SEQUENCE LISTING

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<120> PCSK9 Antagonists

<130> PAT053967-WO-PCT

<140> WO Not yet assigned
<141> Not yet assigned

<150> US 61/285,942
<151> 2009-12-11

<160> 76

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 118
<212> PRT
<213> Mus musculus

<220>
<223> mouse anti-PCSK9 monoclonal antibody LFU720 heavy chain variable region (FR1-FR4)

<400> 1

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

<210> 2
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG04 (clones LGT-209 and LGT-210) Vh heavy chain variable region (FR1-FR4)

<400> 2

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala
1				5				10						15	
Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Ser	Thr	Met
			20					25					30		
Tyr	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Met
		35					40					45			

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

<210> 3
<211> 448
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG04
(clones LGT-209 and LGT-210) Vh heavy chain
includoing IgG1 constant chain

<220>
<221> VARIANT
<222> (235)...(236)
<223> Xaa = Ala or Leu

<400> 3
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Thr Met
20 25 30
Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45
Gly Arg Ile Asp Pro Ala Asn Glu His Thr Asn Tyr Ala Gln Lys Phe
50 55 60
Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80
Met Glu Leu Ser Arg Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Ser Tyr Tyr Tyr Tyr Asn Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110
Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
115 120 125
Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
130 135 140
Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
145 150 155 160
Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
165 170 175
Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
180 185 190
Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
195 200 205
Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp Lys Thr
210 215 220
His Thr Cys Pro Pro Cys Pro Ala Pro Glu Xaa Xaa Gly Gly Pro Ser
225 230 235 240
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
245 250 255
Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
260 265 270
Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
275 280 285
Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
290 295 300
Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
305 310 315 320

```
Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
                325                 330                 335
Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
            340                 345                 350
Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
        355                 360                 365
Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
    370                 375                 380
Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
385                 390                 395                 400
Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
                405                 410                 415
Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
            420                 425                 430
Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
        435                 440                 445
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<210> 4
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pSR74 (clone LGT-211) Vh heavy chain variable region (FR1-FR4)

<400> 4

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1               5                  10                  15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Thr Met
            20                  25                  30
Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
        35                  40                  45
Gly Arg Ile Asp Pro Ala Asn Glu His Thr Asn Tyr Ala Gln Lys Phe
    50                  55                  60
Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65                  70                  75                  80
Met Glu Leu Ser Arg Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Arg Ser Tyr Tyr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110
Leu Val Thr Val Ser Ser
        115
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<210> 5
<211> 448
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pSR74 (clone LGT-211) Vh heavy chain including IgG1 constant chain

<220>
<221> VARIANT
<222> (235)...(236)
<223> Xaa = Ala or Leu

<400> 5

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1               5                  10                  15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Thr Met
            20                  25                  30
Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
```

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        35                  40                  45
Gly Arg Ile Asp Pro Ala Asn Glu His Thr Asn Tyr Ala Gln Lys Phe
    50                  55                  60
Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65                  70                  75                  80
Met Glu Leu Ser Arg Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Arg Ser Tyr Tyr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110
Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
        115                 120                 125
Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
    130                 135                 140
Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
145                 150                 155                 160
Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
                165                 170                 175
Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
            180                 185                 190
Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
        195                 200                 205
Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp Lys Thr
    210                 215                 220
His Thr Cys Pro Pro Cys Pro Ala Pro Glu Xaa Xaa Gly Gly Pro Ser
225                 230                 235                 240
Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
                245                 250                 255
Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
            260                 265                 270
Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
        275                 280                 285
Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
    290                 295                 300
Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
305                 310                 315                 320
Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
                325                 330                 335
Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
            340                 345                 350
Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
        355                 360                 365
Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
    370                 375                 380
Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
385                 390                 395                 400
Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
                405                 410                 415
Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
            420                 425                 430
Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
        435                 440                 445


<210> 6
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic mouse anti-PCSK9 monoclonal antibody
      LFU720 heavy chain complementarity determining
      region 1 (CDR1)

