	490	495
Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Arg	Ser	500	505	510	
Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gly	Thr	Trp	Ala	Gly	Ser	Leu	His	515	520	525	
Gly	Tyr	Val	Phe	Gly	Cys	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly	Gly	Gly	530	535	540	
Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	545	550	555	560
Ser	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly		565	570	575
Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	580	585	590	
Tyr	Asp	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Cys	Leu	Glu	Trp	595	600	605	
Val	Ser	Ala	Ile	Ser	Tyr	Asp	Gln	Gly	Asn	Thr	Tyr	Tyr	Ala	Asp	Ser	610	615	620	
Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	625	630	635	640
Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr		645	650	655
Cys	Ala	Lys	Gly	Val	Leu	Thr	Thr	Leu	Met	Asn	Trp	Phe	Asp	Tyr	Trp	660	665	670	
Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser							675	680		

<210> 166
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>

<400>	166														
Glu 1	Val	Gln	Leu	Val 5	Glu	Ser	Gly	Gly	Gly 10	Leu	Val	Gln	Pro	Gly 15	Gly
Ser	Leu	Arg	Leu 20	Ser	Cys	Ala	Thr	Ser 25	Gly	Phe	Thr	Phe	Ser 30	Asp	Phe
Tyr	Met	Glu 35	Trp	Val	Arg	Gln	Pro 40	Pro	Gly	Lys	Arg	Leu 45	Glu	Trp	Ile
Ala	Ala 50	Ser	Arg	Asn	Lys	Ala 55	Asn	Asp	Tyr	Thr	Thr 60	Glu	Tyr	Ser	Ala
Ser 65	Val	Lys	Gly	Arg	Phe 70	Thr	Val	Ser	Arg	Asp 75	Asp	Ser	Lys	Ser	Ser 80
Leu	Tyr	Leu	Gln	Met 85	Asn	Ser	Leu	Arg	Ala 90	Glu	Asp	Thr	Ala	Ile 95	Tyr
Tyr	Cys	Ala	Arg 100	Asp	Ala	His	Gly	Lys 105	Pro	Phe	Ala	Tyr	Trp 110	Gly	Gln
Gly	Thr	Thr 115	Val	Thr	Val	Ser	Ser 120	Ala	Ser	Thr	Lys	Gly 125	Pro	Ser	Val
Phe	Pro 130	Leu	Ala	Pro	Ser	Ser 135	Lys	Ser	Thr	Ser	Gly 140	Gly	Thr	Ala	Ala
Leu 145	Gly	Cys	Leu	Val	Lys 150	Asp	Tyr	Phe	Pro	Glu 155	Pro	Val	Thr	Val	Ser 160
Trp	Asn	Ser	Gly	Ala 165	Leu	Thr	Ser	Gly	Val 170	His	Thr	Phe	Pro	Ala 175	Val
Leu	Gln	Ser	Ser 180	Gly	Leu	Tyr	Ser	Leu 185	Ser	Ser	Val	Val	Thr 190	Val	Pro
Ser	Ser	Ser 195	Leu	Gly	Thr	Gln	Thr 200	Tyr	Ile	Cys	Asn	Val 205	Asn	His	Lys
Pro	Ser 210	Asn	Thr	Lys	Val	Asp 215	Lys	Lys	Val	Glu	Pro 220	Lys	Ser	Cys	Asp
Lys 225	Thr	His	Thr	Cys	Pro 230	Pro	Cys	Pro	Ala	Pro 235	Glu	Leu	Leu	Gly	Gly 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu

500					505					510					
Leu	Ile	Tyr	Ala	Asn	Val	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe
	515					520					525				
Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu
	530					535					540				
Arg	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gly	Thr	Trp	Ala	Gly	Ser
545					550					555					560
Leu	Asn	Ala	Tyr	Val	Phe	Gly	Cys	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly
				565					570						575
Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly
			580					585					590		
Gly	Gly	Ser	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln
		595					600						605		
Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe
	610					615					620				
Ser	Ser	Tyr	Asp	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Cys	Leu
625					630					635					640
Glu	Trp	Val	Ser	Ala	Ile	Ser	Tyr	Asp	Asn	Ala	Asn	Thr	Tyr	Tyr	Ala
				645					650						655
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn
			660					665					670		
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val
			675				680						685		
Tyr	Tyr	Cys	Ala	Lys	Gly	Val	Leu	Thr	Thr	Leu	Met	Asn	Trp	Phe	Asp
	690					695					700				
Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser				
705						710					715				

