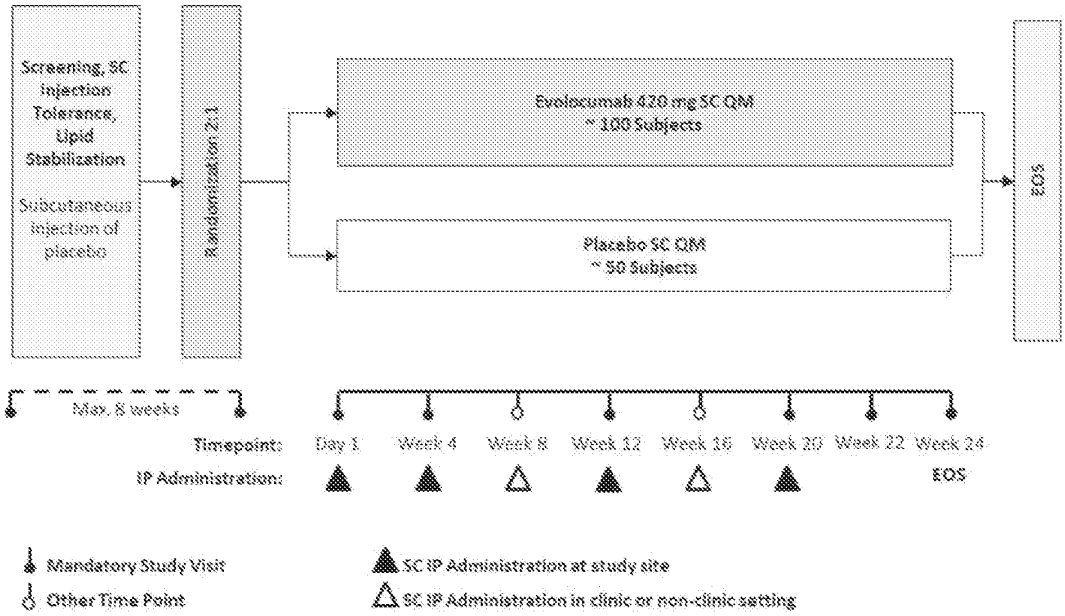


QM = dosed monthly; IP = investigational product

FIG. 1

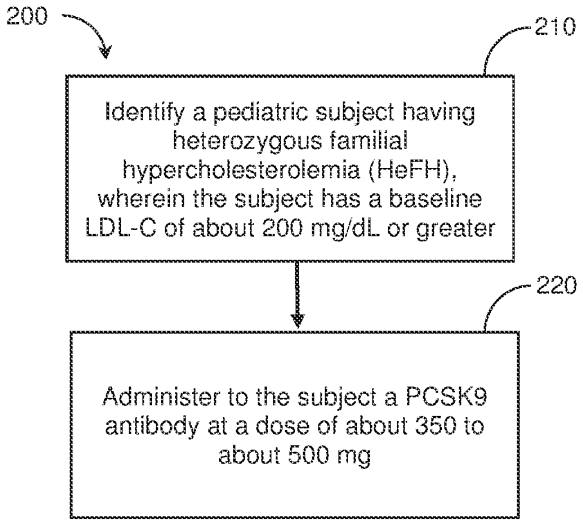

200
210
Identify a pediatric subject having heterozygous familial hypercholesterolemia (HeFH), wherein the subject has a baseline LDL-C of about 200 mg/dL or greater
220
Administer to the subject a PCSK9 antibody at a dose of about 350 to about 500 mg

FIG. 2A

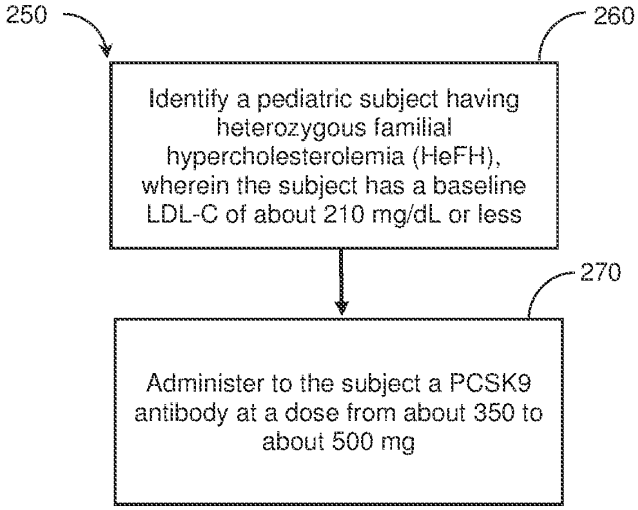

250
260
Identify a pediatric subject having heterozygous familial hypercholesterolemia (HeFH), wherein the subject has a baseline LDL-C of about 210 mg/dL or less
270
Administer to the subject a PCSK9 antibody at a dose from about 350 to about 500 mg

FIG. 2B

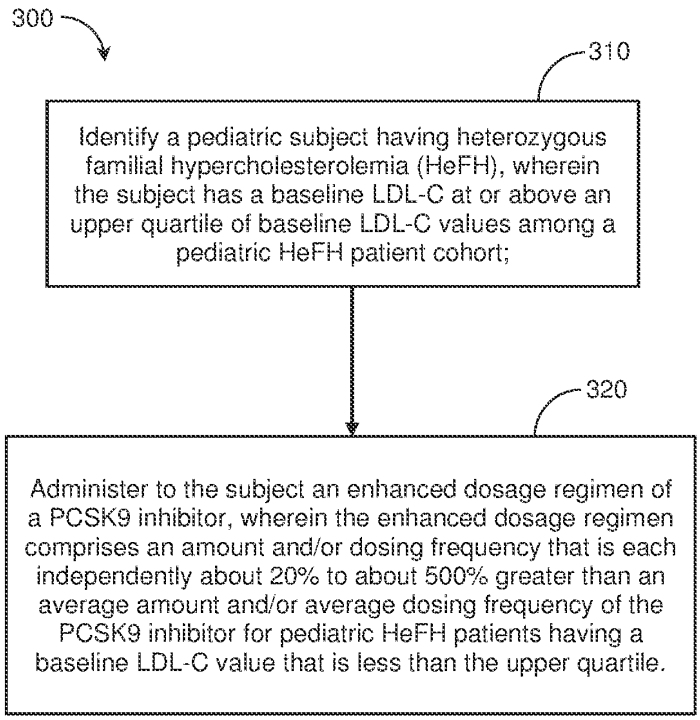

300
310
Identify a pediatric subject having heterozygous familial hypercholesterolemia (HeFH), wherein the subject has a baseline LDL-C at or above an upper quartile of baseline LDL-C values among a pediatric HeFH patient cohort;
320
Administer to the subject an enhanced dosage regimen of a PCSK9 inhibitor, wherein the enhanced dosage regimen comprises an amount and/or dosing frequency that is each independently about 20% to about 500% greater than an average amount and/or average dosing frequency of the PCSK9 inhibitor for pediatric HeFH patients having a baseline LDL-C value that is less than the upper quartile.

FIG. 3

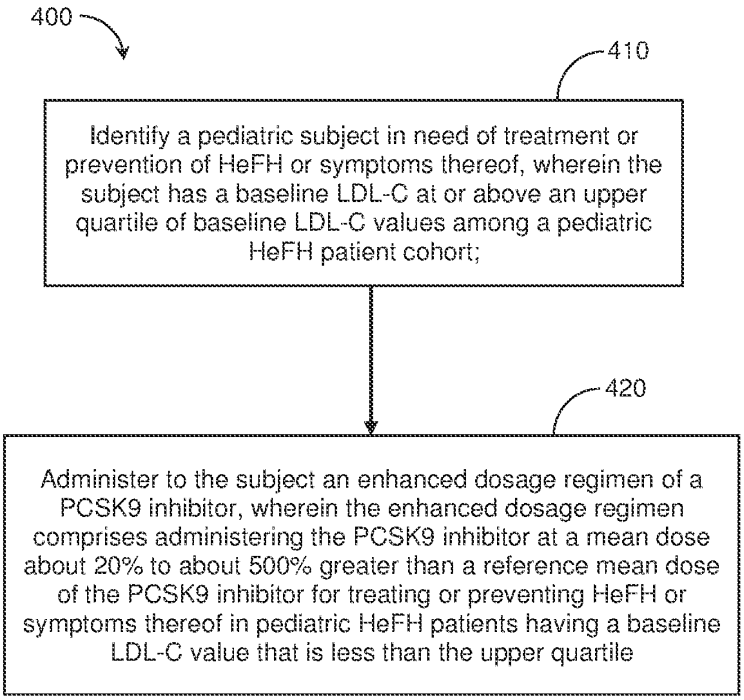

400
410
Identify a pediatric subject in need of treatment or prevention of HeFH or symptoms thereof, wherein the subject has a baseline LDL-C at or above an upper quartile of baseline LDL-C values among a pediatric HeFH patient cohort;
420
Administer to the subject an enhanced dosage regimen of a PCSK9 inhibitor, wherein the enhanced dosage regimen comprises administering the PCSK9 inhibitor at a mean dose about 20% to about 500% greater than a reference mean dose of the PCSK9 inhibitor for treating or preventing HeFH or symptoms thereof in pediatric HeFH patients having a baseline LDL-C value that is less than the upper quartile