<400> 6
Asp Met Tyr Met Ser
 1               5
```

<210> 7
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-PCSK9 monoclonal antibody clones LGT-209, LGT-210 and LGT-211 heavy chain complementarity determining region 1 (CDR1)

<400> 7
Thr Met Tyr Met Ser
1 5

<210> 8
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-PCSK9 monoclonal antibody consensus heavy chain complementarity determining region 1 (CDR1)

<220>
<221> VARIANT
<222> (1)...(1)
<223> Xaa = Asp or Thr

<400> 8
Xaa Met Tyr Met Ser
1 5

<210> 9
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic mouse anti-PCSK9 monoclonal antibody LFU270 heavy chain complementarity determining region 2 (CDR2)

<400> 9
Arg Ile Asp Pro Ala Asn Gly His Thr Asn Tyr Asp Pro Lys Phe Gln
1 5 10 15
Ala

<210> 10
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones LGT-209, LGT-210 and LGT-211 heavy chain complementarity determining region 2 (CDR2)

<400> 10
Arg Ile Asp Pro Ala Asn Glu His Thr Asn Tyr Ala Gln Lys Phe Gln
1 5 10 15
Gly

<210> 11
<211> 17

<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody consensus heavy chain complementarity determining region 2 (CDR2)

<220>
<221> VARIANT
<222> (7)...(7)
<223> Xaa = Ala, Glu or Gly

<220>
<221> VARIANT
<222> (12)...(12)
<223> Xaa = Ala or Asp

<220>
<221> VARIANT
<222> (13)...(13)
<223> Xaa = Pro or Gln

<220>
<221> VARIANT
<222> (17)...(17)
<223> Xaa = Ala or Gly

<400> 11
Arg Ile Asp Pro Ala Asn Xaa His Thr Asn Tyr Xaa Xaa Lys Phe Gln
 1   5   10   15
Xaa

<210> 12
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG04 (clones LGT-209 and LGT-210) Vh heavy chain complementarity determining region 3 (CDR3)

<400> 12
Ser Tyr Tyr Tyr Tyr Asn Met Asp Tyr
 1   5

<210> 13
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic mouse anti-PCSK9 monoclonal antibody LFU270 and anti-PCSK9 monoclonal antibody pSR74 (clone LGT-211) Vh heavy chain complementarity determining region 3 (CDR3)

<400> 13
Ser Tyr Tyr Tyr Tyr Ala Met Asp Tyr
 1   5

<210> 14
<211> 9
<212> PRT

<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody consensus heavy chain complementarity determining region 3 (CDR3)

<220>
<221> VARIANT
<222> (6)...(6)
<223> Xaa = Ala or Asn

<220>
<221> VARIANT
<222> (9)...(9)
<223> Xaa = Ala, Phe, Ser, Val or Tyr

<400> 14
Ser Tyr Tyr Tyr Tyr Xaa Met Asp Xaa
1 5

<210> 15
<211> 106
<212> PRT
<213> Mus musculus

<220>
<223> mouse anti-PCSK9 monoclonal antibody LFU720 light chain variable region (FR1-FR4)

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

<210> 16
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG10 (clones LGT-209 and LGT-211) Vk light chain variable region (FR1-FR4)

<400> 16
Gln Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met
20 25 30
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
35 40 45
Gly Val Phe Arg Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu Pro Glu

65 70 75 80
Asp Phe Ala Val Tyr Tyr Cys Leu Gln Trp Ser Ser Asp Pro Pro Thr
85 90 95
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG10
(clones LGT-209 and LGT-211) Vk light chain
including kappa constant chain

<400> 17
Gln Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met
20 25 30
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
35 40 45
Gly Val Phe Arg Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu Pro Glu
65 70 75 80
Asp Phe Ala Val Tyr Tyr Cys Leu Gln Trp Ser Ser Asp Pro Pro Thr
85 90 95
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala Pro
100 105 110
Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125
Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 140
Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
145 150 155 160
Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
165 170 175
Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
180 185 190
Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
195 200 205
Asn Arg Gly Glu Cys
210

<210> 18
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG01
(clone LGT-210) Vk light chain variable region
(FR1-FR4)

<400> 18
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met
20 25 30
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
35 40 45
