

P6027241PCT.ST25.txt
SEQUENCE LISTING

<110> Koninklijke Nederlandse Akademie van Wetenschap
Hubrecht Laboratorium

<120> Antibodies recognizing endogenous human Lgr5 and/or Lgr6

<130> P6027241PCT

<150> EP 09075065.4
<151> 2009-02-10

<150> PCT/NL2008/050543
<151> 2008-08-08

<160> 119

<170> PatentIn version 3.3

<210> 1
<211> 118
<212> PRT
<213> Artificial

<220>
<223> VH of Lgr5 antibody 1D9

<400> 1

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

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

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

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

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

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

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

Thr Val Thr Val Ser Ser
115

<210> 2
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<212> DNA
<213> Artificial

<220>
<223> VH Lgr5 Antibody 1D9

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catggaaaga gccttgagtg gattgggtat attaatccta acagtgggta tactaactac      180
aatgaaaagt tcaagagcaa ggccacattg actgtagaca aatccaccaa tacagcctat      240
atggagctta gcagattgac atctgaggac tctgcaacct attactgtac aagatttggg      300
agctactggg actttgactt ctggggccaa gggaccacgg tcaccgtctc ctca          354

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<210> 3
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<220>
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<220>
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<222> (4)..(4)
<223> Xaa can be any naturally occurring amino acid

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          20          25          30

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

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

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

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

Asn Met Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Met Gln Ser Asn
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Ser Tyr Pro Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg
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<210> 4
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<220>
<223> VL Lgr5 antibody 1D9

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gggcagtctc ctaaactgct tatctacaaa gcatccaacc ggtacacggg agtccctgat 180
cgcttcacag gcagtggatc tggaacagat ttcactttca ccatcagcaa catgcaggct 240
gaagacctgg ctgtttatta ctgtatgcag tctaactcct atccgctcac gttcggttct 300
gggaccaagc tggagatcaa acgg 324

<210> 5
<211> 123
<212> PRT
<213> Artificial

<220>
<223> VH Lgr5 antibody 2F10

<400> 5
Glu Val Lys Leu Gln Glu Ser Gly Gly Gly Leu Val His Pro Gly Arg
1 5 10 15
Ser Leu Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Asn Asn Tyr
20 25 30
Trp Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Ser Ile Thr Asn Thr Gly Asp Ser Thr Phe Tyr Pro Asp Ser Val
50 55 60
Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
65 70 75 80
Val Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95
Thr Arg Glu Gly Asn Thr Met Gly Ile Thr Gly Gly Phe Phe Asp Tyr
100 105 110
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 6
<211> 369
<212> DNA
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<220>
<223> VH Lgr5 antibody 2F10

<400> 6
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ccaggggaagg ggctggagtg ggttgcattc attactaata ctggtgatag cactttctat 180
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gtacaaatga acagtctgag gtctgaggac acggccactt attactgtac aagagagggg 300
aatactatgg gtataacggg aggctttttt gattactggg gccaaaggac cacggtcacc 360
gtctcctca 369
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 <212> PRT
 <213> Artificial

<220>
 <223> VL Lgr5 antibody 2F10

<400> 7

Met Val Leu Met Ser Leu Leu Phe Trp Ile Ser Gly Thr Cys Gly Asp
 1 5 10 15

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

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

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

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

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

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

Tyr Ser Tyr Asn Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg
 115 120 125

<210> 8
 <211> 339
 <212> DNA
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<220>
 <223> VL Lgr5 antibody 2F10

<400> 8

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tggtaccagc agaaaccagg gcagtctcct aaactgctga tctacttggc atccactagg 180
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gaatctggtg tccctgatcg cttcataggc agtggatctg ggacagactt cactctgacc 240
atcagcagtg tgcaggctga agatctggca gattattact gtcagcagca ttacagctat 300
aacacgtttg gagctgggac caagctggaa ctgaaacgg 339

<210> 9
<211> 142
<212> PRT
<213> Artificial

<220>
<223> VH Lgr5 antibody 6C10

<400> 9

Met Asn Phe Gly Leu Ser Leu Val Phe Leu Val Leu Phe Ile Lys Gly
1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Arg Ser Leu Lys Val Ser Cys Val Ala Ser Gly Phe Ile Phe
35 40 45

Asn Asn Tyr Trp Met Thr Trp Ile Arg Gln Gly Pro Gly Arg Gly Leu
50 55 60

Glu Trp Val Ala Ser Ile Thr Asn Ile Gly Asp Ser Thr Tyr Tyr Pro
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Ser
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr
100 105 110

Tyr Tyr Cys Thr Arg Asp Gly Ala Met Glu Gly Ile Val Gly Gly Tyr
115 120 125

Phe Asp Tyr Trp Gly Gln Gly Val Met Val Thr Val Ser Ser
130 135 140

<210> 10
<211> 369
<212> DNA
<213> Artificial

<220>
<223> VH Lgr5 antibody 6C10

<400> 10

gaggtgcagc tgggtggagtc tgggggaggc ctagtgcagc ctggaaggtc tctgaaagta 60
tcctgtgtag cctctggatt catattcaat aactactgga tgacctggat cgcagggt 120
ccagggaggg ggctggagtg ggttgcattc attactaata ttggtgatag cacttactat 180
ccagactctg tgaagggccg attcactatc tccagagata atgcaaaaag caccctatac 240

