

SEQUENCE LISTING

<110> OTSUKA PHARMACEUTICAL CO., LTD.

<120> Anti-GDF15 Antibody

<130> 675712

<150> PCT/JP2019/047956

<151> 2019-12-06

<160> 157

<170> PatentIn version 3.5

<210> 1

<211> 308

<212> PRT

<213> Homo sapiens

<400> 1

Met Pro Gly Gln Glu Leu Arg Thr Val Asn Gly Ser Gln Met Leu Leu
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Val Leu Leu Val Leu Ser Trp Leu Pro His Gly Gly Ala Leu Ser Leu
20 25 30

Ala Glu Ala Ser Arg Ala Ser Phe Pro Gly Pro Ser Glu Leu His Ser
35 40 45

Glu Asp Ser Arg Phe Arg Glu Leu Arg Lys Arg Tyr Glu Asp Leu Leu
50 55 60

Thr Arg Leu Arg Ala Asn Gln Ser Trp Glu Asp Ser Asn Thr Asp Leu
65 70 75 80

Val Pro Ala Pro Ala Val Arg Ile Leu Thr Pro Glu Val Arg Leu Gly
85 90 95

Ser Gly Gly His Leu His Leu Arg Ile Ser Arg Ala Ala Leu Pro Glu
100 105 110

Gly Leu Pro Glu Ala Ser Arg Leu His Arg Ala Leu Phe Arg Leu Ser
115 120 125

Pro Thr Ala Ser Arg Ser Trp Asp Val Thr Arg Pro Leu Arg Arg Gln
130 135 140

Leu Ser Leu Ala Arg Pro Gln Ala Pro Ala Leu His Leu Arg Leu Ser
145 150 155 160

Pro Pro Pro Ser Gln Ser Asp Gln Leu Leu Ala Glu Ser Ser Ser Ala
165 170 175

Arg Pro Gln Leu Glu Leu His Leu Arg Pro Gln Ala Ala Arg Gly Arg
180 185 190

Arg Arg Ala Arg Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly
195 200 205

Arg Cys Cys Arg Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly
210 215 220

Trp Ala Asp Trp Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys
225 230 235 240

Ile Gly Ala Cys Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln
245 250 255

Ile Lys Thr Ser Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro
260 265 270

Cys Cys Val Pro Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr
275 280 285

Asp Thr Gly Val Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp
290 295 300

Cys His Cys Ile
305

<210> 2
<211> 112
<212> PRT
<213> Homo sapiens

<400> 2

Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 3
<211> 14
<212> PRT
<213> Homo sapiens

<400> 3

Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg Leu His
1 5 10

<210> 4
<211> 134

<212> PRT
<213> Mus musculus

<400> 4

Met Arg Met Leu Ser Val Leu Tyr Leu Leu Ser Ala Leu Pro Gly Ile
1 5 10 15

Leu Ser Asp Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Arg Pro
20 25 30

Ser Gln Thr Leu Ser Leu Thr Cys Thr Val Thr Gly Phe Ser Ile Asn
35 40 45

Ser Asp Cys Tyr Trp Ile Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu
50 55 60

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

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

Phe Ser Leu Lys Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr
100 105 110

Tyr Cys Ala Arg Asp Cys Asp Tyr Ala Met Asp Tyr Trp Gly Gln Gly
115 120 125

Thr Ser Val Thr Val Ser
130

<210> 5
<211> 131
<212> PRT
<213> Mus musculus

<400> 5

Met Gly Tyr Ser Ala Gln Phe Leu Gly Leu Leu Leu Leu Cys Phe Gln
1 5 10 15

Gly Thr Arg Cys Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser
20 25 30

Ala Ser Leu Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp
35 40 45

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

Lys Leu Leu Ile His Tyr Thr Ser Thr Leu His Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser
85 90 95

Asn Leu Glu Gln Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn
100 105 110