<210> 167
 <211> 716
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Heavy chain of hu11F11(ver.2)-VH5(de2)(StoP) deamidated, S->P bivalent(HC) for the heavy chain combination of the bispecific

antibody

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<400>      167
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
      20              25              30

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

Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
      50              55              60

Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser
      65              70              75              80

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

Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
      100              105              110

Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
      115              120              125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
      130              135              140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
      145              150              155              160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
      165              170              175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
      180              185              190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
      195              200              205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
      210              215              220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
      225              230              235              240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile

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				245					250							255			
Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu				
			260					265					270						
Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His				
		275					280					285							
Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg				
	290					295					300								
Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys				
305					310					315					320				
Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu				
				325					330					335					
Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr				
			340					345					350						
Thr	Leu	Pro	Pro	Ser	Arg	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu				
		355					360					365							
Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp				
	370					375					380								
Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val				
385					390					395					400				
Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp				
				405					410					415					
Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His				
			420					425					430						
Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro				
		435					440					445							
Gly	Lys	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly				
	450					455					460								
Ser	Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly				
465					470					475					480				
Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser				
				485					490					495					
Asn	Asp	Val	Ser	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu				
			500					505					510						

Leu Ile Tyr Ala Asn Val Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
 625 630 635 640
 Glu Trp Val Ser Ala Ile Ser Gly Asp Asn Ala Ser Thr Tyr Tyr Ala
 645 650 655
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 660 665 670
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 675 680 685
 Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp
 690 695 700
 Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 705 710 715

<210> 168

<211> 716

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain of hu11F11(ver.2)-VH16(de2)(StoP) deamidated, S->P
 bivalent(HC) for the heavy chain combination of the bispecific
 antibody

<400> 168
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile
 35 40 45
 Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr
 85 90 95
 Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
 100 105 110
 Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 115 120 125
 Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 130 135 140
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Asn Val Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560
 Leu Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
 625 630 635 640
 Glu Trp Val Ser Ala Ile Ser Gly Ser Asn Ala Asn Thr Tyr Tyr Ala
 645 650 655
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 660 665 670
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 675 680 685
 Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp
 690 695 700
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 705 710 715

<210> 169

<211> 716

<212> PRT

<213> Artificial Sequence

<220>

<223> Heavy chain of hu11F11(ver.2)(M428L)-F06(de2)(StoP)-(monovalent,
 deamidated, S->P (HC 1, -hole) for the heavy chain combination
 of the bispecific antibody

<400> 169

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

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 275 280 285
 Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Asn Val Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu

530		535		540
Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Thr Trp Ala Gly Ser				
545		550		555
Leu Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly				
	565		570	575
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly				
	580		585	590
Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln				
	595		600	605
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe				
	610		615	620
Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu				
	625		630	635
Glu Trp Val Ser Ala Ile Ser Tyr Asp Asn Ala Asn Thr Tyr Tyr Ala				
	645		650	655
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn				
	660		665	670
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val				
	675		680	685
Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp				
	690		695	700
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser				
705		710		715

<210> 170
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)(M428L)-VH5(de2)(StoP) deamidated,
 S->P bivalent(HC) for the heavy chain combination of the
 bispecific antibody

<400> 170
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile
 35 40 45
 Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
 50 55 60
 Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asp Ser Lys Ser Ser
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr
 85 90 95
 Tyr Cys Ala Arg Asp Ala His Gly Lys Pro Phe Ala Tyr Trp Gly Gln
 100 105 110
 Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 115 120 125
 Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 130 135 140
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 145 150 155 160
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 165 170 175
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 180 185 190
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 195 200 205
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 210 215 220
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
 225 230 235 240
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 245 250 255
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 260 265 270
 Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His

275	280	285
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg		
290	295	300
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys		
305	310	315
Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu		
	325	330
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr		
	340	345
Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu		
	355	360
Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp		
	370	375
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val		
385	390	395
Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp		
	405	410
Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His		
	420	425
Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro		
	435	440
Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly		
	450	455
Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly		
465	470	475
Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser		
	485	490
Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu		
	500	505
Leu Ile Tyr Ala Asn Val Asn Arg Pro Ser Gly Val Pro Asp Arg Phe		
	515	520
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu		
	530	535
		540

Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
545 550 555 560

Leu Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
565 570 575

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
580 585 590

Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
595 600 605

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
610 615 620

Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
625 630 635 640

Glu Trp Val Ser Ala Ile Ser Gly Asp Asn Ala Ser Thr Tyr Tyr Ala
645 650 655

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
660 665 670

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
675 680 685

Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp
690 695 700

Ser Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
705 710 715

<210> 171
<211> 716
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain of hu11F11(ver.2)(M428L)-VH16(de2)(StoP) deamidated,
S->P bivalent(HC) for the heavy chain combination of the
bispecific antibody

<400> 171
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 Thr Ser Gly Phe Thr Phe Ser Asp Phe

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

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 290 295 300
 Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 305 310 315 320
 Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 325 330 335
 Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 340 345 350
 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 355 360 365
 Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 370 375 380
 Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 385 390 395 400
 Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 405 410 415
 Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Leu His
 420 425 430
 Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 435 440 445
 Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 450 455 460
 Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly
 465 470 475 480
 Gln Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser
 485 490 495
 Asn Asp Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
 500 505 510
 Leu Ile Tyr Ala Asn Val Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 515 520 525
 Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu
 530 535 540
 Arg Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser
 545 550 555 560

Leu Asn Ala Tyr Val Phe Gly Cys Gly Thr Lys Leu Thr Val Leu Gly
 565 570 575
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590
 Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 595 600 605
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 610 615 620
 Ser Ser Tyr Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Cys Leu
 625 630 635 640
 Glu Trp Val Ser Ala Ile Ser Gly Ser Asn Ala Asn Thr Tyr Tyr Ala
 645 650 655
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 660 665 670
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 675 680 685
 Tyr Tyr Cys Ala Lys Gly Val Leu Thr Thr Leu Met Asn Trp Phe Asp
 690 695 700
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 705 710 715

<210> 172
 <211> 716
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain of hu11F11(ver.2)(M428L)-1564(de2)(StoP)-monovalent,
 deamidated, S->P (HC 1, -hole)) for the heavy chain combination
 of the bispecific antibody

<400> 172
 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 Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30

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

Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys
305					310					315					320
Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu
				325					330					335	
Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr
			340					345					350		
Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu
		355					360					365			
Ser	Cys	Ala	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp
	370					375					380				
Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val
385					390					395					400
Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Val	Ser	Lys	Leu	Thr	Val	Asp
				405					410					415	
Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Leu	His
			420					425					430		
Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro
		435					440					445			
Gly	Lys	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly
	450					455					460				
Ser	Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly
465					470					475					480
Gln	Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Ser
				485					490					495	
Asn	Asp	Val	Ser	Trp	Tyr	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu
			500					505					510		
Leu	Ile	Tyr	Ala	Asn	Val	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe
		515					520					525			
Ser	Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu
	530					535					540				
Arg	Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gly	Ala	Trp	Asp	Asp	Ser
545					550					555					560
Leu	Asn	Ala	Tyr	Val	Phe	Gly	Cys	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly

50	55	60
Asn Val Gly Gly Ala Val Val Thr Gly Val Thr Ala Val Ala Gln Lys		
65	70	75
Thr Val Glu Gly Ala Gly Ser Ile Ala Ala Ala Thr Gly Phe Val Lys		
	85	90
Lys Asp Gln Leu Gly Lys Asn Glu Glu Gly Ala Pro Gln Glu Gly Ile		
	100	105
Leu Glu Asp Met Pro Val Asp Pro Asp Asn Glu Ala Tyr Glu Met Pro		
	115	120
Ser Glu Glu Gly Tyr Gln Asp Tyr Glu Pro Glu Ala		
130	135	140

<210> 174
 <211> 1367
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> IGF1R