P6027241PCT.ST25.txt

ctgcaaatga acagtctgag gtctgaggac acggccactt attactgtac aagagatgga 300
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gtctcctca 369

<210> 11
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<212> PRT
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<220>
<223> VL Lgr5 antibody 6C10

<400> 11

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

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

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

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

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

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

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

<210> 12
<211> 321
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<220>
<223> VL Lgr5 antibody 6C10

<220>
<221> misc_feature
<222> (15)..(15)
<223> n is a, c, g, or t

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ggagaagctc ccaaactcct gatataataat gcaaacagtt tgcaaacggg catcccatca 180
cggttcagtg gcagtggatc tggtacagat tacacactca ccatcagcag cctgcagcct 240

gaagatgttg ccacatatct ctgccagcag tataacagtt ggaccacggt tggagctggg 300
 accaagctgg agctgaaacg g 321

<210> 13
 <211> 138
 <212> PRT
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 5A7

<400> 13

Met Asn Phe Gly Leu Arg Leu Val Phe Leu Val Leu Phe Ile Lys Gly
 1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Arg Ser Leu Lys Leu Ser Cys Ile Ala Ser Gly Phe Thr Phe
 35 40 45

Asn Asn Tyr Trp Met Thr Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ala Ser Ile Thr Asn Thr Gly Gly Asp Thr Tyr Tyr Pro
 65 70 75 80

Asp Ser Val Lys Ala Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Ser
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr
 100 105 110

Tyr Tyr Cys Thr Arg Asp Val Thr Pro Pro Thr Leu Phe Asp Tyr Trp
 115 120 125

Gly Gln Gly Val Met Val Thr Val Ser Ser
 130 135

<210> 14
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 <212> DNA
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 5A7

<400> 14

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 tcctgcatag cctctggatt cacattcaat aactactgga tgacctggat ccgccaggct 120
 ccagggaagg ggctggagtg ggttgcattc attactaata ccggtggtga cacttactat 180
 ccagactctg tgaaggcccg tttcactatt tccagagata atgcaaaaag caccctatac 240
 ctgcaaatga acagtctgag gtctgaggac acggccactt attactgtac aagagacggt 300

acccccccaa ccctttttga ttactggggc caggagtgca tggtcacagt ctcctca 357

<210> 15
 <211> 124
 <212> PRT
 <213> Artificial

<220>
 <223> VL Lgr5 antibody 5A7

<400> 15

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

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

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

Tyr Leu Ala Trp Tyr Gln Gln Lys Leu Gly Glu Ala Pro Lys Leu Leu
 50 55 60

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

Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Gly Leu Gln
 85 90 95

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

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
 115 120

<210> 16
 <211> 321
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<220>
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 <222> (15)..(15)
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 ggagaagctc ccaaactcct gatatatgat tcaaacagtt tgcaaacggg catcccatca 180
 aggttcagtg gcagtggttc tggtagagat tacacactca ccatcagcgg cctgcagcct 240

gaagatgttg ccacatatatt ctgccagcag tatttcagtt ggacgacggt cggtggaggc 300
 accaagctgg aaatcaaacg g 321

<210> 17
 <211> 142
 <212> PRT
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 9G5

<400> 17

Met Asn Phe Gly Leu Ser Leu Val Phe Leu Val Leu Phe Ile Lys Gly
 1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

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

Asn Asn Tyr Trp Met Thr Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ala Ser Ile Thr Asn Thr Gly Gly Asp Thr Tyr Tyr Pro
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asn Asn Ala Lys Ser
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr
 100 105 110

Tyr Tyr Cys Ser Arg Val Gly Thr Thr Glu Gly Ile Val Ser Trp His
 115 120 125

Phe Asp Phe Trp Gly Pro Gly Thr Met Val Thr Val Ser Ser
 130 135 140

<210> 18
 <211> 369
 <212> DNA
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 9G5

<400> 18

gaggtgcagt tggtggagtc tgggggaggc ctagtgcagc ctggaaggct tctgaaacta 60
 tcctgtgtag cctctggatt cacattcaat aactactgga tgacctggat ccgccaggct 120
 ccaggaagg ggctggagtg ggttgcattc attactaata ctggtggtga cacttactat 180
 ccagactctg tgaagggccg attcactatc tccagaaata atgcaaaaag caccctatac 240
 ctgcaaatga acagtctgag gtctgaggac acggccactt attactgttc aagagtagga 300

actacggagg gtatagtgag ctggcacttt gacttctggg gccaggaac aatggtcacc 360
gtgtcctca 369