Gly Val Phe Arg Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu Pro Glu

65 70 75 80
Asp Phe Ala Val Tyr Tyr Cys Leu Gln Trp Ser Ser Asp Pro Pro Thr
85 90 95
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG01 (clone LGT-210) Vk light chain including kappa constant chain

<400> 19
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met
20 25 30
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
35 40 45
Gly Val Phe Arg Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu Pro Glu
65 70 75 80
Asp Phe Ala Val Tyr Tyr Cys Leu Gln Trp Ser Ser Asp Pro Pro Thr
85 90 95
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala Pro
100 105 110
Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125
Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 140
Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
145 150 155 160
Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
165 170 175
Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
180 185 190
Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
195 200 205
Asn Arg Gly Glu Cys
210

<210> 20
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic mouse anti-PCSK9 monoclonal antibody LFU720 light chain complementarity determining region 1 (CDR1)

<400> 20
Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 21
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones
LGT-209, LGT-210 and LGT-211 light chain
complementarity determining region 1 (CDR1)

<400> 21
Arg Ala Ser Gln Ser Val Ser Tyr Met His
1 5 10

<210> 22
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody consensus
light chain complementarity determining region 1
(CDR1)

<220>
<221> VARIANT
<222> (1)...(1)
<223> Xaa = Arg or Ser

<220>
<221> VARIANT
<222> (4)...(4)
<223> Xaa = Gln or Ser

<400> 22
Xaa Ala Ser Xaa Ser Val Ser Tyr Met His
1 5 10

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

<220>
<223> synthetic mouse anti-PCSK9 monoclonal antibody
LFU720 light chain complementarity determining
region 2 (CDR2)

<400> 23
Leu Thr Phe Asn Leu Ala Ser
1 5

<210> 24
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones
LGT-209, LGT-210 and LGT-211 light chain
complementarity determining region 1 (CDR1)

<400> 24
Gly Val Phe Arg Arg Ala Thr
1 5

<210> 25
<211> 7
<212> PRT

<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody consensus
light chain complementarity determining region 2
(CDR2)

<220>
<221> VARIANT
<222> (1)...(1)
<223> Xaa = Gly or Leu

<220>
<221> VARIANT
<222> (2)...(2)
<223> Xaa = Thr or Val

<220>
<221> VARIANT
<222> (4)...(4)
<223> Xaa = Asn or Arg

<220>
<221> VARIANT
<222> (5)...(5)
<223> Xaa = Leu or Arg

<220>
<221> VARIANT
<222> (7)...(7)
<223> Xaa = Ser or Thr

<400> 25
Xaa Xaa Phe Xaa Xaa Ala Xaa
1 5

<210> 26
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic mouse anti-PCSK9 monoclonal antibody
LFU720 and anti-PCSK9 monoclonal antibody clones
LGT-209, LGT-210 and LGT-211 light chain
complementarity determining region 3 (CDR3)

<400> 26
Leu Gln Trp Ser Ser Asp Pro Pro Thr
1 5

<210> 27
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones
LGT-209, LGT-210 and LGT-211 heavy chain variable
segment (FR1-FR3)

<400> 27
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Thr Met
20 25 30

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

<210> 28
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody consensus heavy chain variable segment (FR1-FR3)

<220>
<221> VARIANT
<222> (31)...(31)
<223> Xaa = Asp or Thr

<220>
<221> VARIANT
<222> (56)...(56)
<223> Xaa = Ala, Glu or Gly

<220>
<221> VARIANT
<222> (61)...(61)
<223> Xaa = Ala or Asp

<220>
<221> VARIANT
<222> (62)...(62)
<223> Xaa = Pro or Gln

<220>
<221> VARIANT
<222> (66)...(66)
<223> Xaa = Ala or Gly

<400> 28
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Xaa Met
20 25 30
Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45
Gly Arg Ile Asp Pro Ala Asn Xaa His Thr Asn Tyr Xaa Xaa Lys Phe
50 55 60
Gln Xaa Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80
Met Glu Leu Ser Arg Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg

<210> 29
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG10