<400>	174
Met Lys Ser Gly Ser Gly Gly Gly Ser Pro Thr Ser Leu Trp Gly Leu	
1	5
Leu Phe Leu Ser Ala Ala Leu Ser Leu Trp Pro Thr Ser Gly Glu Ile	
	20
Cys Gly Pro Gly Ile Asp Ile Arg Asn Asp Tyr Gln Gln Leu Lys Arg	
	35
Leu Glu Asn Cys Thr Val Ile Glu Gly Tyr Leu His Ile Leu Leu Ile	
	50
Ser Lys Ala Glu Asp Tyr Arg Ser Tyr Arg Phe Pro Lys Leu Thr Val	
65	70
Ile Thr Glu Tyr Leu Leu Leu Phe Arg Val Ala Gly Leu Glu Ser Leu	
	85
Gly Asp Leu Phe Pro Asn Leu Thr Val Ile Arg Gly Trp Lys Leu Phe	
	100
Tyr Asn Tyr Ala Leu Val Ile Phe Glu Met Thr Asn Leu Lys Asp Ile	

115		120		125											
Gly	Leu	Tyr	Asn	Leu	Arg	Asn	Ile	Thr	Arg	Gly	Ala	Ile	Arg	Ile	Glu
130						135					140				
Lys	Asn	Ala	Asp	Leu	Cys	Tyr	Leu	Ser	Thr	Val	Asp	Trp	Ser	Leu	Ile
145					150					155					160
Leu	Asp	Ala	Val	Ser	Asn	Asn	Tyr	Ile	Val	Gly	Asn	Lys	Pro	Pro	Lys
				165					170					175	
Glu	Cys	Gly	Asp	Leu	Cys	Pro	Gly	Thr	Met	Glu	Glu	Lys	Pro	Met	Cys
			180					185					190		
Glu	Lys	Thr	Thr	Ile	Asn	Asn	Glu	Tyr	Asn	Tyr	Arg	Cys	Trp	Thr	Thr
		195					200					205			
Asn	Arg	Cys	Gln	Lys	Met	Cys	Pro	Ser	Thr	Cys	Gly	Lys	Arg	Ala	Cys
	210					215					220				
Thr	Glu	Asn	Asn	Glu	Cys	Cys	His	Pro	Glu	Cys	Leu	Gly	Ser	Cys	Ser
225					230					235					240
Ala	Pro	Asp	Asn	Asp	Thr	Ala	Cys	Val	Ala	Cys	Arg	His	Tyr	Tyr	Tyr
				245					250					255	
Ala	Gly	Val	Cys	Val	Pro	Ala	Cys	Pro	Pro	Asn	Thr	Tyr	Arg	Phe	Glu
			260					265					270		
Gly	Trp	Arg	Cys	Val	Asp	Arg	Asp	Phe	Cys	Ala	Asn	Ile	Leu	Ser	Ala
		275					280					285			
Glu	Ser	Ser	Asp	Ser	Glu	Gly	Phe	Val	Ile	His	Asp	Gly	Glu	Cys	Met
	290					295					300				
Gln	Glu	Cys	Pro	Ser	Gly	Phe	Ile	Arg	Asn	Gly	Ser	Gln	Ser	Met	Tyr
305					310					315					320
Cys	Ile	Pro	Cys	Glu	Gly	Pro	Cys	Pro	Lys	Val	Cys	Glu	Glu	Glu	Lys
				325					330					335	
Lys	Thr	Lys	Thr	Ile	Asp	Ser	Val	Thr	Ser	Ala	Gln	Met	Leu	Gln	Gly
			340					345					350		
Cys	Thr	Ile	Phe	Lys	Gly	Asn	Leu	Leu	Ile	Asn	Ile	Arg	Arg	Gly	Asn
		355					360					365			
Asn	Ile	Ala	Ser	Glu	Leu	Glu	Asn	Phe	Met	Gly	Leu	Ile	Glu	Val	Val
	370					375					380				