<210> 19
<211> 122
<212> PRT
<213> Artificial

<220>
<223> VL Lgr5 antibody 9G5

<400> 19

Met Val Leu Ile Ser Leu Leu Leu Trp Leu Pro Ala Met Arg Cys Asn
1 5 10 15

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

Arg Val Thr Leu Asn Cys Lys Ala Gly Gln Asn Ile Asn Asn Tyr Leu
35 40 45

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

Tyr Ala Asn Ser Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly Ser
65 70 75 80

Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Pro Gln Pro Glu
85 90 95

Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Tyr Ile Trp Thr Thr Phe
100 105 110

Gly Ala Gly Thr Lys Val Glu Leu Lys Arg
115 120

<210> 20
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<212> DNA
<213> Artificial

<220>
<223> VL Lgr5 antibody 9G5

<400> 20

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ggggcagctc ccaaagtcct gatattttat gcaaacagtt tgcaaacggg catcccatca 180
aggttcagtg gcagtggatc tggtagatc tacacactca ccatcagcag cctgcagcct 240
gaagatgttg ccacatattt ctgccagcag tattacattt ggaccacggt tggagctggg 300
accaaggtgg aactgaaacg g 321

<210> 21
 <211> 141
 <212> PRT
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 3B9

<400> 21

Met Asn Phe Gly Leu Arg Leu Val Phe Leu Val Leu Phe Ile Lys Gly
 1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

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

Asn Asn Tyr Trp Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ala Ser Val Thr Asn Thr Gly Asp Lys Phe Phe Tyr Pro
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Gln Asn
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr
 100 105 110

Tyr Tyr Cys Ala Arg Glu Ala Ala Met Gly Ile Thr Thr Gly Tyr Phe
 115 120 125

Asp Tyr Trp Gly Gln Gly Val Met Val Thr Val Ser Ser
 130 135 140

<210> 22
 <211> 366
 <212> DNA
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 3B9

<400> 22

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tcctgtgtag cctctggatt cacattcaat aactattgga tgaactggat ccgccaggct 120

ccagggaagg ggctggagtg ggttgcattc gttacgaata ctggtgataa gtttttctat 180

ccagactctg tgaagggccg attcactgtc tccagagata atgcacaaaa caccctatac 240

ctgcaaatga acagtctgag gtctgaggac acggccactt attactgtgc aagagaggct 300

gctatgggta taactacggg ttactttgat tattggggcc aaggagtcac ggtcacagtc 360

tcctca 366

<210> 23
 <211> 107
 <212> PRT
 <213> Artificial

<220>
 <223> VL Lgr5 antibody 3B9
 <400> 23

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

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

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

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

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

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

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

<210> 24
 <211> 321
 <212> DNA
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<220>
 <223> VL Lgr5 antibody 3B9

<220>
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 <222> (15)..(15)
 <223> n is a, c, g, or t

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 ggacaacctc ccaaactcct gatataaat gcaaacaatt tgcaaacggg catcccatca 180
 aggttcagtg gcagtggatc tggtagatg tacacactca ccatcagcag cctgcagcct 240
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 accaagctgg aaatcaaacg g 321

<210> 25

<211> 142
 <212> PRT
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 10C1

<400> 25

Met Asn Phe Gly Leu Ser Leu Val Phe Leu Val Leu Phe Ile Lys Gly
 1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val His
 20 25 30

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

Asn Asn Tyr Trp Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ala Ser Ile Thr Asn Thr Gly Asp Ser Thr Phe Tyr Pro
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ala Lys Ser
 85 90 95

Thr Leu Tyr Val Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr
 100 105 110

Tyr Tyr Cys Thr Arg Glu Gly Asn Thr Met Gly Ile Thr Gly Gly Phe
 115 120 125

Phe Asp Tyr Trp Gly Gln Gly Val Met Val Thr Val Ser Ser
 130 135 140

<210> 26
 <211> 369
 <212> DNA
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 10C1

<400> 26

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tcctgtgtag cctctggatt cacattcaat aactactgga tgaactggat ccgccaggct	120
ccaggaagg ggctggagtg ggttgcattc attactaata ctggtgatag cactttctat	180
ccagactctg tgaagggccg attcattatc tccagagaca atgcaaaaag caccctatac	240
gtacaaatga acagtctgag gtctgaggac acggccactt attactgtac aagagagggg	300
aatactatgg gtataacggg aggctttttt gattactggg gccaaggagt catggtcaca	360
gtctcctca	369

<210> 27
 <211> 107
 <212> PRT
 <213> Artificial

<220>
 <223> VL Lgr5 antibody 10C1

<400> 27

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

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

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

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

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

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

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

<210> 28
 <211> 321
 <212> DNA
 <213> Artificial

<220>
 <223> VL Lgr5 antibody 10C1

<400> 28

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ggagaagctc ccaaactcct gatataaat gcagacagtt tgcaaacggg cgtcccatca	180
aggttcagtg gcagtggatc tggtagatc tacacactca ccatcagcag cctgcagcct	240
gaagatgttg ccacatattt ctgccagcag tataacagtt ggaacacggt tggaactggg	300
accaagctgg agctgaaacg g	321