FIG. 4

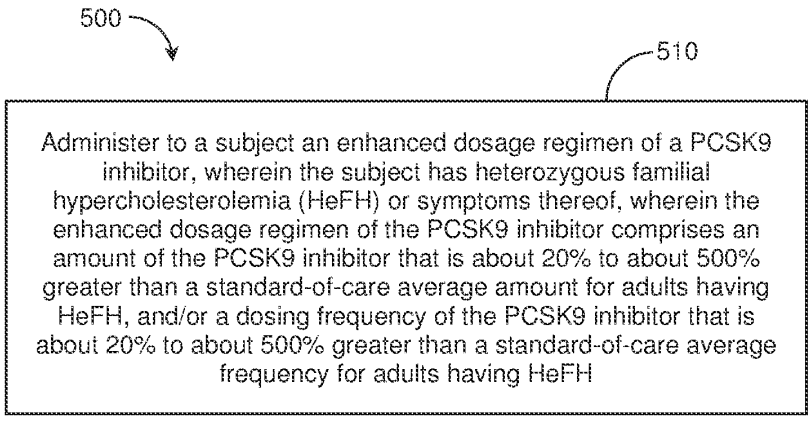

500
510
Administer to a subject an enhanced dosage regimen of a PCSK9 inhibitor, wherein the subject has heterozygous familial hypercholesterolemia (HeFH) or symptoms thereof, wherein the enhanced dosage regimen of the PCSK9 inhibitor comprises an amount of the PCSK9 inhibitor that is about 20% to about 500% greater than a standard-of-care average amount for adults having HeFH, and/or a dosing frequency of the PCSK9 inhibitor that is about 20% to about 500% greater than a standard-of-care average frequency for adults having HeFH

FIG. 5

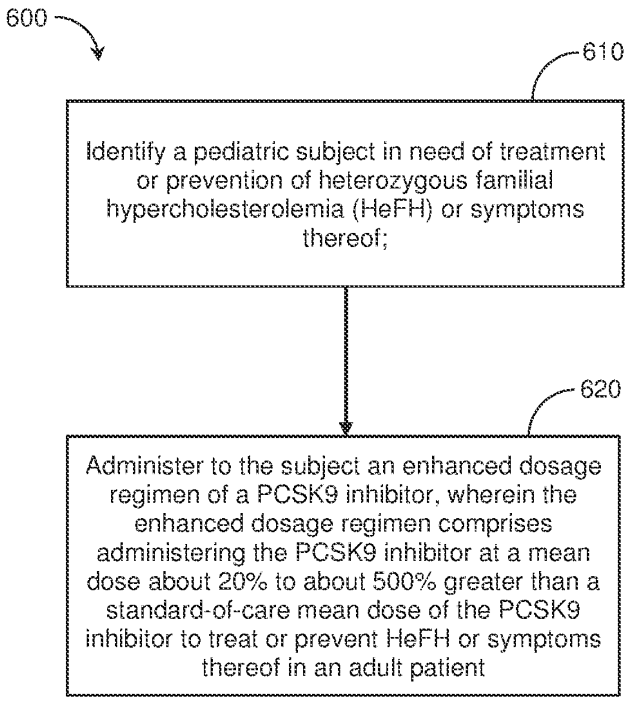

600
610
Identify a pediatric subject in need of treatment or prevention of heterozygous familial hypercholesterolemia (HeFH) or symptoms thereof;
620
Administer to the subject an enhanced dosage regimen of a PCSK9 inhibitor, wherein the enhanced dosage regimen comprises administering the PCSK9 inhibitor at a mean dose about 20% to about 500% greater than a standard-of-care mean dose of the PCSK9 inhibitor to treat or prevent HeFH or symptoms thereof in an adult patient

FIG. 6

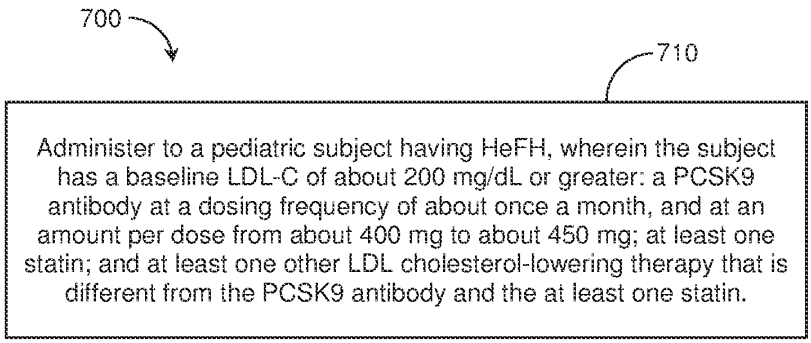

700
710
Administer to a pediatric subject having HeFH, wherein the subject has a baseline LDL-C of about 200 mg/dL or greater: a PCSK9 antibody at a dosing frequency of about once a month, and at an amount per dose from about 400 mg to about 450 mg; at least one statin; and at least one other LDL cholesterol-lowering therapy that is different from the PCSK9 antibody and the at least one statin.

FIG. 7

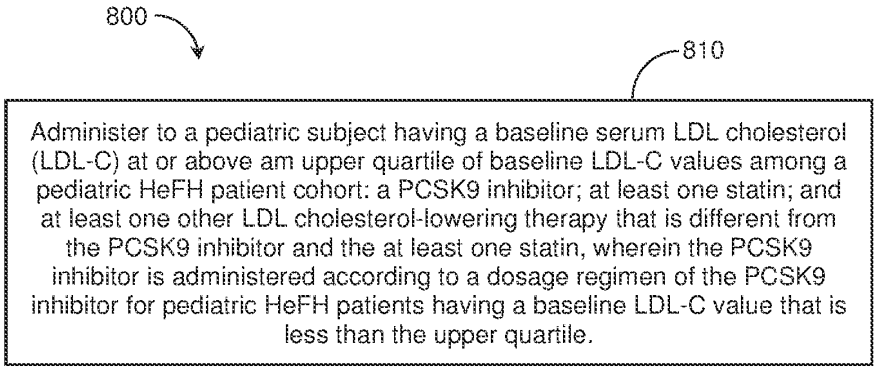

800
810
Administer to a pediatric subject having a baseline serum LDL cholesterol (LDL-C) at or above am upper quartile of baseline LDL-C values among a pediatric HeFH patient cohort: a PCSK9 inhibitor; at least one statin; and at least one other LDL cholesterol-lowering therapy that is different from the PCSK9 inhibitor and the at least one statin, wherein the PCSK9 inhibitor is administered according to a dosage regimen of the PCSK9 inhibitor for pediatric HeFH patients having a baseline LDL-C value that is less than the upper quartile.

FIG. 8

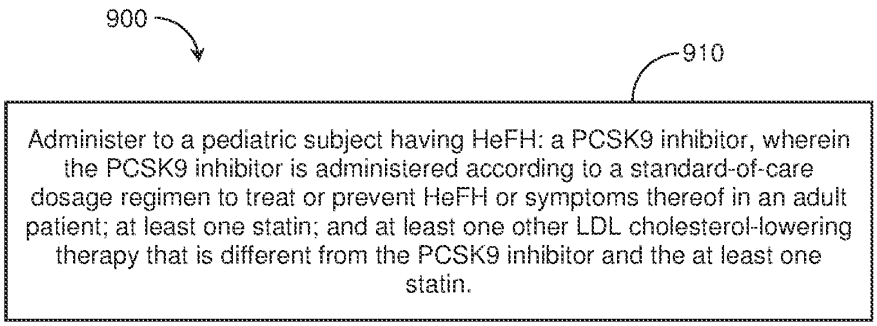

900
910
Administer to a pediatric subject having HeFH: a PCSK9 inhibitor, wherein the PCSK9 inhibitor is administered according to a standard-of-care dosage regimen to treat or prevent HeFH or symptoms thereof in an adult patient; at least one statin; and at least one other LDL cholesterol-lowering therapy that is different from the PCSK9 inhibitor and the at least one statin.