Thr Gly Tyr Val Lys Ile Arg His Ser His Ala Leu Val Ser Leu Ser
 385 390 395 400
 Phe Leu Lys Asn Leu Arg Leu Ile Leu Gly Glu Glu Gln Leu Glu Gly
 405 410 415
 Asn Tyr Ser Phe Tyr Val Leu Asp Asn Gln Asn Leu Gln Gln Leu Trp
 420 425 430
 Asp Trp Asp His Arg Asn Leu Thr Ile Lys Ala Gly Lys Met Tyr Phe
 435 440 445
 Ala Phe Asn Pro Lys Leu Cys Val Ser Glu Ile Tyr Arg Met Glu Glu
 450 455 460
 Val Thr Gly Thr Lys Gly Arg Gln Ser Lys Gly Asp Ile Asn Thr Arg
 465 470 475 480
 Asn Asn Gly Glu Arg Ala Ser Cys Glu Ser Asp Val Leu His Phe Thr
 485 490 495
 Ser Thr Thr Thr Ser Lys Asn Arg Ile Ile Ile Thr Trp His Arg Tyr
 500 505 510
 Arg Pro Pro Asp Tyr Arg Asp Leu Ile Ser Phe Thr Val Tyr Tyr Lys
 515 520 525
 Glu Ala Pro Phe Lys Asn Val Thr Glu Tyr Asp Gly Gln Asp Ala Cys
 530 535 540
 Gly Ser Asn Ser Trp Asn Met Val Asp Val Asp Leu Pro Pro Asn Lys
 545 550 555 560
 Asp Val Glu Pro Gly Ile Leu Leu His Gly Leu Lys Pro Trp Thr Gln
 565 570 575
 Tyr Ala Val Tyr Val Lys Ala Val Thr Leu Thr Met Val Glu Asn Asp
 580 585 590
 His Ile Arg Gly Ala Lys Ser Glu Ile Leu Tyr Ile Arg Thr Asn Ala
 595 600 605
 Ser Val Pro Ser Ile Pro Leu Asp Val Leu Ser Ala Ser Asn Ser Ser
 610 615 620
 Ser Gln Leu Ile Val Lys Trp Asn Pro Pro Ser Leu Pro Asn Gly Asn
 625 630 635 640
 Leu Ser Tyr Tyr Ile Val Arg Trp Gln Arg Gln Pro Gln Asp Gly Tyr
 645 650 655

Leu Tyr Arg His Asn Tyr Cys Ser Lys Asp Lys Ile Pro Ile Arg Lys
 660 665 670
 Tyr Ala Asp Gly Thr Ile Asp Ile Glu Glu Val Thr Glu Asn Pro Lys
 675 680 685
 Thr Glu Val Cys Gly Gly Glu Lys Gly Pro Cys Cys Ala Cys Pro Lys
 690 695 700
 Thr Glu Ala Glu Lys Gln Ala Glu Lys Glu Glu Ala Glu Tyr Arg Lys
 705 710 715 720
 Val Phe Glu Asn Phe Leu His Asn Ser Ile Phe Val Pro Arg Pro Glu
 725 730 735
 Arg Lys Arg Arg Asp Val Met Gln Val Ala Asn Thr Thr Met Ser Ser
 740 745 750
 Arg Ser Arg Asn Thr Thr Ala Ala Asp Thr Tyr Asn Ile Thr Asp Pro
 755 760 765
 Glu Glu Leu Glu Thr Glu Tyr Pro Phe Phe Glu Ser Arg Val Asp Asn
 770 775 780
 Lys Glu Arg Thr Val Ile Ser Asn Leu Arg Pro Phe Thr Leu Tyr Arg
 785 790 795 800
 Ile Asp Ile His Ser Cys Asn His Glu Ala Glu Lys Leu Gly Cys Ser
 805 810 815
 Ala Ser Asn Phe Val Phe Ala Arg Thr Met Pro Ala Glu Gly Ala Asp
 820 825 830
 Asp Ile Pro Gly Pro Val Thr Trp Glu Pro Arg Pro Glu Asn Ser Ile
 835 840 845
 Phe Leu Lys Trp Pro Glu Pro Glu Asn Pro Asn Gly Leu Ile Leu Met
 850 855 860
 Tyr Glu Ile Lys Tyr Gly Ser Gln Val Glu Asp Gln Arg Glu Cys Val
 865 870 875 880
 Ser Arg Gln Glu Tyr Arg Lys Tyr Gly Gly Ala Lys Leu Asn Arg Leu
 885 890 895
 Asn Pro Gly Asn Tyr Thr Ala Arg Ile Gln Ala Thr Ser Leu Ser Gly
 900 905 910
 Asn Gly Ser Trp Thr Asp Pro Val Phe Phe Tyr Val Gln Ala Lys Thr