<210> 29
 <211> 142
 <212> PRT
 <213> Artificial

<220>
 <223> VH Lgr5 antibody 8F2

<400> 29

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Met Asn Phe Gly Leu Arg Leu Val Phe Leu Val Leu Phe Ile Lys Gly
1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val His
20 25 30

Pro Gly Arg Ser Leu Lys Leu Ser Cys Leu Val Ser Thr Phe Thr Phe
35 40 45

Asn Asp Tyr Trp Met Thr Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ala Ser Ile Thr Asn Thr Gly Gly Asp Thr Tyr Tyr Pro
65 70 75 80

Asp Ser Met Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Ser
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr
100 105 110

Tyr Tyr Cys Thr Arg Glu Gly Ser Ile Met Gly Ile Thr Gly Gly Phe
115 120 125

Phe Asp Tyr Trp Gly Gln Gly Val Met Val Thr Val Ser Ser
130 135 140

<210> 30
<211> 460
<212> DNA
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<220>
<223> VH Lgr5 antibody 8F2

<220>
<221> misc_feature
<222> (15)..(15)
<223> n is a, c, g, or t

<400> 30
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gtgcagctgg tggagtctgg gggaggccta gtgcaccctg gaaggtctct gaaactatcc 120
tgtttggctct ctacattcac attcaatgac tactggatga cctggatccg ccaggctcca 180
gggaaggggc tggagtgggt tgcattccatt actaatactg gtggtgacac ttactatcca 240
gactctatga agggccgatt cactatctcc agagataatg caaaaagcac cctatacctg 300
caaatgaaca gtctgaggtc tgaggacacg gccacttatt actgtacaag agaggggagt 360
attatgggta taacgggagg cttttttgat tactggggcc aaggagtcac gggtcacagtc 420
tcctcagccc aaacaacagc cccatccgtc ttccccctgg 460

<210> 31
 <211> 107
 <212> PRT
 <213> Artificial

<220>
 <223> VL Lgr5 antibody 8F2

<400> 31

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

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

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

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

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

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

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

<210> 32
 <211> 321
 <212> DNA
 <213> Artificial

<220>
 <223> VL Lgr5 antibody 8F2

<220>
 <221> misc_feature
 <222> (15)..(15)
 <223> n is a, c, g, or t

<400> 32
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 ctcagctgca aagcaggtca gaatattaac aattacttag cctgggtatca gcaaaagctt 120
 ggagaagctc ccaaactcct gatataataat gcaaacagtt taaaaacggg catcccatca 180
 aggttcagtg gcagtggatc tggtagatg tacacactca ccatcagtag actgcagcct 240
 gaagatgttg ccacatatat ctgccagcag tataacagtt ggaacacggt tggagctggg 300
 accaagctgg agctgaaacg g 321

<210> 33
 <211> 138
 <212> PRT

<213> Artificial

<220>

<223> VH Lgr5 antibody 4D11

<400> 33

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Ala Ala Thr Cys
 1 5 10 15

Val His Ser Gln Gly Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys
 20 25 30

Pro Gly Ser Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Thr Phe
 35 40 45

Thr Asn Asn Phe Leu His Trp Val Lys Gln Gln Pro Gly Asn Gly Leu
 50 55 60

Glu Trp Ile Gly Trp Ile Tyr Pro Glu Tyr Gly Asn Asn Lys Tyr Asn
 65 70 75 80

Gln Lys Phe Asp Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser
 85 90 95

Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110

Tyr Phe Cys Ala Arg Glu Val Leu Gly Gln Ala Gly Phe Ala Tyr Trp
 115 120 125

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 130 135

<210> 34

<211> 357

<212> DNA

<213> Artificial

<220>

<223> VH Lgr5 antibody 4D11

<400> 34

cagggacagc tgcagcaatc tggggctgaa ttagtgaagc ctgggtcctc agtgaaaatt	60
tcctgcaagg cttctggctt caccttcacc aataactttc tacactgggt aaaacagcag	120
cctggaaatg gccttgagtg gattgggtgg atttatcctg aatatggaaa taataagtac	180
aatcaaaagt tcgatgggaa ggcaacactc actgcagaca aatcctccag cacagcctat	240
atgcagctca gcagcctgac atctgaggac tctgcagtct atttctgtgc aagagaggtc	300
ttagggcagg cggggtttgc ttactggggc caaggcactc tggtcactgt ctcttca	357