FIG. 9

```
1       qededgdyee lvlalrseed glaeapehgt tatfhrcakd pwrlpgtyvv vlkeethlsq
61      sertarrlqa qaarrgyltk ilhvfhgllp gflvkmsgdl lelalklphv dyieedssvf
121     aqsipwnler itppryrade yqppdggslv evylldtsiq sdhreiegrv mvtdfenvpe
181     edgtrfhrqa skcdshgthl agvvsgrdag vakgasmrsl rvlncqgkgt vsgtliglef
241     irksqlvqpv gplvvllpla ggysrvlnaa cqrlaragvv lvtaagnfrd daclyspasa
301     pevitvgatn aqdqpvtlgt lgtnfgrcvd lfapgediig assdcstcfv sqsgtsqaaa
361     hvagiaamml saepeltlae lrqrlihfsa kdvineawfp edqrvltpnl vaalppsthg
421     agwqlfcrtv wsahsgptrm ataiarcapd eellscssfs rsgkrrgerm eaqggklvcr
481     ahnafggegv yaiarcclp qancsvhtap paeasmgtrv hchqqghvlt gcsshweved
541     lgthkppvlr prgqpnqcvg hreasihasc chapgleckv kehgipapqe qvtvaceegw
601     tltgcsalpg tshvlgayav dntcvvrsrd vsttgstsee avtavaiccr srhlaqasqe
661     lq      (SEQ ID NO:1)
```

FIG. 10A

```
qededgdyee lvlalrseed glaeapehgt tatfhrcakd pwrlpgtyvv
vlkeethlsq sertarrlqa qaarrgyltk ilhvfhgllp gflvkmsgdl
lelalklphv dyieedssvf aqsipwnler itppryrade yqppdggslv
evylldtsiq sdhreiegrv mvtdfenvpe edgtrfhrqa skcdshgthl
agvvsgrdag vakgasmrsl rvlncqgkgt vsgtliglef irksqlvqpv
gplvvllpla ggysrvlnaa cqrlaragvv lvtaagnfrd daclyspasa
pevitvgatn aqdqpvtlgt lgtnfgrcvd lfapgediig assdcstcfv
sqsgtsqaaa hvagiaamml saepeltlae lrqrlihfsa kdvineawfp
edqrvltpnl vaalppsthg agwqlfcrtv wsahsgptrm ataiarcapd
eellscssfs rsgkrrgerm eaqggklvcr ahnafggegv yaiarcclp
qancsvhtap paeasmgtrv hchqqghvlt gcsshweved lgthkppvlr
prgqpnqcvg hreasihasc chapgleckv kehgipapqg qvtvaceegw
tltgcsalpg tshvlgayav dntcvvrsrd vsttgstsee avtavaiccr
srhlaqasqe lq      (SEQ ID NO:2)
```

FIG. 10B

```
1       atgggcaccg tcagctccag gcggtcctgg tggccgctgc cactgctgct gctgctgctg
61      ctgctcctgg gtcccgcggg cgcccgtgcg caggaggacg aggacggcga ctacgaggag
121     ctggtgctag ccttgcgttc cgaggaggac ggcctggccg aagcacccga gcacggaacc
181     acagccacct tccaccgctg cgccaaggat ccgtggaggt tgcctggcac ctacgtggtg
241     gtgctgaagg aggagaccca cctctcgcag tcagagcgca ctgcccgccg cctgcaggcc
301     caggctgccc gccggggata cctcaccaag atcctgcatg tcttccatgg ccttcttcct
361     ggcttcctgg tgaagatgag tggcgacctg ctggagctgg ccttgaagtt gccccatgtc
421     gactacatcg aggaggactc ctctgtcttt gcccagagca tcccgtggaa cctggagcgg
481     attaccccta cacggtaccg ggcggatgaa taccagcccc ccgacggagg cagcctggtg
541     gaggtgtatc tcctagacac cagcatacag agtgaccacc gggaaatcga gggcagggtc
601     atggtcaccg acttcgagaa tgtgcccgag gaggacggga cccgcttcca cagacaggcc
661     agcaagtgtg acagtcatgg cacccacctg gcaggggtgg tcagcggccg ggatgccggc
721     gtggccaagg gtgccagcat gcgcagcctg cgcgtgctca actgccaagg gaagggcacg
781     gttagcggca ccctcatagg cctggagttt attcggaaaa gccagctggt ccagcctgtg
841     gggccactgg tggtgctgct gccccctggcg ggtgggtaca gccgcgtcct caacgccgcc
901     tgccagcgcc tggcgagggc tggggtcgtg ctggtcaccg ctgccggcaa cttccgggac
961     gatgcctgcc tctactcccc agcctcagct cccgaggtca tcacagttgg ggccaccaat
1021    gcccaggacc agccggtgac cctggggact ttggggacca actttggccg ctgtgtggac
1081    ctctttgccc cagggggagga catcattggt gcctccagcg actgcagcac ctgctttgtg
1141    tcacagagtg ggacatcaca ggctgctgcc cacgtggctg gcattgcagc catgatgctg
1201    tctgccgagc cggagctcac cctggccgag ttgaggcaga gactgatcca cttctctgcc
1261    aaagatgtca tcaatgaggc ctggttccct gaggaccagc gggtactgac ccccaacctg
1321    gtggccgccc tgccccccag cacccatggg gcaggttggc agctgttttg caggactgtg
1381    tggtcagcac actcggggcc tacacggatg gccacagcca tcgcccgctg cgccccagat
1441    gaggagctgc tgagctgctc cagtttctcc aggagtggga agcggcgggg cgagcgcatg
1501    gaggcccaag ggggcaagct ggtctgccgg gcccacaacg cttttggggg tgagggtgtc
1561    tacgccattg ccaggtgctg cctgctaccc caggccaact gcagcgtcca cacagctcca
1621    ccagctgagg ccagcatggg gacccgtgtc cactgccacc aacagggcca cgtcctcaca
1681    ggctgcagct cccactggga ggtggaggac cttggcaccc acaagccgcc tgtgctgagg
1741    ccacgaggtc agcccaacca gtgcgtgggc cacagggagg ccagcatcca cgcttcctgc
1801    tgccatgccc caggtctgga atgcaaagtc aaggagcatg gaatcccggc ccctcaggag
1861    caggtgaccg tggcctgcga ggagggctgg accctgactg gctgcagtgc cctccctggg
1921    acctcccacg tcctgggggc ctacgccgta gacaacacgt gtgtagtcag gagccgggac
1981    gtcagcacta caggcagcac cagcgaagag gccgtgacag ccgttgccat ctgctgccgg
2041    agccggcacc tggcgcaggc ctcccaggag ctccagtga     (SEQ ID NO: 3)
```

FIG. 11

```
1       mgtvssrrsw wplpllllll lllgpagara gededgdyee lvlalrseed glaeapehgt
61      tatfhrcakd pwrlpgtyvv vlkeethlsq sertarrlqa qaarrgyltk ilhvfhgllp
121     gflvkmsgdl lelalklphv dyieedssvf aqsipwnler itppryrade yqppdggslv
181     evylldtsiq sdhreiegrv mvtdfenvpe edgtrfhrqa skcdshgthl agvvsgrdag
241     vakgasmrsl rvlncqgkgt vsgtliglef irksqlvqpv gplvvllpla ggysrvlnaa
301     cqrlaragvv lvtaagnfrd daclyspasa pevitvgatn aqdqpvtlgt lgtnfgrcvd
361     lfapgediig assdcstcfv sqsgtsqaaa hvagiaamml saepeltlae lrqrlihfsa
421     kdvineawfp edqrvltpni vaalppsthg agwqlfcrtv wsahsgptrm ataiarcapd
481     eellscssfs rsgkrrgerm eaqggklvcr ahnafggegv yaiarccllp qancsvhtap
541     paeasmgtrv hchqqghvlt gcsshweved lgthkppvlr prgqpnqcvg hreasihasc
601     chapgleckv kehgipapqe qvtvaceegw tltgcsalpg tshvlgayav dntcvvrsrd
661     vsttgstsee avtavaiccr srhlaqasqe lq    (SEQ ID NO: 4)
```