Thr Leu Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Ala Asp Ala
130

<210> 6
<211> 136
<212> PRT
<213> Mus musculus

<400> 6

Met Asp Arg Leu Thr Phe Ser Phe Leu Leu Leu Ile Val Pro Ala Tyr
1 5 10 15

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

Pro Ser Gln Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu

35

40

45

Asn Thr His Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys
 50 55 60

Gly Leu Glu Trp Leu Ala Asn Ile Trp Trp Asn Asp Asp Lys Tyr Tyr
 65 70 75 80

Asn Ser Ala Leu Lys Ser Arg Leu Thr Leu Ser Lys Asp Thr Ser Asn
 85 90 95

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

Thr Tyr Phe Cys Ala Gln Val Ala Trp Asp Trp Phe Ala Tyr Trp Gly
 115 120 125

Gln Gly Thr Leu Val Thr Ile Ser
 130 135

<210> 7
 <211> 132
 <212> PRT
 <213> Mus musculus

<400> 7

Met Asp Ser Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
 1 5 10 15

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

Met Ser Ala Ser Leu Gly Glu Glu Ile Thr Leu Thr Cys Ser Ala Ser
 35 40 45

Ser Ser Val Arg Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Thr Ser
 50 55 60

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

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Phe Tyr Ser Leu Thr Ile
85 90 95

Ser Ser Val Glu Ala Glu Asp Ala Ala Asp Tyr Tyr Cys His Gln Trp
100 105 110

Ser Ser Tyr Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
115 120 125

Arg Ala Asp Ala
130

<210> 8
<211> 155
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2

<400> 8

Met Lys His Leu Trp Phe Leu Leu Leu Leu Ala Ala Pro Arg Trp Val
1 5 10 15

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

Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Ile Asn
35 40 45

Ser Asp Cys Tyr Trp Ile Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
50 55 60

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

Ser Leu Ala Ser Arg Thr Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln
85 90 95

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
100 105 110

Tyr Cys Ala Arg Asp Cys Asp Tyr Ala Met Asp Tyr Trp Gly Gln Gly
115 120 125

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

Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
145 150 155

<210> 9
<211> 140
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2

<400> 9

Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp Leu Pro
1 5 10 15

Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20 25 30

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp
35 40 45

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

Lys Leu Leu Ile His Tyr Thr Ser Thr Leu His Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser
85 90 95

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asn
100 105 110

Thr Leu Pro Trp Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
130 135 140

<210> 10
<211> 464
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2

<400> 10

Met Lys His Leu Trp Phe Leu Leu Leu Leu Ala Ala Pro Arg Trp Val
1 5 10 15

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

Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Ile Asn
35 40 45

Ser Asp Cys Tyr Trp Ile Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
50 55 60

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

Ser Leu Ala Ser Arg Thr Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln
85 90 95

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
100 105 110

Tyr Cys Ala Arg Asp Cys Asp Tyr Ala Met Asp Tyr Trp Gly Gln Gly
115 120 125

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

Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu
145 150 155 160

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
165 170 175

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
180 185 190

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
195 200 205

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
210 215 220

Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys
225 230 235 240

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
245 250 255

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
260 265 270

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
275 280 285

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
290 295 300

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
305 310 315 320

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
325 330 335

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
340 345 350

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
355 360 365

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
370 375 380

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
385 390 395 400

Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu
405 410 415

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

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
435 440 445

Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
450 455 460

<210> 11
<211> 234
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2

<400> 11

Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp Leu Pro
1 5 10 15

Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20 25 30

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp
35 40 45

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

Lys Leu Leu Ile His Tyr Thr Ser Thr Leu His Ser Gly Val Pro Ser
65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser
85 90 95

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asn
100 105 110

Thr Leu Pro Trp Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
115 120 125

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
130 135 140

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
145 150 155 160

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
165 170 175

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
180 185 190

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
195 200 205

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
210 215 220

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230

<210> 12
<211> 7
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<213> Mus musculus