(clones LGT-209 and LGT-211) Vk light chain variable segment (FR1-FR3)

<400> 29
Gln Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met
20 25 30
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
35 40 45
Gly Val Phe Arg Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu Pro Glu
65 70 75 80
Asp Phe Ala Val Tyr Tyr Cys
85

<210> 30
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG01 (clone LGT-210) Vk light chain variable segment (FR1-FR3)

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

<210> 31
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG01 (clones LGT-209, LGT-210 and LGT-211) consensus Vk light chain variable segment (FR1-FR3)

<220>
<221> VARIANT
<222> (4)...(4)
<223> Xaa = Leu or Met

<220>
<221> VARIANT
<222> (24)...(24)
<223> Xaa = Arg or Ser

<220>
<221> VARIANT
<222> (27)...(27)
<223> Xaa = Gln or Ser

<220>
<221> VARIANT
<222> (49)...(49)
<223> Xaa = Gly or Leu

<220>
<221> VARIANT
<222> (50)...(50)
<223> Xaa = Thr or Val

<220>
<221> VARIANT
<222> (52)...(52)
<223> Xaa = Asn or Arg

<220>
<221> VARIANT
<222> (53)...(53)
<223> Xaa = Leu or Arg

<220>
<221> VARIANT
<222> (55)...(55)
<223> Xaa = Ser or Thr

<400> 31
Glx Ile Val Xaa Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Xaa Ala Ser Xaa Ser Val Ser Tyr Met
            20   25   30
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
        35   40   45
Xaa Xaa Phe Xaa Xaa Ala Xaa Gly Ile Pro Asp Arg Phe Ser Gly Ser
    50   55   60
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu Pro Glu
65   70   75   80
Asp Phe Ala Val Tyr Tyr Cys
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<210> 32
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones
      LGT-209, LGT-210 and LGT-211 heavy chain framework
      region 1 (FR1)

<400> 32
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1   5   10   15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser
            20   25   30

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

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones
      LGT-209, LGT-210 and LGT-211 heavy chain framework
      region 2 (FR2)

<400> 33

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

<210> 34
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones LGT-209, LGT-210 and LGT-211 heavy chain framework region 3 (FR3)

<400> 34
Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr Met Glu
1 5 10 15
Leu Ser Arg Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 35
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones LGT-209, LGT-210 and LGT-211 heavy chain framework region 4 (FR4)

<400> 35
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 36
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones LGT-209, LGT-210 and LGT-211 consensus light chain framework region 1 (FR1)

<220>
<221> VARIANT
<222> (4)...(4)
<223> Xaa = Leu or Met

<400> 36
Glx Ile Val Xaa Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser
20

<210> 37
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones LGT-209, LGT-210 and LGT-211 light chain framework region 2 (FR2)

<400> 37
Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
 1   5   10   15

<210> 38
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones
      LGT-209, LGT-210 and LGT-211 light chain framework
      region 3 (FR3)

<400> 38
Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1   5   10   15
Leu Thr Ile Gly Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys
            20   25   30

<210> 39
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody clones
      LGT-209, LGT-210 and LGT-211 light chain framework
      region 4 (FR4)

<400> 39
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 1   5   10

<210> 40
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody consensus
      heavy chain variable region (FR1-FR4)

<220>
<221> VARIANT
<222> (31)...(31)
<223> Xaa = Asp or Thr

<220>
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<222> (56)...(56)
<223> Xaa = Ala, Glu or Gly

<220>
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<223> Xaa = Ala or Asp

<220>
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<222> (62)...(62)
<223> Xaa = Pro or Gln

<220>