FIG. 12

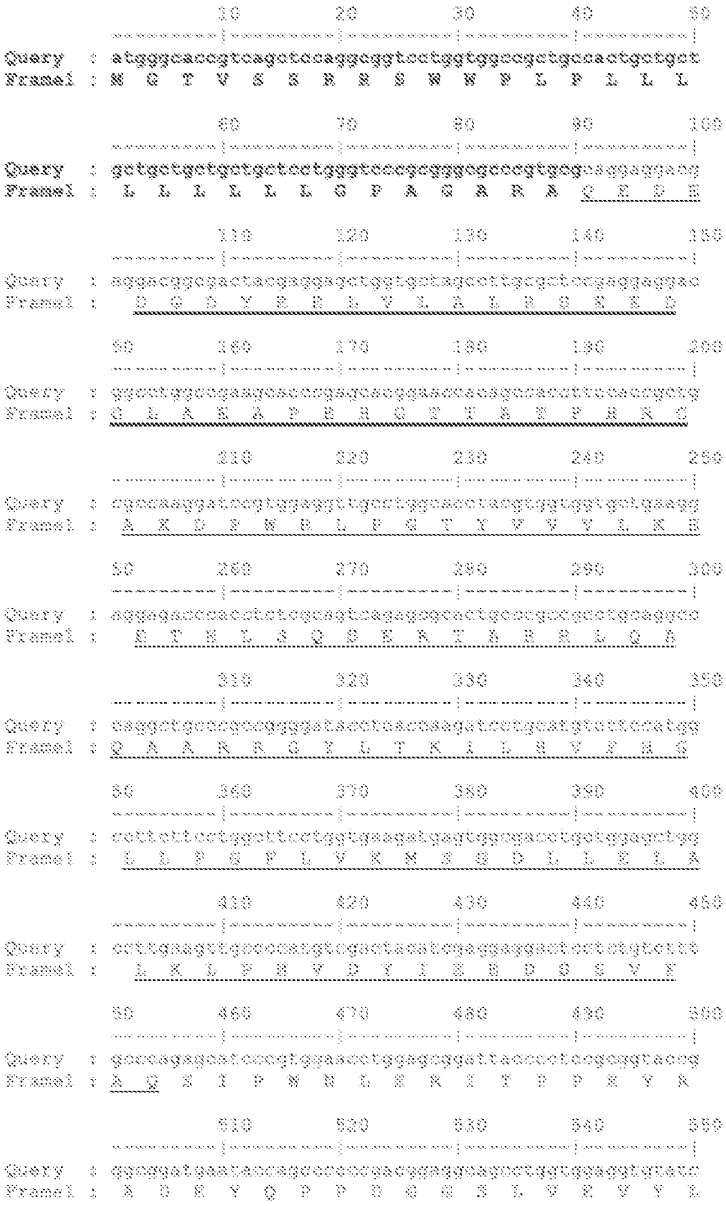


FIG. 13

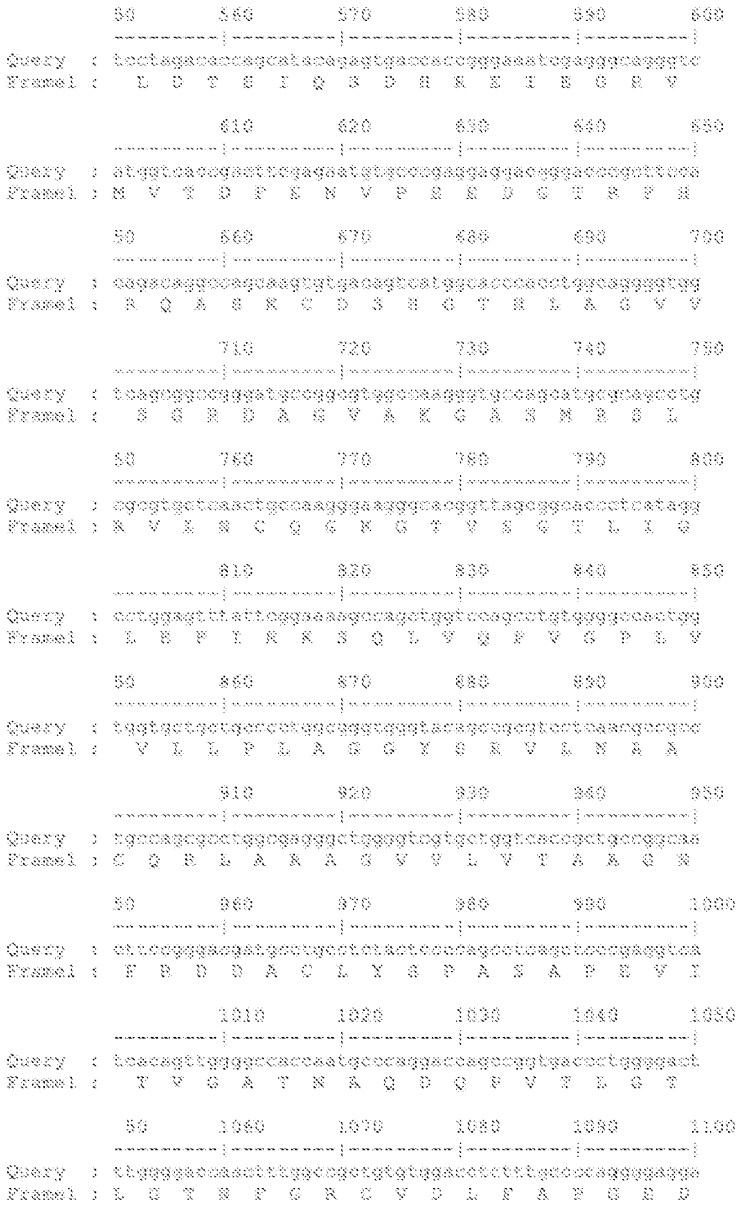


FIG. 13 (Cont. 1)

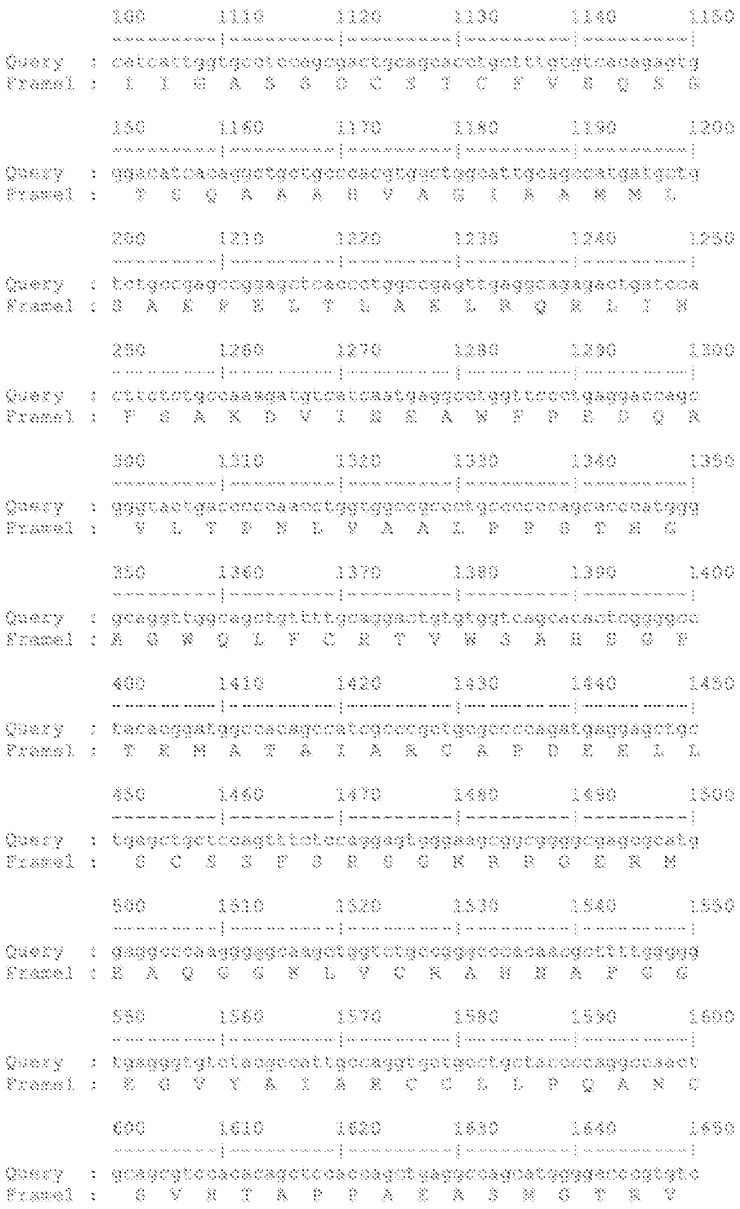


FIG. 13 (Cont. 2)