<400> 12

Thr His Gly Met Gly Val Gly
1 5

<210> 13
<211> 16
<212> PRT
<213> Mus musculus

<400> 13

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

<210> 14
<211> 8
<212> PRT
<213> Mus musculus

<400> 14

Val Ala Trp Asp Trp Phe Ala Tyr
1 5

<210> 15
<211> 10
<212> PRT
<213> Mus musculus

<400> 15

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

<210> 16

<211> 7

<212> PRT

<213> Mus musculus

<400> 16

Ser Thr Ser Asn Leu Ala Ser
1 5

<210> 17

<211> 9

<212> PRT

<213> Mus musculus

<400> 17

His Gln Trp Ser Ser Tyr Pro Trp Thr
1 5

<210> 18

<211> 6

<212> PRT

<213> Mus musculus

<400> 18

Ser Asp Cys Tyr Trp Ile
1 5

<210> 19

<211> 16

<212> PRT

<213> Mus musculus

<400> 19

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

<210> 20
<211> 8
<212> PRT
<213> Mus musculus

<400> 20

Asp Cys Asp Tyr Ala Met Asp Tyr
1 5

<210> 21
<211> 11
<212> PRT
<213> Mus musculus

<400> 21

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

<210> 22
<211> 7
<212> PRT
<213> Mus musculus

<400> 22

Tyr Thr Ser Thr Leu His Ser
1 5

<210> 23
<211> 9
<212> PRT
<213> Mus musculus

<400> 23

Gln Gln Gly Asn Thr Leu Pro Trp Thr
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<210> 24
<211> 465
<212> DNA
<213> Artificial Sequence

<220>

<223> HuMAB2

<400> 24

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accgtgtccg gcttcagcat caacagcgac tgctactgga tctggatcag acagccccct      180
ggcaagggcc tggagtacat cggctacacc ttctacagcg gcatcaccta ctacaacccc      240
agcctggcca gccggaccac catcagcaga gacaccagca agaaccagtt cagcctgaag      300
ctgagcagcg tgacagccgc cgataccgcc gtgtactact gcgccagaga ctgcgactac      360
gccatggact attggggcca gggcacccctc gtgaccgtgt ctagcgccctc taaaagggc      420
cccagcgtgt tccctctggc ccctagcagc aagagcacat ctggc      465
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<210> 25

<211> 420

<212> DNA

<213> Artificial Sequence

<220>

<223> HuMAB2

<400> 25

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atcacctgta gagccagcca ggacatcagc aactacctga actggtatca gcagaaaccc      180
ggcaaggccg tgaagctgct gatccactac accagcacc tgcacagcgg cgtgcccagc      240
agattttctg gcagcggctc cggcaccgac tacaccctga caatcagctc cctgcagccc      300
gaggacttcg ctacctactt ctgtcagcaa ggcaacaccc tgccctggac ctttggccag      360
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<210> 26

<211> 1395

<212> DNA

<213> Artificial Sequence

<220>

<223> HuMAB2

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accgtgtccg gcttcagcat caacagcgac tgctactgga tctggatcag acagccccct	180
ggcaagggcc tggagtacat cggctacacc ttctacagcg gcatcaccta ctacaacccc	240
agcctggcca gccggaccac catcagcaga gacaccagca agaaccagtt cagcctgaag	300
ctgagcagcg tgacagccgc cgataccgcc gtgtactact gcgccagaga ctgcgactac	360
gccatggact attggggcca gggcacccctc gtgaccgtgt ctagcgcctc taaaagggc	420
cccagcgtgt tccctctggc ccctagcagc aagagcacat ctggcggaac agccgccctg	480
ggctgcctcg tgaaagacta cttccccgag cccgtgacag tgtcctggaa ctctggcgcc	540
ctgacaagcg gcgtgcacac ctttccagcc gtgctgcaga gcagcggcct gtactctctg	600
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accacacct gtcccccttg tcctgcccc gaactgctgg gaggcccttc cgtgttcctg	780
ttccccccaa agcccaagga caccctgatg atcagcagaa ccccgaagt gacctgcgtg	840
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gaagtgcaca acgccaagac caagcctaga gaggaacagt acaacagcac ctaccgggtg	960
gtgtccgtgc tgacagtgct gcaccaggac tggctgaacg gcaaagagta caagtgaag	1020
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ccccgcgagc cccaggtgta cacactgcct ccaagccggg aagagatgac caagaatcag	1140
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tcattcttcc tgtacagaa gctgaccgtg gacaagtccc ggtggcagca gggcaacgtg	1320
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ctgagccccg gctaa	1395