<221> VARIANT

<222> (66)...(66)
<223> Xaa = Ala or Gly

<220>
<221> VARIANT
<222> (104)...(104)
<223> Xaa = Ala or Asn

<220>
<221> VARIANT
<222> (107)...(107)
<223> Xaa = Ala, Phe, Ser, Val or Tyr

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

<210> 41
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
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      light chain variable region (FR1-FR4)

<220>
<221> VARIANT
<222> (4)...(4)
<223> Xaa = Leu or Met

<220>
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<222> (24)...(24)
<223> Xaa = Arg or Ser

<220>
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<223> Xaa = Gln or Ser

<220>
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<222> (49)...(49)
<223> Xaa = Gly or Leu

<220>
<221> VARIANT
<222> (50)...(50)
<223> Xaa = Thr or Val

<220>
<221> VARIANT

<222> (52)...(52)
<223> Xaa = Asn or Arg

<220>
<221> VARIANT
<222> (53)...(53)
<223> Xaa = Leu or Arg

<220>
<221> VARIANT
<222> (55)...(55)
<223> Xaa = Ser or Thr

<400> 41
Glx Ile Val Xaa Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Xaa Ala Ser Xaa Ser Val Ser Tyr Met
            20   25   30
His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
        35   40   45
Xaa Xaa Phe Xaa Xaa Ala Xaa Gly Ile Pro Asp Arg Phe Ser Gly Ser
    50   55   60
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Arg Leu Glu Pro Glu
65   70   75   80
Asp Phe Ala Val Tyr Tyr Cys Leu Gln Trp Ser Ser Asp Pro Pro Thr
                85   90   95
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100   105

<210> 42
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG04
      (clones LGT-209 and LGT-210) heavy chain

<400> 42
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tcctgcaagg cttctggata caccttcagc actatgtata tgtcttgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggaagg atcgatcctg ccaatgagca cactaactat 180
gcccagaagt tccaggggag ggtgactatg acaagggaca catccatcag cacagcctac 240
atggagctca gcaggctgac gtctgacgac actgccgtct attactgtgc tagaagttac 300
tattactata acatggacta ctggggtcaa ggtaccctgg tgaccgtcag ctca   354

<210> 43
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pSR74
      (clone LGT-211) heavy chain

<400> 43
caggttcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctggata caccttcagc actatgtata tgtcttgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggaagg atcgatcctg ccaatgagca cactaactat 180
gcccagaagt tccaggggag ggtgactatg acaagggaca catccatcag cacagcctac 240
atggagctca gcaggctgac gtctgacgac actgccgtct attactgtgc tagaagttac 300
tattactatg ctatggacta ctggggtcaa ggtaccctgg tgaccgtcag ctca   354

<210> 44
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG01
(clone LGT-210) light chain

<400> 44
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc tatatgcatt ggtaccagca gaagccaggc 120
caggctccca ggctcctcat atatggtgtt ttcagaaggg ccactggcat cccagacagg 180
ttcagtggca gtgggtctgg gacagacttc actctcacca tcggcagact ggagcctgaa 240
gattttgcag tgtactactg cctacagtgg agtagtgacc cacccacgtt tggccaaggt 300
acgaagcttg aaattaaa 318

<210> 45
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody pJG10
(clones LGT-209 and LGT-211) light chain

<400> 45
cagattgttc tcacccagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc tatatgcatt ggtaccagca gaagccaggc 120
caggctccca ggctcctcat atatggtgtt ttcagaaggg ccactggcat cccagacagg 180
ttcagtggca gtgggtctgg gacagacttc actctcacca tcggcagact ggagcctgaa 240
gattttgcag tgtactactg cctacagtgg agtagtgacc cacccacgtt tggccaaggt 300
acgaagcttg aaattaaa 318

<210> 46
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 monoclonal antibody epitope

<400> 46
Arg Ser Arg His Leu Ala Gln Ala Ser Gln Glu Leu Gln
1 5 10

<210> 47
<211> 692
<212> PRT
<213> Homo sapiens

<220>
<223> human proprotein convertase subtilisin/kexin type
9 (PCSK9), proprotein convertase 9 (PC9), neural
apoptosis-regulated convertase 1 (NARC1, NARC-1),
FH3, HCHOLA3, LDLCQ1 preproprotein

<220>
<221> SIGNAL
<222> (1)...(30)
<223> signal peptide

<220>
<221> PROPEP
<222> (31)...(692)
<223> proprotein

<220>
<221> CHAIN
<222> (153)...(692)
<223> mature protein

<400> 47