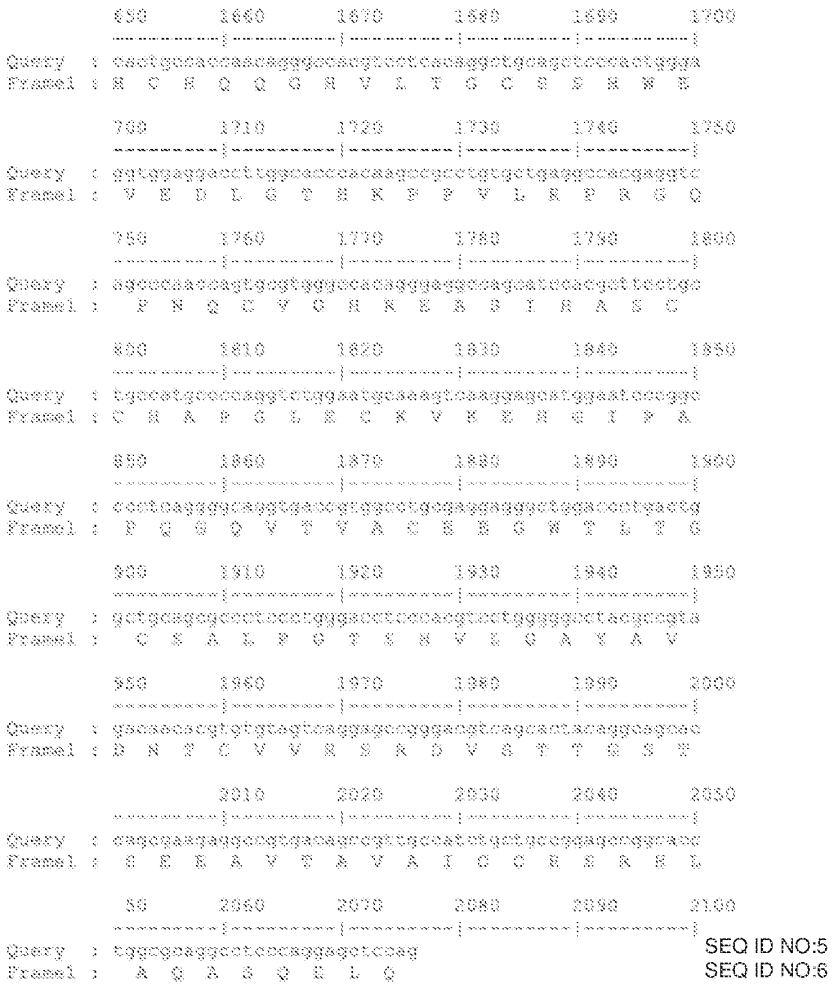


FIG. 13 (Cont. 3)

STRUCTURAL FORMULA

Heavy chain (SEQ ID NO:7)

```
EVQLVQSGAE  VKKPGASVKV  SCKASGYTLT  SYGISWVRQA  PGQGLEWMGW   50
VSFYNGNTNY  AQKLQGRGTM  TTDPSTSTAY  MELRSLRSDD  TAVYYCARGY  100
GMDVWGQGTT  VTVSSASTKG  PSVFPLAPCS  RSTSESTAAL  GCLVKDYFPE  150
PVTVSWNSGA  LTSGVHTFPA  VLQSSGLYSL  SSVVTVPSSN  FGTQTYTCNV  200
DHKPSNTKVD  KTVERKCCVE  CPPCPAPPVA  GPSVFLFPPK  PKDTLMISRT  250
PEVTCVVVDV  SHEDPEVQFN  WYVDGVEVHN  AKTKPREEQF  NSTFRVVSVL  300
TVVHQDWLNG  KEYKCKVSNK  GLPAPIEKTI  SKTKGQPREP  QVYTLPPSRE  350
EMTKNQVSLT  CLVKGFYPSD  IAVEWESNGQ  PENNYKTTPP  MLDSDGSFFL  400
YSKLTVEKSR  WQQGNVFSCS  VMHEALHNHY  TQKSLSLSPG  K          441
```

Light chain (SEQ ID NO:8)

```
ESALTQPASV  SGSPGQSITI  SCTGTSSDVG  GYNSVSWYQQ  HPGKAPKLMI   50
YEVSNRPSGV  SNRFSGSKSG  NTASLTISGL  QAEDEADYYC  NSYTSTSTVF  100
GGGTKLTVLG  QPKAAPSVTL  FPPSSEELQA  NKATLVCLIS  DFYPGAVTVA  150
WKADSSPVKA  GVETTTPSKQ  SNNKYAASSY  LSLTPEQWKS  HRSYSCQVTH  200
EGSTVEKTVA  PTECS                                          215
```

Disulfide bridges

22'-96'	22"-96"	22-96	22"-96"	129-214'	129"-214"'
137'-196'	137"'-196"'	142-198	142"-198"	217-217"	218-218"
221-221"	224-224"	255-315	255"-315"	361-419	361"-419"

Glycosylation sites (N)

Asn-291 Asn-291"

MOLECULAR FORMULA $C_{6242}H_{9648}N_{1668}O_{1996}S_{58}$

EVOLOCUMAB

FIG. 14

alirocumab

```
Heavy chain (SEQ ID NO:9)
EVQLVESGGG LVQPGGSLRL SCAASGFTFN NYAMNWVRQA PGKGLDWVST 50
ISGSGGTTNY ADSVKGRFII SRDSSKHTLY LQMNSLRAED TAVYYCAKDS 100
NWGNFDLWGR GTLVTVSSAS TKGPSVFPLA PSSKSTSGGT AALGCLVKDY 150
FPEPVTVSWN SGALTSGVHT FPAVLQSSGL YSLSSVVTVP SSSLGTQTYI 200
CNVNHKPSNT KVDKKVEPKS CDKTHTCPPC PAPELLGGPS VFLFPPKPKD 250
TLMISRTPEV TCVVVDVSHE DPEVKFNWYV DGVEVHNAKT KPREEQYNST 300
YRVVSVLTVL HQDWLNGKEY KCKVSNKALP APIEKTISKA KGQPREPQVY 350
TLPPSRDELT KNQVSLTCLV KGFYPSDIAV EWESNGQPEN NYKTTPPVLD 400
SDGSFFLYSK LTVDKSRWQQ GNVFSCSVMH EALHNHYTQK SLSLSPG    447

Light chain (SEQ ID NO:10)
DIVMTQSPDS LAVSLGERAT INCKSSQSVL YRSNNRNFLG WYQQKPGQPP 50
NLLIYWASTR ESGVPDRFSG SGSGTDFTLT ISSLQAEDVA VYYCQQYYTT 100
PYTFGQGTKL EIKRTVAAPS VFIFPPSDEQ LKSGTASVVC LLNNFYPREA 150
KVQWKVDNAL QSGNSQESVT EQDSKDSTYS LSSTLTLSKA DYEKHKVYAC 200
EVTHQGLSSP VTKSFNRGEC                                  220
```

FIG. 15A

Bococizumab

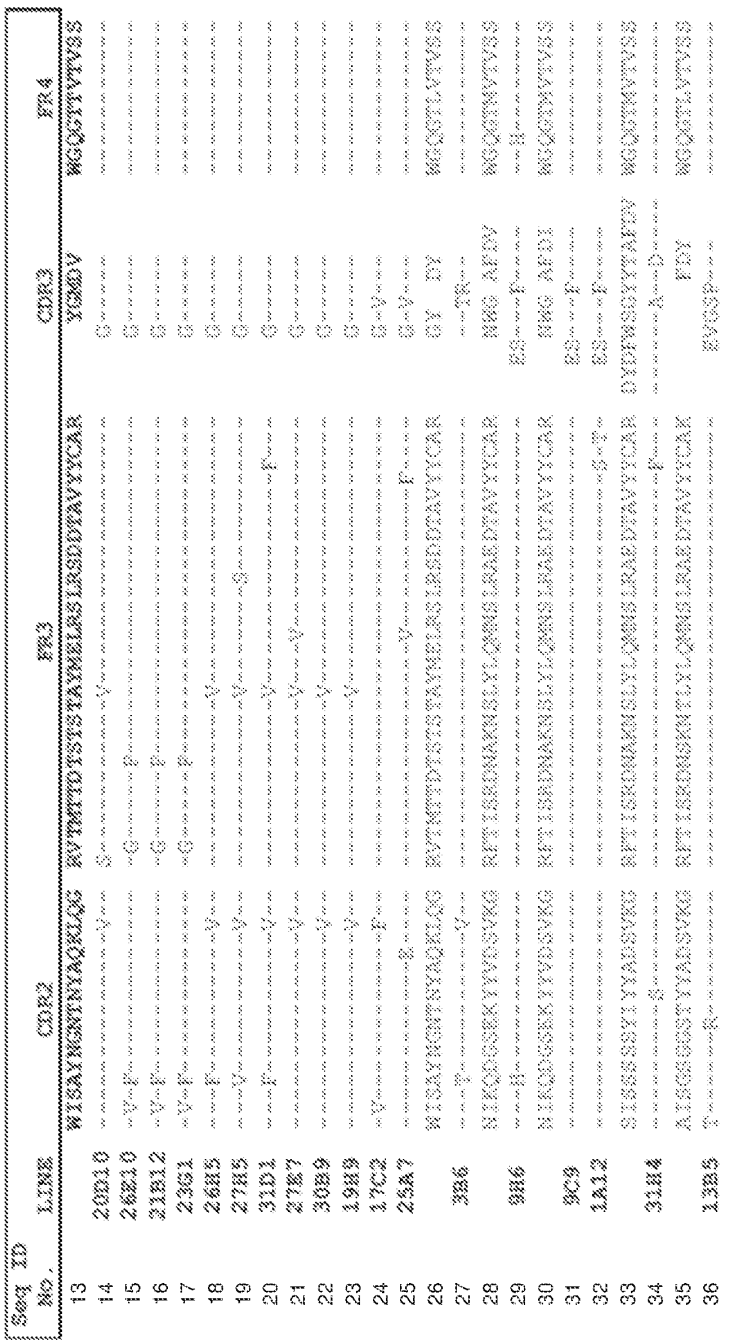
```
Heavy chain: (SEQ ID NO:11)
QVQLVQSGAE VKKPGASVKV SCKASGYTFT SYYMHWVRQA PGQGLEWMGE 50
ISPFGGRTNY NEKFKSRVTM TRDTSTSTVY MELSSLRSED TAVYYCARER 100
PLYASDLWGQ GTTVTVSSAS TKGPSVFPLA PCSRSTSEST AALGCLVKDY 150
FPEPVTVSWN SGALTSGVHT FPAVLQSSGL YSLSSVVTVP SSNFGTQTYT 200
CNVDHKPSNT KVDKTVERKC CVECPPCPAP PVAGPSVFLF PPKPKDTLMI 250
SRTPEVTCVV VDVSHEDPEV QFNWYVDGVE VHNAKTKPRE EQFNSTFRVV 300
SVLTVVHQDW LNGKEYKCKV SNKGLPSSIE KTISKTKGQP REPQVYTLPP 350
SREEMTKNQV SLTCLVKGFY PSDIAVEWES NGQPENNYKT TPPMLDSDGS 400
FFLYSKLTVD KSRWQQGNVF SCSVMHEALH NHYTQKSLSL SPGK       444

Light chain: (SEQ ID NO:12)
DIQMTQSPSS LSASVGDRVT ITCRASQGIS SALAWYQQKP GKAPKLLIYS 50
ASYRYTGVPS RFSGSGSGTD FTFTISSLQP EDIATYYCQQ RYSLWRTFGQ 100
GTKLEIKRTV AAPSVFIFPP SDEQLKSGTA SVVCLLNNFY PREAKVQWKV 150
DNALQSGNSQ ESVTEQDSKD STYSLSSTLT LSKADYEKHK VYACEVTHQG 200
LSSPVTKSFN RGEC                                        214
```