<210> 27
<211> 705
<212> DNA
<213> Artificial Sequence

<220>
<223> HuMAB2

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gacatccaga tgacccagag cccagcagc ctgtctgccg gcgtgggcga cagagtgacc 120
atcacctgta gagccagcca ggacatcagc aactacctga actggtatca gcagaaaccc 180
ggcaaggccg tgaagctgct gatccactac accagcaccg tgcacagcgg cgtgcccagc 240
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gaaagcgtga ccgagcagga cagcaaggac tccacctaca gcctgtcctc caccctgacc 600
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<210> 28
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> hGDF15 mutant

<400> 28

Ala Arg Asn Gly Asp Ala Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 29

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> hGDF15 mutant

<400> 29

Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly Ala Cys Cys Arg
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 30
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> hGDF15 mutant

<400> 30

Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Ala
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 31
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> hGDF15 mutant

<400> 31

Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly Ala Cys Cys Ala
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 32
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> hGDF15 mutant

<400> 32

Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Ala Ala Cys Cys Ala
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

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

<220>
<223> hGDF15 mutant

<400> 33

Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Ala Ala Cys Cys Ala
1 5 10 15

Ala His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

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

<220>
<223> hGDF15 mutant

<400> 34

Ala Arg Asn Gly Asp His Cys Pro Leu Ala Ala Ala Cys Cys Ala
1 5 10 15

Ala His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 35
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> hGDF15 mutant

<400> 35

Ala Arg Asn Gly Asp His Cys Ala Ala Ala Ala Ala Ala Cys Cys Ala
1 5 10 15

Ala His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Thr Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 36
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> hGDF15 mutant

<400> 36

Ala Arg Asn Gly Asp His Cys Pro Leu Gly Pro Gly Arg Cys Cys Arg
1 5 10 15

Leu His Thr Val Arg Ala Ser Leu Glu Asp Leu Gly Trp Ala Asp Trp
20 25 30

Val Leu Ser Pro Arg Glu Val Gln Val Thr Met Cys Ile Gly Ala Cys
35 40 45

Pro Ser Gln Phe Arg Ala Ala Asn Met His Ala Gln Ile Lys Thr Ser
50 55 60

Leu His Arg Leu Lys Pro Asp Ala Val Pro Ala Pro Cys Cys Val Pro
65 70 75 80

Ala Ser Tyr Asn Pro Met Val Leu Ile Gln Lys Thr Asp Thr Gly Val
85 90 95

Ser Leu Gln Thr Tyr Asp Asp Leu Leu Ala Lys Asp Cys His Cys Ile
100 105 110

<210> 37
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 37

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

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Ile Arg
20 25 30

<210> 38
<211> 6
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 38

Arg Asp Cys Tyr Trp Ile
1 5

<210> 39

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 39

Asp Asp Cys Tyr Trp Ile
1 5

<210> 40

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 40

Ser Arg Cys Tyr Trp Ile
1 5

<210> 41

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 41

Ser Ser Cys Tyr Trp Ile
1 5

<210> 42
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 42

Ser Phe Cys Tyr Trp Ile
1 5

<210> 43
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 43

Ser Asp Cys Arg Trp Ile
1 5

<210> 44
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 44

Ser Asp Cys Gln Trp Ile
1 5

<210> 45
<211> 16
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 45

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

<210> 46

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 46

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

<210> 47

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 47

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

<210> 48

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 48

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

<210> 49
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 49

Asp Cys Arg Tyr Ala Met Asp Tyr
1 5

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

<220>
<223> HuMAB2 variant

<400> 50

Asp Cys Phe Tyr Ala Met Asp Tyr
1 5

<210> 51
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 51

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

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

<210> 52
<211> 16
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 52

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

<210> 53

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 53

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

<210> 54

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 54

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

<210> 55

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 55

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

<210> 56
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 56

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

<210> 57
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 57

Tyr Thr Phe Trp Ser Gly Ile Thr Tyr Tyr Asn Pro Ser Leu Ala Ser
1 5 10 15

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

<220>
<223> HuMAB2 variant

<400> 58

Tyr Thr Phe Tyr Ser Gly His Thr Tyr Tyr Asn Pro Ser Leu Ala Ser
1 5 10 15

<210> 59
<211> 16
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 59

Tyr	Thr	Phe	Tyr	Ser	Gly	Leu	Thr	Tyr	Tyr	Asn	Pro	Ser	Leu	Ala	Ser
1				5				10						15	