<210> 35

<211> 138

<212> PRT

<213> Artificial

<220>

<223> VH Lgr5 antibody 3A4

<400> 35

Met Asn Phe Gly Leu Arg Leu Val Phe Leu Val Leu Phe Ile Lys Gly
1 5 10 15Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30Pro Gly Arg Ser Leu Lys Leu Ser Cys Ile Ala Ser Gly Phe Thr Phe
35 40 45Asn Asn Tyr Trp Met Thr Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60Glu Trp Val Ala Ser Ile Thr Asn Thr Gly Gly Asp Thr Tyr Tyr Pro
65 70 75 80Asp Ser Val Lys Ala Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Ser
85 90 95Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Thr
100 105 110Tyr Tyr Cys Thr Arg Asp Val Thr Pro Pro Thr Leu Phe Asp Tyr Trp
115 120 125Gly Gln Gly Val Met Val Thr Val Ser Ser
130 135

<210> 36

<211> 357

<212> DNA

<213> Artificial

<220>

<223> VH Lgr5 antibody 3A4

<400> 36

gaggtgcagc tgggtggagtc tgggggaggc ctagtgcagc ctggaaggtc tctgaaacta	60
tcctgcatag cctctggatt cacattcaat aactactgga tgacctggat cgcaggct	120
ccagggaagg ggctggagtg ggttgcattc attactaata ccggtggtga cacttactat	180
ccagactctg tgaaggcccg ttctactatt tccagagata atgcaaaaag caccctatac	240
ctgcaaatga acagtctgag gtctgaggac acggccactt attactgtac aagagacgtt	300
acccccccaa ccctttttga ttactggggc cagggagtca tggtcacagt ctctca	357

<210> 37

<211> 141

<212> PRT

<213> Artificial

<220>

<223> VH1 Lgr5 antibody 5C8

<400> 37

Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val Leu Phe Ile Lys Gly
 1 5 10 15

Val Gln Cys Lys Ile Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Arg Ser Leu Lys Leu Ser Cys Leu Ala Ser Gly Phe Thr Phe
 35 40 45

Asn Lys Tyr Trp Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ala Ser Ile Thr Asn Asn Gly Asp Asn Ile Tyr Tyr Pro
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Gly Gln Ser
 85 90 95

Ile Leu Tyr Leu Gln Met Asp Ser Leu Arg Ser Glu Asp Thr Ala Thr
 100 105 110

Tyr Tyr Cys Ala Arg Glu Gly Ser Met Val Ile Thr Thr Gly Tyr Phe
 115 120 125

Asp Phe Trp Gly His Gly Val Met Val Thr Val Ser Ser
 130 135 140

<210> 38

<211> 366

<212> DNA

<213> Artificial

<220>

<223> VH1 Lgr5 antibody 5C8

<400> 38

aagattcaac tgggtggagtc tgggggaggc ctagtgcagc ctggaaggct cctgaaactc 60
 tcctgttttag cctctggatt cacattcaat aagtactgga tgaactggat ccgccaggct 120
 ccggggaagg ggctggagtg ggttgcattc attactaata atggcgataa catttactat 180
 ccagactctg tgaagggccg attcactatc tccagagata atggacaaag tatkctatac 240
 ctgcaaatgg acagtctgag gtctgaggac acggccactt attactgtgc aagagagggt 300
 agtatggtta taactacggg ttattttgat ttctggggcc acggagtcac ggtcacagtc 360
 tcctca 366

<210> 39

<211> 107

<212> PRT

<213> Artificial

<220>

<223> VL Lgr5 antibody 5C8

<400> 39

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

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

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

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

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

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

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

<210> 40

<211> 321

<212> DNA

<213> Artificial

<220>

<223> VL Lgr5 antibody 5C8

<400> 40

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ctcagctgca aagcaggta gaatattaac aataacttag cgtggtatca gcaaaacctt	120
ggagaagctc ccaaactcct gatataaat gcaaatagtt tgcaaacggg catcccatca	180
aggttcagtg gcagtggatc tggtagatg tacacactca ccatcagcag cctgcagcct	240
gaagatgttg ccacatatatt ctgccagcag tataacagtt ggacgacggt cggtggaggc	300
accaagctgg aaatcaaacg g	321

<210> 41

<211> 119

<212> PRT

<213> Artificial

<220>

<223> VH Lgr5 antibody 7B11

<400> 41

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

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

Phe Met His Trp Ile Lys Gln Gln Pro Gly Asn Gly Leu Glu Trp Ile
35 40 45

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

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

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

Ala Arg Glu Val Leu Gly Gln Ala Gly Phe Ala Tyr Trp Gly Gln Gly
100 105 110

Thr Thr Val Thr Val Ser Ser
115

<210> 42
<211> 357
<212> DNA
<213> Artificial

<220>
<223> VH Lgr5 antibody 7B11

<400> 42
gaggtgcagc tgcaggagtc aggggctgaa ttagtgaagc ctgggtcctc agtgaaaatt 60
tcctgcaagg cttctggcta caccttcacc agtaacttta tgcactggat aaagcagcag 120
cctggaaatg gccttgagtg gattgggtgg atttatcctg aatatggtaa tagtaactac 180
aatcaaaaagt tcgatgggaa ggcaacactc actgcagaca aatcctccag aacagtctat 240
atgcagctca gcaccctgac atctgaggac tctgcagtct atttctgtgc aagagaggtc 300
ttagggcagg cggggtttgc ttactggggc caagggacca cggtcaccgt ctctctca 357