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                -10                 -5                  1
Asp Glu Asp Gly Asp Tyr Glu Glu Leu Val Leu Ala Leu Arg Ser Glu
          5                  10                  15
Glu Asp Gly Leu Ala Glu Ala Pro Glu His Gly Thr Thr Ala Thr Phe
     20                  25                  30
His Arg Cys Ala Lys Asp Pro Trp Arg Leu Pro Gly Thr Tyr Val Val
35                  40                  45                  50
Val Leu Lys Glu Glu Thr His Leu Ser Gln Ser Glu Arg Thr Ala Arg
                55                  60                  65
Arg Leu Gln Ala Gln Ala Ala Arg Arg Gly Tyr Leu Thr Lys Ile Leu
            70                  75                  80
His Val Phe His Gly Leu Leu Pro Gly Phe Leu Val Lys Met Ser Gly
        85                  90                  95
Asp Leu Leu Glu Leu Ala Leu Lys Leu Pro His Val Asp Tyr Ile Glu
    100                 105                 110
Glu Asp Ser Ser Val Phe Ala Gln Ser Ile Pro Trp Asn Leu Glu Arg
115                 120                 125                 130
Ile Thr Pro Pro Arg Tyr Arg Ala Asp Glu Tyr Gln Pro Pro Asp Gly
                135                 140                 145
Gly Ser Leu Val Glu Val Tyr Leu Leu Asp Thr Ser Ile Gln Ser Asp
            150                 155                 160
His Arg Glu Ile Glu Gly Arg Val Met Val Thr Asp Phe Glu Asn Val
        165                 170                 175
Pro Glu Glu Asp Gly Thr Arg Phe His Arg Gln Ala Ser Lys Cys Asp
    180                 185                 190
Ser His Gly Thr His Leu Ala Gly Val Val Ser Gly Arg Asp Ala Gly
195                 200                 205                 210
Val Ala Lys Gly Ala Ser Met Arg Ser Leu Arg Val Leu Asn Cys Gln
                215                 220                 225
Gly Lys Gly Thr Val Ser Gly Thr Leu Ile Gly Leu Glu Phe Ile Arg
            230                 235                 240
Lys Ser Gln Leu Val Gln Pro Val Gly Pro Leu Val Val Leu Leu Pro
        245                 250                 255
Leu Ala Gly Gly Tyr Ser Arg Val Leu Asn Ala Ala Cys Gln Arg Leu
    260                 265                 270
Ala Arg Ala Gly Val Val Leu Val Thr Ala Ala Gly Asn Phe Arg Asp
275                 280                 285                 290
Asp Ala Cys Leu Tyr Ser Pro Ala Ser Ala Pro Glu Val Ile Thr Val
                295                 300                 305
Gly Ala Thr Asn Ala Gln Asp Gln Pro Val Thr Leu Gly Thr Leu Gly
            310                 315                 320
Thr Asn Phe Gly Arg Cys Val Asp Leu Phe Ala Pro Gly Glu Asp Ile
        325                 330                 335
Ile Gly Ala Ser Ser Asp Cys Ser Thr Cys Phe Val Ser Gln Ser Gly
    340                 345                 350
Thr Ser Gln Ala Ala Ala His Val Ala Gly Ile Ala Ala Met Met Leu
355                 360                 365                 370
Ser Ala Glu Pro Glu Leu Thr Leu Ala Glu Leu Arg Gln Arg Leu Ile
                375                 380                 385
His Phe Ser Ala Lys Asp Val Ile Asn Glu Ala Trp Phe Pro Glu Asp
            390                 395                 400
Gln Arg Val Leu Thr Pro Asn Leu Val Ala Ala Leu Pro Pro Ser Thr
        405                 410                 415
His Gly Ala Gly Trp Gln Leu Phe Cys Arg Thr Val Trp Ser Ala His
    420                 425                 430
Ser Gly Pro Thr Arg Met Ala Thr Ala Val Ala Arg Cys Ala Pro Asp
435                 440                 445                 450
Glu Glu Leu Leu Ser Cys Ser Ser Phe Ser Arg Ser Gly Lys Arg Arg
                455                 460                 465
Gly Glu Arg Met Glu Ala Gln Gly Gly Lys Leu Val Cys Arg Ala His
            470                 475                 480
Asn Ala Phe Gly Gly Glu Gly Val Tyr Ala Ile Ala Arg Cys Cys Leu
        485                 490                 495
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Leu Pro Gln Ala Asn Cys Ser Val His Thr Ala Pro Pro Ala Glu Ala
    500                 505                 510
Ser Met Gly Thr Arg Val His Cys His Gln Gln Gly His Val Leu Thr
515                 520                 525                 530
Gly Cys Ser Ser His Trp Glu Val Glu Asp Leu Gly Thr His Lys Pro