<210> 60

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 60

Tyr	Thr	Phe	Tyr	Ser	Gly	Asn	Thr	Tyr	Tyr	Asn	Pro	Ser	Leu	Ala	Ser
1				5				10						15	

<210> 61

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 61

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

<210> 62

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 62

Tyr	Thr	Phe	Tyr	Ser	Gly	Ile	Thr	Tyr	Tyr	His	Pro	Ser	Leu	Ala	Ser
1				5				10						15	

<210> 63
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 63

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

<210> 64
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 64

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

<210> 65
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 65

Tyr Thr Phe Tyr Ser Gly Ile Thr Tyr Tyr Arg Pro Ser Leu Ala Ser
1 5 10 15

<210> 66
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 66

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

<210> 67

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 67

Gln Cys Asp Tyr Ala Met Asp Tyr
1 5

<210> 68

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 68

Asp Cys Glu Tyr Ala Met Asp Tyr
1 5

<210> 69

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 69

Asp Cys His Tyr Ala Met Asp Tyr
1 5

<210> 70

<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 70

Asp Cys Lys Tyr Ala Met Asp Tyr
1 5

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

<220>
<223> HuMAB2 variant

<400> 71

Asp Cys Asn Tyr Ala Met Asp Tyr
1 5

<210> 72
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 72

Asp Cys Gln Tyr Ala Met Asp Tyr
1 5

<210> 73
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 73

Asp Cys Ser Tyr Ala Met Asp Tyr
1 5

<210> 74
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 74

Asp Cys Thr Tyr Ala Met Asp Tyr
1 5

<210> 75
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 75

Asp Cys Asp Ala Ala Met Asp Tyr
1 5

<210> 76
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 76

Asp Cys Asp Asp Ala Met Asp Tyr
1 5

<210> 77
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 77

Asp Cys Asp Phe Ala Met Asp Tyr
1 5

<210> 78

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 78

Asp Cys Asp Asn Ala Met Asp Tyr
1 5

<210> 79

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 79

Asp Cys Asp Gln Ala Met Asp Tyr
1 5

<210> 80

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 80

Asp Cys Asp Tyr Ala Phe Asp Tyr
1 5

<210> 81
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 81

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

<210> 82
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 82

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

<210> 83
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 83

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

<210> 84
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 84

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

<210> 85

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 85

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

<210> 86

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 86

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

<210> 87

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 87

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

<210> 88
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 88

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

<210> 89
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 89

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

<210> 90
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 90

Tyr Thr Ser Arg Leu His Ser
1 5

<210> 91
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 91

Gln Gln Phe Asn Thr Leu Pro Trp Thr
1 5

<210> 92

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 92

Gln Gln Tyr Asn Thr Leu Pro Trp Thr
1 5

<210> 93

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 93

Gln Gln Gly Glu Thr Leu Pro Trp Thr
1 5

<210> 94

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 94

Gln Gln Gly Arg Thr Leu Pro Trp Thr
1 5

<210> 95

<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 95

Gln Gln Gly Asp Thr Leu Pro Trp Thr
1 5

<210> 96
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 96

Gln Gln Gly Phe Thr Leu Pro Trp Thr
1 5

<210> 97
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 97

Gln Gln Gly Asn Asp Leu Pro Trp Thr
1 5

<210> 98
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 98

Gln Gln Gly Asn Arg Leu Pro Trp Thr
1 5

<210> 99
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 99

Gln Gln Gly Asn Phe Leu Pro Trp Thr
1 5

<210> 100
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 100

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

<210> 101
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 101

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