<210> 43
<211> 136
<212> PRT
<213> Artificial

<220>
<223> VH Lgr6 antibody 1D8

<400> 43

Met Ala Val Leu Val Leu Leu Leu Cys Leu Val Thr Phe Pro Ser Cys
1 5 10 15

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

Pro Ser Gln Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu
 35 40 45

Thr Ser Asn Ser Val Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu
 50 55 60

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

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

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

Phe Cys Thr Arg Leu Arg Tyr Gly Tyr Ser Phe Asp Tyr Trp Gly Gln
 115 120 125

Gly Thr Thr Val Thr Val Ser Ser
 130 135

<210> 44
 <211> 351
 <212> DNA
 <213> Artificial

<220>
 <223> VH Lgr6 antibody 1D8

<400> 44
 gaggtgaagc tgcaggagtc aggacctggt ctggtgcagc cctcacagac cctgtccctc 60
 acctgcactg tctctgggtt ctcattaacc agcaatagtg taagctgggt tcgccagcct 120
 ccgggaaagg gtctggagtg gctgggaaca atacggaggg gcggaaacac agattataat 180
 tcagctttca aatcccgact gagcatcagc agggacacct ccaagagtca agttttctta 240
 aaaatgaaca gtctgcaaaa tgaggacaca gccatgtact tctgtaccag gctccggtac 300
 ggggtactcct ttgattactg gggccaaggg accacggtca ccgtctcctc a 351

<210> 45
 <211> 132
 <212> PRT
 <213> Artificial

<220>
 <223> VL Lgr6 antibody 1D8

<400> 45

Met Gly Phe Lys Met Lys Ser Gln Phe Leu Val Phe Ile Ser Ile Leu
 1 5 10 15

Leu Trp Leu Tyr Gly Ala Asp Gly Asn Ile Val Met Thr Gln Ser Pro
 20 25 30

Lys Ser Met Ser Met Ser Val Gly Glu Arg Val Thr Leu Thr Cys Lys

35

40

45

Ala Ser Glu Asn Val Val Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro
 50 55 60

Glu Gln Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Arg Tyr Thr
 65 70 75 80

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

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

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

Glu Ile Lys Arg
 130

<210> 46
 <211> 324
 <212> DNA
 <213> Artificial

<220>
 <223> VL Lgr6 antibody 1D8

<400> 46
 aacattgtaa tgaccaatc tcccaaatcc atgtccatgt cagtaggaga gagggtcacc 60
 ttgacctgca aggccagtga gaatgtggtt acttatgttt cctggtatca acagaaacca 120
 gagcagtctc ctaaactgct gatatacggg gcatccaacc ggtacactgg ggtccccgat 180
 cgcttcacag gcagtggatc tgcaacagat ttcactctga ccatcagcag tgtgcaggct 240
 gaagaccttg cagattatca ctgtggacag ggttacagct atccgtacac gttcggaggg 300
 gggaccaagc tggaaataaa acgg 324

<210> 47
 <211> 136
 <212> PRT
 <213> Artificial

<220>
 <223> VH Lgr6 antibody 3D8

<400> 47

Met Ala Val Leu Gly Leu Leu Leu Cys Leu Val Thr Phe Pro Ser Cys
 1 5 10 15

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

Pro Ser Gln Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu
 35 40 45

Thr Ser Asn Ser Val Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu
50 55 60

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

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

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

Phe Cys Thr Arg Leu Arg Tyr Gly Tyr Ser Phe Asp Tyr Trp Gly Gln
115 120 125

Gly Val Met Val Thr Val Ser Ser
130 135

<210> 48
<211> 351
<212> DNA
<213> Artificial

<220>
<223> VH Lgr6 antibody 3D8

<400> 48
gaggtgaagc tgcagcagtc aggacctggt ctggtgcagc cctcacagac cctgtccctc 60
acctgcactg tctctgggtt ctcattaacc agcaatagtg taagctgggt tcgccagcct 120
ccgggaaagg gtctggagtg gctgggaaca atacggaggg gcggaaacac agattataat 180
tcagctttca aatcccgact gagcatcagc agggacacct ccaagagtca agttttctta 240
aaaatgaaca gtctgcaaaa tgaggacaca gccatgtact tctgtaccag gctccggtac 300
gggtactcct ttgattactg gggccaaggg accacggtca ccgtctcctc a 351

<210> 49
<211> 132
<212> PRT
<213> Artificial

<220>
<223> VL Lgr6 antibody 3D8

<400> 49

Met Gly Phe Lys Met Glu Ser His Phe Leu Val Phe Ile Ser Ile Leu
1 5 10 15

Leu Trp Leu Tyr Gly Ala Asp Gly Asn Ile Val Met Thr Gln Ser Pro
20 25 30

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

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Ala Ser Glu Asn Val Val Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro
50 55 60