                535                 540                 545
Pro Val Leu Arg Pro Arg Gly Gln Pro Asn Gln Cys Val Gly His Arg
            550                 555                 560
Glu Ala Ser Ile His Ala Ser Cys Cys His Ala Pro Gly Leu Glu Cys
        565                 570                 575
Lys Val Lys Glu His Gly Ile Pro Ala Pro Gln Glu Gln Val Thr Val
    580                 585                 590
Ala Cys Glu Glu Gly Trp Thr Leu Thr Gly Cys Ser Ala Leu Pro Gly
595                 600                 605                 610
Thr Ser His Val Leu Gly Ala Tyr Ala Val Asp Asn Thr Cys Val Val
                615                 620                 625
Arg Ser Arg Asp Val Ser Thr Thr Gly Ser Thr Ser Glu Gly Ala Val
            630                 635                 640
Thr Ala Val Ala Ile Cys Cys Arg Ser Arg His Leu Ala Gln Ala Ser
        645                 650                 655
Gln Glu Leu Gln
    660
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<210> 48
<211> 3636
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (292)...(2370)
<223> human proprotein convertase subtilisin/kexin type 9 (PCSK9), proprotein convertase 9 (PC9), neural apoptosis-regulated convertase 1 (NARC1, NARC-1), FH3, HCHOLA3, LDLCQ1 preproprotein

<220>
<221> sig_peptide
<222> (292)...(381)
<223> signal peptide

<220>
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<222> (382)...(2367)
<223> proprotein

<220>
<221> mat_peptide
<222> (538)...(2367)
<223> mature protein

<400> 48
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cagcggctcc cagctcccag ccaggattcc gcgcgccccc tcacgcgccc tgctcctgaa 180
cttcagctcc tgcacagtcc tccccaccgc aaggctcaag gcgccgccgg cgtggaccgc 240
gcacggcctc taggtctcct cgccaggaca gcaacctctc ccctggccct catgggcacc 300
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gccttgcgtt ccgaggagga cggcctggcc gaagcacccg agcacggaac cacagccacc 480
ttccaccgct gcgccaagga tccgtggagg ttgcctggca cctacgtggt ggtgctgaag 540
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gaggaggact cctctgtctt tgcccagagc atcccgtgga acctggagcg gattaccccc 780
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<210> 49
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 C-terminus epitope, residues
680-692

<400> 49
Arg Ser Arg His Leu Ala Gln Ala Ser Gln Glu Leu Gln
1 5 10

<210> 50
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic human germline JH4 partial sequence in

anti-PCSK9 heavy chain J-segment

<400> 50
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 51
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic full-length J-segment from human germline JH4

<400> 51
Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10 15

<210> 52
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic human germline Jk2 partial sequence in anti-PCSK9 light chain J-segment

<400> 52
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 53
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic full-length J-segment from human germline Jk2

<400> 53
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 54
<211> 354
<212> DNA
<213> Mus musculus

<220>
<223> mouse anti-PCSK9 monoclonal antibody LFU270 heavy chain variable region

<400> 54
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cctgaacagg gcctggagtg gattggaagg atcgatcctg cgaatggtca tactaactat 180
gacccgaagt tccaggccaa ggccactata acaacagaca catcctccaa aacagcctac 240
ctgcatctca gcagcctgac atctgaggac actgccgtct attactgtgc tagaagttac 300
tattactatg ctatggacta ctggggtcaa ggaacctcag tcaccgtctc ttca 354

<210> 55
<211> 318

<212> DNA
<213> Mus musculus

<220>
<223> mouse anti-PCSK9 monoclonal antibody LFU270 light chain variable region

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tcctccccca gactctggat ttatttaaca ttcaacttgg cttctggagt ccctgctcgc 180
ttcagtggca gtgggtctgg gacctcttac tctctctcaa tcagcagcat ggaggctgaa 240
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<210> 56
<211> 5
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<220>
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<400> 56
Arg Ser Arg His Leu
1 5

<210> 57
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic C-terminal his6 tag, 6-His tag, HIS-tag

<400> 57