FIG. 15B

Seq ID No.	LINE	V	D	J	FR1	CDR1	FR2
		Germline			QVQLVQSGAEVKKPGASVKVSCKAS	GYTFTSYGIS	WVRQAPGQGLEWMG
13					-L----------------------	--Y----N--	----------
14	20D10	VH1-18		JH6B	-L----------------------	---L------	----------
15	26E10	VH1-18		JH6B	-L----------------------	---L------	----------
16	21B12	VH1-18		JH6B	-L----------------------	---L------	----------
17	23G1	VH1-18		JH6B	-L----------------------	---L------	----------
18	26H5	VH1-18		JH6B	-L----------------------	---L------	----------
19	27H5	VH1-18		JH6B	-L-------------R--------	---L------	----------
20	31D1	VH1-18		JH6B	-L----------------------	---L------	----------
21	27E7	VH1-18		JH6B	-L----------------------	--SL------	----------
22	30B9	VH1-18		JH6B	-L----------------------	--YL------	----------
23	19B9	VH1-18		JH6B	-L----------------------	--AL------	----------
24	17C2	VH1-18		JH6B	-L----------------------	--S-------	----------
25	25A7	VH1-18		JH6B	-L----------------------	----P-----	----------
26		Germline			QVQLVQSGAEVKKPGASVKVSCKAS	GYTFTSYGIS	WVRQAPGQGLEWMG
27	3B6	VH1-18		JH4B	-L----------------------	----------	----------
28		Germline			EVQLVESGGGLVQPGRSLRLSCAAS	GFTFSSYAMS	WVRQAPGKGLEWVA
29	9B6	VH3-7	D7-27	JH3A	----------------------	------R---	----------
30		Germline			EVQLVESGGGLVQPGGSLRLSCAAS	GFTFSSYWMS	WVRQAPGKGLEWVA
31	9C9	VH3-7	D7-27	JH3B	----------------------	----------	----------
32	1A12	VH3-7	D7-27	JH3B	----------------------	-L---NT---	----------
33		Germline			EVQLVESGGGLVKPGGSLRLSCAAS	GFTFSSYSMN	WVRQAPGKGLEWVS
34	31H4	VH3-21	D3-3	JH3A	----------------------	----------	----------
35		Germline			EVQLLESGGGLVQPGGSLRLSCAAS	GFTFSSYAMS	WVRQAPGKGLEWVS
36	13B5	VH3-23		JH4B	----------------------	----------	----------