Glu Gln Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Arg Tyr Thr
65 70 75 80

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

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

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

Glu Ile Lys Arg
130

<210> 50
<211> 324
<212> DNA
<213> Artificial

<220>
<223> VL Lgr6 antibody 3D8

<400> 50
aacattgtaa tgaccaatc tcccaaatcc atgtccatgt cagtaggaga gagggtcacc 60
ttgacctgca aggccagtga gaatgtggtt acttatgttt cctggtatca acagaaacca 120
gagcagtctc ctaaactgct gatatacggg gcatccaacc ggtacactgg ggtccccgat 180
cgcttcacag gcagtggatc tgcaacagat ttcactctga ccatcagcag tgtgcaggct 240
gaagaccttg cagattatca ctgtggacag ggttacagct atccgtacac gttcggaggg 300
gggaccaagc tggaaataaa acgg 324

<210> 51
<211> 136
<212> PRT
<213> Artificial

<220>
<223> VH Lgr6 antibody 6D8

<400> 51

Met Asn Phe Gly Leu Arg Leu Ile Phe Leu Val Pro Phe Ile Lys Gly
1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

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

Asn Asn Tyr Trp Met Thr Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

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

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Ile Ser
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Thr Ser Glu Asp Thr Ala Thr
 100 105 110

Tyr Tyr Cys Thr Ser Glu Gly Gly Ser Gly Leu Asp Tyr Trp Gly Gln
 115 120 125

Gly Val Met Val Thr Val Ser Ser
 130 135

<210> 52
 <211> 351
 <212> DNA
 <213> Artificial

<220>
 <223> VH Lgr6 antibody 6D8

<400> 52
 gaggtgcagc tgggtggagtc tgggggaggc ctagtgcagc ctggaaggct tctgaaacta 60
 tcctgtgtag cctctggatt cacattcaat aactactgga tgacctggat ccgccaggct 120
 ccaggaagg ggctggagtg ggttgcattc attactaata ctggtggaaa cacttactat 180
 ccagactctg tgaagggccg attcactatc tccagagata atgcaataag taccctgtac 240
 ctgcaaatga acagcctgac gtctgaggac acggccacgt attactgtac aagcgaggga 300
 gggagtgggc ttgattattg gggccaagga gtcattgtca cagtctcctc a 351

<210> 53
 <211> 132
 <212> PRT
 <213> Artificial

<220>
 <223> VL Lgr6 antibody 6D8

<400> 53

Met Gly Phe Lys Met Glu Ser His Phe Leu Val Phe Ile Ser Ile Leu
 1 5 10 15

Leu Trp Leu Tyr Gly Ala Asp Gly Asn Ile Val Met Thr Gln Ser Pro
 20 25 30

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

Ala Ser Glu Asn Val Val Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro
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50

55

60

Glu Gln Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Arg Tyr Thr
65 70 75 80

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

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

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

Glu Ile Lys Arg
130

<210> 54
<211> 324
<212> DNA
<213> Artificial

<220>
<223> VL Lgr6 antibody 6D8

<400> 54
aacattgtaa tgaccaatc tcccaaatcc atgtccatgt cagtaggaga gagggtcacc 60
ttgacctgca aggccagtga gaatgtggtt acttatgttt cctggtatca acagaaacca 120
gagcagtctc ctaaactgct gatatacggg gcatccaacc ggtacactgg ggtccccgat 180
cgcttcacag gcagtggatc tgcaacagat ttcactctga ccatcagcag tgtgcaggct 240
gaagaccttg cagattatca ctgtggacag ggttacagct atccgtacac gttcggaggg 300
gggaccaagc tggaataaaa acgg 324

<210> 55
<211> 134
<212> PRT
<213> Artificial

<220>
<223> VH Lgr6 antibody 2F4

<400> 55

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

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

Ser Gln Ser Leu Ser Leu Thr Cys Ser Val Thr Gly Tyr Ser Ile Thr
35 40 45

Lys Asn Tyr Trp Gly Trp Ile Arg Lys Phe Pro Gly Asn Lys Met Glu
50 55 60

Trp Met Gly Tyr Ile Ser His Ser Gly Ser Ile Lys Tyr Asn Thr Ser
65 70 75 80

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

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

Cys Ala Ser Gln Thr Thr Arg Gly Phe Ala Tyr Trp Gly Gln Gly Thr
115 120 125

Leu Val Thr Val Ser Ser
130

<210> 56
<211> 348
<212> DNA
<213> Artificial

<220>
<223> VH Lgr6 antibody 2F4

<400> 56
gaggtgaagc ttcaggagtc aggacctggc cttgtgaaac cctcacagtc actctccctc 60
acctgttctg tcaactggta ctccatcact aagaattact ggggctggat ccggaagtcc 120
ccaggaaata aaatggagtg gatgggatac ataagccaca gtggtagtat taagtacaat 180
acatctctca aaagtcgaat ctccattact agagacactt cgaagaatca gttcttctcg 240
cagttgaact ctctaactac tgaggacaca gccacatatt actgtgcaag tcaaactacc 300
cgaggttttg cttactgggg ccagggcact ctggtcactg tctcttcg 348