His His His His His His
1 5

<210> 58
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic RT-PCR amplification primer V-H14 for heavy chain variable region

<400> 58
cttcctgatg gcagtggtt 19

<210> 59
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic RT-PCR amplification primer HCconstant for heavy chain variable region

<400> 59
gcgtctagaa yctccacaca caggrrccag tggatagac 39

<210> 60
<211> 21
<212> DNA

<213> Artificial Sequence

<220>
<223> synthetic RT-PCR amplification primer Vkappa4/5
for light chain variable region

<400> 60
tcagcttcyt gctaatcagt g 21

<210> 61
<211> 29
<212> DNA
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<220>
<223> synthetic RT-PCR amplification primer LCconstant
for light chain variable region

<400> 61
gcgtctagaa ctggatggtg ggaagatgg 29

<210> 62
<211> 11
<212> PRT
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<220>
<223> synthetic C-terminal flexible linker and 6-His tag

<400> 62
Ala Ala Gly Ala Ser His His His His His His
1 5 10

<210> 63
<211> 17
<212> PRT
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<220>
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<400> 63
Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His
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Glu

<210> 64
<211> 5
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<220>
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<400> 64
Thr Tyr Tyr Met Asn
1 5

<210> 65
<211> 5
<212> PRT
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<220>
<223> synthetic CDRH1 of SR038 (mouse)

<400> 65
Asp Met Tyr Met Ser
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<210> 66
<211> 5
<212> PRT
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<220>
<223> synthetic CDRH1 of SR079 (humaneered)

<400> 66
Thr Met Tyr Met Ser
 1   5

<210> 67
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<212> PRT
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<220>
<223> synthetic 7472 light chain (LC) N-terminus

<400> 67
Glu Ile Val Met
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<210> 68
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic 7472 light chain (LC) CDR1

<400> 68
Arg Ala Ser Gln Ser Val Ser Ser Ser His Val Ala
 1   5   10

<210> 69
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic LFU720 and pJG10 light chain (LC)
      N-terminus

<400> 69
Gln Ile Val Leu
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<210> 70
<211> 10
<212> PRT
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<220>
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Ser Ala Ser Ser Ser Val Ser Tyr Met His
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<210> 71
<211> 10
<212> PRT
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<220>
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<400> 71
Arg Ala Ser Gln Ser Val Ser Tyr Met His
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Cys Ala Arg Ser Tyr Tyr Tyr Tyr Ala Met Asp Tyr
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<210> 73
<211> 12
<212> PRT
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<220>
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<400> 73
Cys Ala Arg Ser Tyr Tyr Tyr Tyr Asn Met Asp Tyr
 1   5   10

<210> 74
<211> 17
<212> PRT
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<220>
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<400> 74
Arg Ile Asp Pro Ala Asn Glu His Thr Asn Tyr Ala Gln Lys Phe Gln
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Gly

<210> 75
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<212> PRT
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<220>
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<221> VARIANT

<222> (6)...(6)
<223> Xaa = Ala or Asn

<400> 75
Ser Tyr Tyr Tyr Tyr Xaa Met Asp Tyr
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<210> 76
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<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic anti-PCSK9 light chain FR1

<220>
<221> VARIANT
<222> (4)...(4)
<223> Xaa = Met or Leu

<400> 76
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 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys
            20