FIG. 16

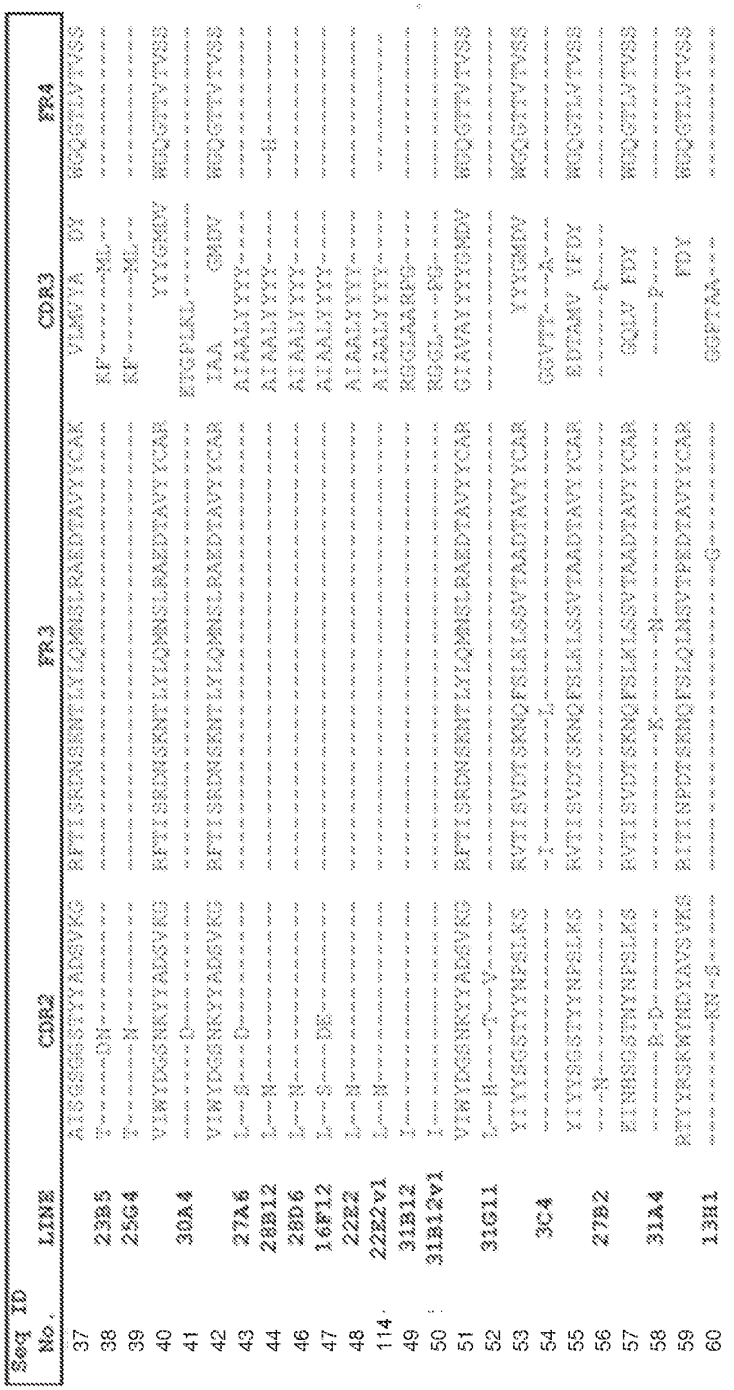


Seq ID No.	LINK	CDR2	FR3	CDR3	FR4
		WIDAYNGNTNYAQKLQG	AVYHCTTDTSSSTAYMELRSLRSDDTAVYYCAR	YGWDV	WGQGTTVTVSS
13		...S.....Y....	..V.....V.....	G.....	.....
14	20D10	.....	.....	G.....	.....
15	26E10	..V.F.....	..G.....E.....	G.....	.....
16	21B12	..V.F.....	..G.....E.....	G.....	.....
17	23G1	..V.F.....	..G.....E.....	G.....	.....
18	26H5	.....F.....	..V.....V.....	G.....	.....
19	27H5	.....	..V.....V.....	G.....	.....
20	31D1	.....F.....	..V.....V.....	G.....	.....
21	27H7	.....	..V.....V.....	G.....	.....
22	30B9	.....	..V.....V.....	G.....	.....
23	19H9	.....	..V.....V.....	G.....	.....
24	17C2	..V.....	.....	G.....	.....
25	25A7	.....	..V.....F.....	G.....	.....
26		WIDAYNGNTNYAQKLQG	AVYHCTTDTSSSTAYMELRSLRSDDTAVYYCAR	GY EY	WGQGTLVTVSS
27	3B6	...T.....	.....	...TK...	.....
28		WIKQGSEKTYVSVKG	RFTISRDNAKNSLYLQMNSLRAEDTAVYYCAR	RWG AFDY	WGQGNVTVSS
29	9H6	...H.....	.....	ES...F.....	...H.....
30		WIKQGSEKTYVSVKG	RFTISRDNAKNSLYLQMNSLRAEDTAVYYCAR	RWG AFDI	WGQGNVTVSS
31	8C9	.....	.....	ES...F.....	.....
32	1A12	.....	.....	ES...F.....	.....
33		SISGSGSTYYADSVKG	RFTISRDNAKNSLYLQMNSLRAEDTAVYYCAR	DYDFWSGYYTAFDY	WGQGTMVTVSS
34	31H4	.....S.....	.....	.....R...D.....	.....
35		AISGSGSTYYADSVKG	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAK	FDY	WGQGTLVTVSS
36	13B5	T.....R.....	.....	EYGSP...	.....

FIG. 16 (Cont.)

Seq ID No.	LIMS	V	D	J	FR1	CDR1	FR2
37		Germline			EVQLLESGGGLVQPGGSLRLSCAAS	GFTFSSYAMS	WVRQAPGKGLEWVS
38	23B5	VH3-23	DC-6	JH4B	----------	----------	----------
39	25G4	VH3-23	DC-8	JH4B	----------	----------	----------
40		Germline			QVQLVESGGGVVQPGRSLRLSCAAS	GFTFSSYGMH	WVRQAPGKGLEWVA
41	30A4	VH3-33		JH6B	----------	----------	----------
42		Germline			QVQLVESGGVVQPGRSLRLSCAAS	GFTFSSYGMH	WVRQAPGKGLEWVA
43	27A6	VH3-33	DC-6	JH6B	----S-----	----S-F---	----------
44	28B12	VH3-33	DC-6	JH6B	----------	----------	----------
45	28B12v1	VH3-33	DC-6	JH6B	----S-----	----S-F---	----------
46	28D6	VH3-33	DC-6	JH6B	----------	----S-F---	----------
47	16F12	VH3-33	DC-6	JH6B	----S-----	----S-F---	----------
48	22B2	VH3-33	DC-6	JH6B	----------	----S-F---	----------
49	31B12	VH3-33	DC-6	JH6B	----------	----------	----------
50	31B12v1	VH3-33	DC-6	JH6B	----------	----------	----------C---
51		Germline			QVQLVESGGGVVQPGRSLRLSCAAS	GFTFSSYGMH	WVRQAPGKGLEWVA
52	31G11	VH3-33	D6-19	JH6B	----------R-----	----R-----	----------
53		Germline			QVQLQESGPGLVKPSQTLSLTCTVS	GGSISSGGYYWS	WIRQHPGKGLEWIG
54	3C4	VH4-31		JH6B	----------	----------SD-----	----------
55		Germline			QVQLQESGPGLVKPSQTLSLTCTVS	GGSISSGGYYWS	WIRQHPGKGLEWIG
56	27B2	VH4-31	D2-8	JH4B	----------	----------	----------
57		Germline			QVQLQQWGAGLLKPSETLSLTCAVY	GGSFSGYYWS	WIRQPPGKGLEWIG
58	31A4	VH4-34	D6-6	JH4B	----------	----A----N	----------
59		Germline			QVQLQQSGPGLVKPSQTLSLTCALS	GDSVSSNSAAWN	WIRQSPSRGLEWLG
60	13B1	VH6-1		JH6B	----------	----------	----------

FIG. 17

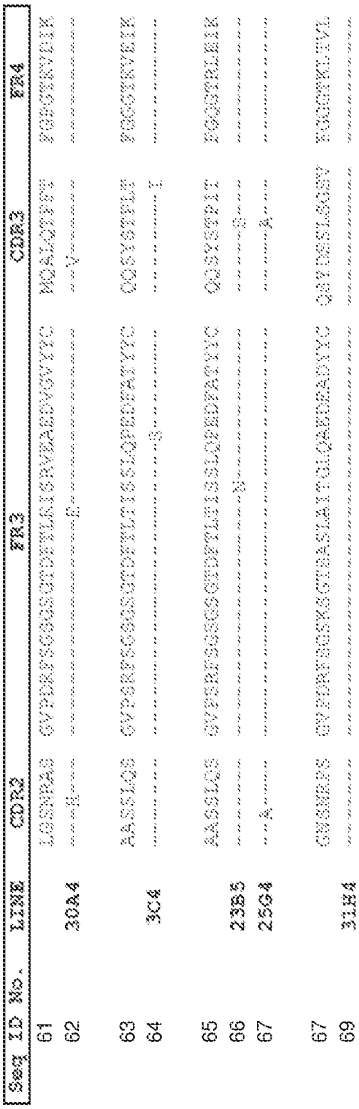


Seq ID No.	LINE	CDR2	FR3	CDR3	FR4
37		AIGSSGGSTYYADSVKG	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAK	YLWFYA DY	WGQGTLVTVSS
38	23B5	I-----DI----------	----------	EF-----YL---	----------
39	25G4	I-----N----------	----------	EF-----YL---	----------
40		VIRYDGSNKYYADSVKG	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	YYYGMDV	WGQGTTVTVSS
41	30A4	---------D----------	----------	EPGPAL------	----------
42		VIRYDGSNKYYADSVKG	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	IAA GMDV	WGQGTTVTVSS
43	27A6	L---S---D----------	----------	AIAAVYYY-----	----------
44	28B12	L---N----------	----------	AIAAVYYY-----	--S---------
45	28D6	L---N----------	----------	AIAAIYYY-----	----------
47	16F12	L---S---DK-------	----------	AIAAVYYY-----	----------
48	22L2	L---S----------	----------	AIAAVYYY-----	----------
114	22L2v1	L---N----------	----------	AIAAVYYY-----	----------
49	31B12	I----------	----------	RGGLAARP------	----------
50	31B12v1	I----------	----------	RGGL----PD------	----------
51		VIRYDGSNKYYADSVKG	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	GIAVVYYYGMDV	WGQGTLVTVSS
52	31G11	L---E---S---V----	----------	----------	----------
53		YIYYSGSTYYNPSLKS	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	YYYGMDV	WGQGTTVTVSS
54	3C4	----------	-I----------	GGVTF---A----	----------
55		YIYYSGSTYYNPSLKS	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	EYDWV YFDY	WGQGTLVTVSS
56	27B2	---N----------	----------	---------Y-----	----------
57		EINHSGSTNYNPSLKS	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	GQLT EDY	WGQGTLVTVSS
58	31A4	---------R-D----------	---------N----------	----------P-----	----------
59		RTYYRSKWYNDYAVSVKS	RITINPDTSKNQFSLQLNSVTPEDTAVYYCAR	FDY	WGQGTLVTVSS
60	13H1	---------SS-G----------	---------Q----------	GGFTAA-----	----------

FIG. 17 (Cont.)