<210> 102
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 102

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

<210> 103

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 103

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

<210> 104

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 104

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

<210> 105

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 105

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

<210> 106
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 106

Phe Thr Ser Thr Leu His Ser
1 5

<210> 107
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 107

His Thr Ser Thr Leu His Ser
1 5

<210> 108
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 108

Tyr Thr Asp Thr Leu His Ser
1 5

<210> 109
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 109

Tyr Thr Glu Thr Leu His Ser
1 5

<210> 110

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 110

Tyr Thr Arg Thr Leu His Ser
1 5

<210> 111

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 111

Tyr Thr Tyr Thr Leu His Ser
1 5

<210> 112

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 112

Tyr Thr Ser Lys Leu His Ser
1 5

<210> 113
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 113

Tyr Thr Ser Asn Leu His Ser
1 5

<210> 114
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
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<400> 114

Tyr Thr Ser Tyr Leu His Ser
1 5

<210> 115
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 115

Tyr Thr Ser Thr Leu Gln Ser
1 5

<210> 116
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 116

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Lys Gly Thr Asp Tyr Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys
20 25 30

<210> 117

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 117

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Asn Gly Thr Asp Tyr Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys
20 25 30

<210> 118

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 118

Gln Gln Ala Asn Thr Leu Pro Trp Thr
1 5

<210> 119

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 119

Gln Gln Asn Asn Thr Leu Pro Trp Thr
1 5

<210> 120

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 120

Gln Gln Ser Asn Thr Leu Pro Trp Thr
1 5

<210> 121

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 121

Gln Gln Gly His Thr Leu Pro Trp Thr
1 5

<210> 122

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 122

Gln Gln Gly Gln Thr Leu Pro Trp Thr
1 5

<210> 123

<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 123

Gln Gln Gly Thr Thr Leu Pro Trp Thr
1 5

<210> 124
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 124

Gln Gln Gly Tyr Thr Leu Pro Trp Thr
1 5

<210> 125
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 125

Gln Gln Gly Asn Ser Leu Pro Trp Thr
1 5

<210> 126
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 126

Gln Gln Gly Asn Thr Phe Pro Trp Thr
1 5

<210> 127
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 127

Gln Gln Gly Asn Thr His Pro Trp Thr
1 5

<210> 128
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 128

Gln Gln Gly Asn Thr Ile Pro Trp Thr
1 5

<210> 129
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HuMAB2 variant

<400> 129

Gln Gln Gly Asn Thr Asn Pro Trp Thr
1 5

<210> 130
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 130

Gln Gln Gly Asn Thr Tyr Pro Trp Thr
1 5

<210> 131

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 131

Gln Gln Gly Asn Thr Leu Pro His Thr
1 5

<210> 132

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> HuMAB2 variant

<400> 132

Gln Gln Gly Asn Thr Leu Pro Tyr Thr
1 5

<210> 133

<211> 152

<212> PRT

<213> Mus musculus

<400> 133

Met Ser Ser Pro Gln Ser Leu Lys Thr Leu Thr Ile Thr Met Gly Trp
1 5 10 15

Thr Trp Ile Phe Ile Leu Ile Leu Ser Val Thr Thr Gly Val His Ser

20

25

30

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

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Gly Tyr
 50 55 60

Asn Met Asn Trp Val Lys Gln Ser Asn Gly Lys Ser Leu Glu Trp Ile
 65 70 75 80

Gly Asn Ile Asp Pro Tyr Tyr Gly Gly Thr Ser Tyr Asn Gln Lys Phe
 85 90 95

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
 100 105 110

Met Gln Leu Lys Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 115 120 125

Ala Arg Pro Gly Arg Tyr Asp Gly Ala Trp Phe Ala Tyr Trp Gly Gln
 130 135 140

Gly Thr Leu Val Thr Val Ser Ala
 145 150

<210> 134
 <211> 128
 <212> PRT
 <213> Mus musculus

<400> 134

Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
 1 5 10 15

Val Ile Met Ser Arg Gly Gln Ile Val Leu Ser Gln Ser Pro Ala Ile
 20 25 30

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

Ser Asn Val Asn Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Ser Ser
50 55 60