915	920	925
Gly Tyr Glu Asn Phe Ile His Leu Ile Ile Ala Leu Pro Val Ala Val		
930	935	940
Leu Leu Ile Val Gly Gly Leu Val Ile Met Leu Tyr Val Phe His Arg		
945	950	955
Lys Arg Asn Asn Ser Arg Leu Gly Asn Gly Val Leu Tyr Ala Ser Val		
	965	970
Asn Pro Glu Tyr Phe Ser Ala Ala Asp Val Tyr Val Pro Asp Glu Trp		
	980	985
Glu Val Ala Arg Glu Lys Ile Thr Met Ser Arg Glu Leu Gly Gln Gly		
	995	1000
Ser Phe Gly Met Val Tyr Glu Gly Val Ala Lys Gly Val Val Lys Asp		
	1010	1015
Glu Pro Glu Thr Arg Val Ala Ile Lys Thr Val Asn Glu Ala Ala Ser		
	1025	1030
Met Arg Glu Arg Ile Glu Phe Leu Asn Glu Ala Ser Val Met Lys Glu		
	1045	1050
Phe Asn Cys His His Val Val Arg Leu Leu Gly Val Val Ser Gln Gly		
	1060	1065
Gln Pro Thr Leu Val Ile Met Glu Leu Met Thr Arg Gly Asp Leu Lys		
	1075	1080
Ser Tyr Leu Arg Ser Leu Arg Pro Glu Met Glu Asn Asn Pro Val Leu		
	1090	1095
Ala Pro Pro Ser Leu Ser Lys Met Ile Gln Met Ala Gly Glu Ile Ala		
	1105	1110
Asp Gly Met Ala Tyr Leu Asn Ala Asn Lys Phe Val His Arg Asp Leu		
	1125	1130
Ala Ala Arg Asn Cys Met Val Ala Glu Asp Phe Thr Val Lys Ile Gly		
	1140	1145
Asp Phe Gly Met Thr Arg Asp Ile Tyr Glu Thr Asp Tyr Tyr Arg Lys		
	1155	1160
Gly Gly Lys Gly Leu Leu Pro Val Arg Trp Met Ser Pro Glu Ser Leu		
	1170	1175
		1180

Lys Asp Gly Val Phe Thr Thr Tyr Ser Asp Val Trp Ser Phe Gly Val
 1185 1190 1195 1200
 Val Leu Trp Glu Ile Ala Thr Leu Ala Glu Gln Pro Tyr Gln Gly Leu
 1205 1210 1215
 Ser Asn Glu Gln Val Leu Arg Phe Val Met Glu Gly Gly Leu Leu Asp
 1220 1225 1230
 Lys Pro Asp Asn Cys Pro Asp Met Leu Phe Glu Leu Met Arg Met Cys
 1235 1240 1245
 Trp Gln Tyr Asn Pro Lys Met Arg Pro Ser Phe Leu Glu Ile Ile Ser
 1250 1255 1260
 Ser Ile Lys Glu Glu Met Glu Pro Gly Phe Arg Glu Val Ser Phe Tyr
 1265 1270 1275 1280
 Tyr Ser Glu Glu Asn Lys Leu Pro Glu Pro Glu Glu Leu Asp Leu Glu
 1285 1290 1295
 Pro Glu Asn Met Glu Ser Val Pro Leu Asp Pro Ser Ala Ser Ser Ser
 1300 1305 1310
 Ser Leu Pro Leu Pro Asp Arg His Ser Gly His Lys Ala Glu Asn Gly
 1315 1320 1325
 Pro Gly Pro Gly Val Leu Val Leu Arg Ala Ser Phe Asp Glu Arg Gln
 1330 1335 1340
 Pro Tyr Ala His Met Asn Gly Gly Arg Lys Asn Glu Arg Ala Leu Pro
 1345 1350 1355 1360
 Leu Pro Gln Ser Ser Thr Cys
 1365

<210> 175
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Heavy chain variable region of ch11F11-VH

<400> 175
 Glu Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

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

<210> 176
 <211> 113
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Light chain variable region of ch11F11-VH

<400> 176
 Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly
 1 5 10 15
 Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr 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 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 Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln
 85 90 95

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

Lys

<210> 177
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> linker

<400>	177
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser	
1 5 10 15	

<210> 178
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Linker

<400>	178
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly	
1 5 10 15	

Gly Gly Gly Ser
20