<210> 57
<211> 131
<212> PRT
<213> Artificial

<220>
<223> VL Lgr6 antibody 2F4

<400> 57

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

Ser Arg Ser Asp Val Val Leu Thr Gln Ser Pro Val Ala Gln Pro Val
20 25 30

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

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

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

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

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

Phe Gln Ala Thr His Asp Pro Thr Phe Gly Ala Gly Thr Lys Leu Glu
115 120 125

Leu Lys Arg
130

<210> 58
<211> 336
<212> DNA
<213> Artificial

<220>
<223> VL Lgr6 antibody 2F4

<400> 58
gatgttgtgt tgacacaaag tccagttgcc cagcctgtca cacttggaga tcaagcttct 60
atatcctgca ggtctagtca gagcctggta catagaaatg gaaacactta tttggaatgg 120
tacatacaga agccaggcca gtctccacag ctctcatct ataaggtttc gaaccgattt 180
tctggggtac cagacagggt cattggcagt gggtcagggt cagatttcac cctcaagatc 240
agcagagtgg agcctgagga cttgggagtt tattactgct tccaagctac acatgacccc 300
acgtttggag ctgggaccaa gctggaactg aaacgg 336

<210> 59
<211> 2724
<212> DNA
<213> Homo sapiens

<400> 59
atggacacct cccggctcgg tgtgctcctg tccttgccctg tgctgctgca gctggcgacc 60
gggggcagct ctcccagggtc tgggtgtgttg ctgaggggct gccccacaca ctgtcattgc 120
gagcccgcag gcaggatggt gctcagggtg gactgctccg acctggggct ctcggagctg 180
ccttccaacc tcagcgtctt cacctcctac ctagacctca gtatgaacaa catcagtcag 240
ctgctcccga atcccctgcc cagtctccgc ttcctggagg agttacgtct tgcgggaaac 300
gctctgacat acattcccaa gggagcattc actggccttt acagtcttaa agttcttatg 360
ctgcagaata atcagctaag acacgtaccc acagaagctc tgcagaattt gcgaagcctt 420
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Ser Val Phe Thr Ser Tyr Leu Asp Leu Ser Met Asn Asn Ile Ser Gln
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Lys Tyr Gly Ala Ser Pro Leu Cys Leu Pro Leu Pro Phe Gly Glu Pro
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 Page 38

805

810

815

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Ser Val Phe Thr Ser Tyr Leu Asp Leu Ser Met Asn Asn Ile Ser Gln
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Ser Asn Leu Lys Glu Leu Gly Phe His Ser Asn Asn Ile Arg Ser Ile
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 Tyr Asp₂₉₀ Asn Pro Ile Gln Phe₂₉₅ Val Gly Arg Ser Ala₃₀₀ Phe Gln His Leu
 Pro Glu₃₀₅ Leu Arg Thr Leu₃₁₀ Thr Leu Asn Gly Ala₃₁₅ Ser Gln Ile Thr Glu₃₂₀
 Phe Pro Asp Leu Thr₃₂₅ Gly Thr Ala Asn Leu₃₃₀ Glu Ser Leu Thr Leu₃₃₅ Thr
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 Ser Phe₃₇₀ Ser Val Cys Gln Lys₃₇₅ Leu Gln Lys Ile Asp₃₈₀ Leu Arg His Asn
 Glu₃₈₅ Ile Tyr Glu Ile Lys₃₉₀ Val Asp Thr Phe Gln₃₉₅ Gln Leu Leu Ser Leu₄₀₀
 Arg Ser Leu Asn₄₀₅ Leu Ala Trp Asn Lys Ile₄₁₀ Ala Ile Ile His Pro₄₁₅ Asn
 Ala Phe Ser Thr₄₂₀ Leu Pro Ser Leu Ile₄₂₅ Lys Leu Asp Leu Ser₄₃₀ Ser Asn
 Leu Leu Ser₄₃₅ Ser Phe Pro Ile Thr₄₄₀ Gly Leu His Gly Leu₄₄₅ Thr His Leu
 Lys Leu₄₅₀ Thr Gly Asn His Ala₄₅₅ Leu Gln Ser Leu Ile₄₆₀ Ser Ser Glu Asn
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 Ala Phe Gly Val Cys₄₈₅ Glu Asn Ala Tyr Lys₄₉₀ Ile Ser Asn Gln Trp₄₉₅ Asn
 Lys Gly Asp Asn₅₀₀ Ser Ser Met Asp Asp₅₀₅ Leu His Lys Lys Asp₅₁₀ Ala Gly
 Met Phe Gln₅₁₅ Ala Gln Asp Glu Arg₅₂₀ Asp Leu Glu Asp Phe₅₂₅ Leu Leu Asp
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Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
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Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
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Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
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Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
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Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
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Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
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Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
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Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
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Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
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