Seq ID No.	LINE	V	D	J	FR1	CDR1	FR2
61		Germline			DIVMTQSPDSLAVSLGERATINC	RSSQSLLNSGNQKNYLT	WYQQKPGQPPKLLIY
62	30A4	A3		JK3	.....S.....P.....	.....P-R	.....
63		Germline			DIQMTQSPSSLSASVGDRVTITC	RASQDISNYLN	WYQQKPGKAPKLLIY
64	3C4	C2		JK4	.....	.....R--N---S	---L.....T.....
65		Germline			DIQMTQSPSSLSASVGDRVTITC	RASQSISSYLN	WYQQKPGKAPKLLIY
66	23B5	C2		JK5	---L.....	.....	.....
67	25G4	C2		JK5	.....	.....I.....	.....
67		Germline			QSVLTQPPSVSGAPGQRVTISC	TGSSSNIGAGYDVH	WYQQLPGTAPKLLIY
69	31H4	V1-13		JL2	.....	.....	----------S
70	27B2	V1-13		JL2	.....	.....R.....	-----Y.....
71		Germline			QSALTQPASVSGSPGQSITISC	TGSSSDVGGYNYVS	WYQQHPGKAPKLMIY
72	25A7	V1-4		JL2	.....	.....R--S---	----H.....V----
73	27B5	V1-4		JL2	.....	.....	.....P.....
74	26H5	V1-4		JL2	.....	.....S---	.....P.....
75	31D1	V1-4		JL2	.....	.....S---	----------P----------
76	20D10	V1-4		JL2	.....	.....S---	----Y-----P----K---
77	27E7	V1-4		JL3	.....	.....S---	.....P.....
78	30B9	V1-4		JL3	.....	.....S---	.....P.....
79	19H9	V1-4		JL3	.....	.....S---	.....P.....
80	26E10	V1-4		JL2	.....	.....S---	.....
81	31B12	V1-4		JL2	.....	.....S---	.....
82	17C2	V1-4		JL2	.....	.....A---S---	.....R----

FIG. 18

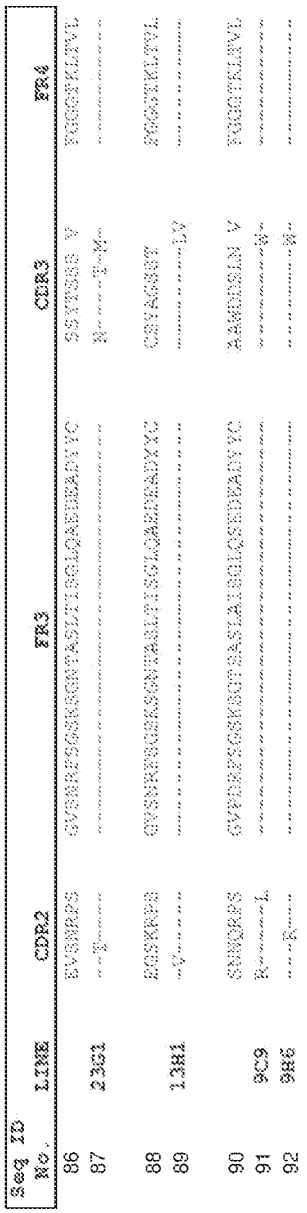


Seq ID No.	LIME	CDR2	FR3	CDR3	FR4
61		LGSNRAS	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	MQALQTPT	FGQGTKVEIK
62	30A4	....K.....	.....E.....	..V.....	.....
63		AASSLQS	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	QQSYSTPLT	FGGGTKVEIK
64	3C4	.....	.....S.....	.....	.....
65		AASSLQS	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	QQSYSTPIT	FGQGTRLEIK
66	23B5	.....	.....N.....	.....S.....	.....
67	25G4	...A.....	.....	.....A.....	.....
67		GNNNRPS	GVPDRFSGSKSGTSASLAITGLQAEDEADYYC	QSYDSSLSGSV	FGGGTKLTVL
69	31K4	.....	.....	.....	.....
70	27B2	...EV.....	.....	.....A.....V..	.....
71		EVSNRPS	GVSNRFSGSKSGNTASLTISGLQAEDEADYYC	SSYTSSSTV	FGGGTKLTVL
72	25A7	.....	.....	.....	.....
83	25A7v1	.....	.....	.....	.....
73	27H5	.....	.....S.....	.....T..M..	.....
84	27H5v1	.....	.....S.....	.....T..M..	.....
74	26H5	.....	.....S.....	.....T..M..	.....
75	31D1	.....	.....S.....	.....T..M..	.....A...
76	20D10	.....	.....S.....	.....T..M..	.....
77	27E7	.....	.....S.....	.....T..M..	.....
78	30E9	.....	.....S.....	.....T..M..	.....
79	13H9	...I.....	.....S.....	.....S..M..	.....
85	13H9v1	...I.....	.....S.....	.....S..M..	.....
80	26E10	.....	.....	M.....S..M..	.....
81	21B12	.....	.....	M.....S..M..	.....
82	17C2	.....	.....	.....TRM..	.....

FIG. 18 (Cont.)

Seq ID No.	LINE	V	D	J	FR1	CDR1	FR2
86	Germline				QSALTQPASVSGSPGQSITISC	TGTSSDVGSYNLVS	WYQQHPGKAPKLMIY
87	23G1	V1-4	JL3		.....	.....	.....
88	Germline				QSALTQPASVSGSPGQSITISC	TGTSSDVGSYNLVS	WYQQHPGKAPKLMIY
89	13H1	V1-7	JL3		L.....	.....S.....	.....YG.....
90	Germline				QSVLTQPPSASGTPGQRVTISC	SGSSSNIGSNNVN	WYQLLPGTAPKLLIY
91	9C3	V1-16	JL3		.....	.....Y.....	.....Y.....
92	9H6	V1-16	JL3		.....P.....	.....	.....
93	31A4	V1-16	JL3		.....	.....	.....
94	1A12	V1-16	JL3		.....	.....K.....	.....F.....
95	Germline				QSVLTQPPSVSAAPGQKVTISC	SGSSSNIGNNYVS	WYQQLPGTAPKLLIY
96	16F12	V1-19	JL1		.....	.....T...	.....
97	22E2	V1-19	JL1		.....	.....T...	.....
98	27A6	V1-19	JL1		.....	.....T...	.....T.....
99	28B12	V1-19	JL1		.....	.....T...	.....
100	28D6	V1-19	JL1		.....T.....	.....T...	.....
101	31G11	V1-19	JL1		.....	.....T...	.....
102	Germline				QSVLTQPPSVSGAPGQRVTISC	SGSSSNIGNNYVS	WYQQLPGTAPKLLIY
103	13B5	V1-19	JL2		.....	.....R.....	.....
104	Germline				SYELTQPPSVSVSPGQTASITC	SGDKLGDKYAC	WYQQKPGQSPVLVIY
105	31B12	V2-1	JL3		.....	.....	.....
106	Germline				QPVLTQPPSASGALGASVTLTC	TLSSGYSNYKVD	WYQQRPGKGPRFVMR
107	3B6	V6-1	JL2		.....LG.....	.....S-R...	.....

FIG. 19



Seq ID No.	LIME	CDR2	FR3	CDR3	FR4
86		EVSNRPS	GVSNRFSGSKSGNTASLTISGLQAEDEADYYC	SSYTSSS V	FGGGTKLTVL
87	23G1	---S------	.....	N-----T--N-	.....
88		EGSKRPS	GVSNRFSGSKSGNTASLTISGLQAEDEADYYC	CSYAGSST	FGGGTKLTVL
89	13H1	-Y-------	.....	 LV	.....
90		SNNQRPS	GVPDRFSGSKSGTSASLAISGLQSEDEADYYC	AAWDDSLN V	FGGGTKLTVL
91	9C9	K-------L	.....	..... N-	.....
92	9H6	---E-----	.....	..... N-	.....
93	31A4	.....	.....	-V-------GWV	.....
94	1A12	----R----	.....	..... N-	---A----------
95		DNNKRPS	GIPDRFSGSKSGTSATLGITGLQTGDEADYYC	GTWDSSLSAYV	FGTGTKVTVL
96	16F12	-Y-------	.....	.....	.....R------
97	22E2	-Y-------	.....	..... Q---	.....R------
98	27A6	-Y-------	.....	..... S---	.....R------
99	28B12	-Y-------	.....	..... G---	.....R------
100	28D6	-Y-------	.....	..... G---	.....R------
101	31G11	-S-------	.....	.....	.....
102		DNNKRPS	GIPDRFSGSKSGTSATLGITGLQTGDEADYYC	GTWDSSLSAVV	FGGGTKLTVL
103	13B5	--------	----------N----------	.....	.....
104		QDSKRFS	GIPERFSGSNSGNTATLTISGTQAMDEADYYC	QAWDSSTAVV	FGGGTKLTVL
105	31B12	-EE-N-L	..... K..... Y.....	..... V..	.....
106		VGDGGTVDSKGD	GIPDRFSVLGSGLNRYLTIKNIQEEDESDYHC	GADHGSGNFVVV	FGGGTKLTVL
107	3B6	.D..... E	.....	..... Z.....	.....
108		VTDDGIV	GSRDQIPDRFSGLGSGTDFVLTIKNIQPEDE	SSRDKSGSRLSVVV	FGGGTKLTVL
109	3B6v1	-D-------	----E----------	..... Q-----	.....

FIG. 19 (Cont.)

Human IgG2:

ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTC
VVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLP
APIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPMLD
SDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK (SEQ ID NO:110)

Human IgG4:

ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVT
CVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGL
PSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL
DSDGSFFLYSRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLSLGK (SEQ ID NO:111)

Human lambda:

QPKAAPSVTLFPPSSEELQANKATLVCLISDFYPGAVTVAWKADSSPVKAGVETTTPSKQSNNKYAASSY
LSLTPEQWKSHRSYSCQVTHEGSTVEKTVAPTECS (SEQ ID NO:112)

Human kappa:

TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSS
TLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:113)

FIG. 20