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

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile
85 90 95

Ser Arg Val Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp
100 105 110

Ser Asp Asn Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
115 120 125

<210> 135
<211> 150
<212> PRT
<213> Mus musculus

<400> 135

Met Ser Ser Pro Gln Ser Leu Lys Thr Leu Thr Leu Thr Met Gly Gly
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Ile Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly Val His Ser
20 25 30

Glu Ile Gln Leu Gln Gln Thr Gly Pro Glu Leu Val Lys Pro Gly Ala
35 40 45

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

Ile Met Leu Trp Val Lys Gln Arg His Gly Lys Ser Leu Glu Trp Ile
65 70 75 80

Gly Asn Ile His Pro Tyr Tyr Gly Thr Thr Ser Tyr Asn Leu Lys Phe
85 90 95

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
100 105 110

Met Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
115 120 125

Ala Arg Gly Ile Gly Gly Ser Pro Phe Ala Tyr Trp Gly Gln Gly Thr
130 135 140

Leu Val Thr Val Ser Ala
145 150

<210> 136
<211> 131
<212> PRT
<213> Mus musculus

<400> 136

Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
1 5 10 15

Ser Ser Ser Asp Val Leu Met Thr Gln Thr Pro Leu Ser Leu Pro Val
20 25 30

Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile
35 40 45

Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro
50 55 60

Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser
65 70 75 80

Gly Val Pro Asp Arg Phe Thr Gly Thr Gly Ser Gly Thr Asp Phe Thr
85 90 95

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys
100 105 110

Phe Gln Gly Ser His Val Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125

Glu Ile Lys
130

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<211> 5
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<213> Mus musculus

<400> 137

Gly Tyr Asn Met Asn
1 5

<210> 138
<211> 17
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<400> 138

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

Gly

<210> 139
<211> 11
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<400> 139

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

<210> 140
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<400> 140

Arg Ala Ser Ser Asn Val Asn Tyr Met His
1 5 10

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<400> 141

Ala Thr Ser Asn Leu Ala Ser
1 5

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<400> 142

Gln Gln Trp Ser Asp Asn Pro Leu Thr
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<210> 143
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<400> 143

Asp Tyr Ile Met Leu
1 5

<210> 144
<211> 17
<212> PRT
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<400> 144

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

Gly

<210> 145

<211> 9

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<213> Mus musculus

<400> 145

Gly Ile Gly Gly Ser Pro Phe Ala Tyr
1 5

<210> 146

<211> 16

<212> PRT

<213> Mus musculus

<400> 146

Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
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<210> 147

<211> 7

<212> PRT

<213> Mus musculus

<400> 147

Lys Val Ser Asn Arg Phe Ser
1 5

<210> 148

<211> 9

<212> PRT

<213> Mus musculus

<400> 148

Phe Gln Gly Ser His Val Pro Tyr Thr
1 5

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<220>
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<400> 149

Ser Asp Cys Tyr Trp Thr
1 5

<210> 150
<211> 6
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<220>
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<400> 150

Ser Asp Cys Tyr Trp Asn
1 5

<210> 151
<211> 16
<212> PRT
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<400> 151

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

<210> 152
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<400> 152

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<220>

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<400> 153

Tyr	Thr	Ile	Tyr	Ser	Gly	Ile	Thr	Tyr	Tyr	Asn	Pro	Ser	Leu	Ala	Ser
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<210> 154

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<400> 154

Arg	Ala	Ser	Gln	Asp	Ile	Ser	Tyr	Tyr	Leu	Asn
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<210> 155

<211> 7

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<400> 155

Tyr	Thr	Phe	Thr	Leu	His	Ser
1				5		

<210> 156
<211> 7
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<213> Artificial Sequence

<220>
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<400> 156

Tyr Thr Ser Gln Leu His Ser
1 5

<210> 157
<211> 7
<212> PRT
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<400> 157

Tyr Thr Ser Thr His His Ser
1 5