

# WES MENDELIAN INHERITED DISORDERS DG 2.14

<i>Gene</i>	<i>Median coverage</i>	<i>% covered &gt;10x</i>	<i>% covered &gt;20x</i>	<i>OMIM disease ID</i>
A4GALT	140.8	100.0	100.0	111400
AAAS	106.4	100.0	99.7	231550
AAGAB	151.8	100.0	98.3	148600
AARS	124.3	100.0	99.6	613287;616339
AARS2	126.2	100.0	99.3	614096;615889
AASS	128.8	99.6	97.4	238700
ABAT	92.7	100.0	99.5	613163
ABCA1	123.6	100.0	99.5	205400;604091
ABCA12	140.0	99.6	97.8	242500;601277
ABCA3	124.0	99.9	99.3	610921
ABCA4	127.1	100.0	99.5	248200;601718;604116
ABCB11	158.2	99.9	99.1	601847;605479
ABCB4	129.8	99.9	97.9	600803;614972;602347
ABCB6	127.2	100.0	99.6	609153;614497;615402
ABCB7	131.5	99.9	98.4	301310
ABCC2	135.8	100.0	100.0	237500
ABCC6	116.4	93.6	92.6	614473;264800;177850
ABCC8	146.6	100.0	99.9	125853;610374;606176;256450;240800
ABCC9	157.9	99.9	99.2	239850;614050;608569
ABCD1	76.0	74.7	68.0	300100
ABCD3	93.7	95.2	89.5	616278
ABCD4	143.6	99.9	98.3	614857
ABCG5	145.2	100.0	99.2	210250
ABCG8	148.4	99.2	96.6	210250
ABHD12	107.0	97.3	88.0	612674

ABHD5	209.6	100.0	99.9	275630
ABL1	140.2	100.0	99.9	0;617602
ACAD8	141.5	100.0	100.0	611283
ACAD9	135.2	98.4	95.7	611126
ACADM	101.3	98.8	95.6	201450
ACADS	123.9	99.3	97.6	201470
ACADSB	119.1	99.5	95.6	610006
ACADV1	118.8	98.7	95.1	201475
ACAN	121.6	91.6	85.0	608361;165800;612813
ACAT1	123.7	99.2	94.6	203750
ACD	135.2	100.0	98.2	616553
ACE	120.7	99.5	97.4	267430
ACER3	105.8	99.9	97.5	617762
ACO2	129.3	95.8	91.8	614559;616289
ACOX1	155.3	100.0	100.0	264470
ACOX2	136.2	100.0	99.8	617308
ACP4	64.5	90.2	82.7	617297
ACP5	196.2	100.0	99.9	607944
ACSF3	128.8	99.9	99.3	614265
ACSL4	104.7	97.5	91.8	300387
ACSL6	118.5	99.8	98.4	-
ACTA1	99.7	99.2	95.3	161800;255310;616852
ACTA2	137.6	100.0	99.8	613834;614042;611788
ACTB	129.0	99.1	94.2	607371;243310
ACTC1	164.1	100.0	99.6	612794;612098;613424
ACTG1	149.4	100.0	100.0	604717;614583
ACTG2	133.3	99.7	97.6	155310
ACTN1	143.6	100.0	99.9	615193
ACTN2	156.3	100.0	100.0	612158
ACTN4	143.7	99.5	97.7	603278

ACVR1	165.1	100.0	100.0	135100
ACVR1B	160.3	96.3	95.2	-
ACVR2B	140.5	97.1	94.7	613751
ACVRL1	122.7	99.9	98.0	600376
ACY1	132.8	99.9	98.3	609924
ADA	113.0	98.9	97.3	102700
ADA2	101.4	99.9	99.1	182410;615688
ADAM10	123.6	94.6	92.0	615537
ADAM17	139.4	97.6	93.8	614328
ADAM22	140.5	99.9	98.6	617933
ADAM9	146.3	98.6	94.1	612775
ADAMTS10	107.8	99.9	98.7	277600
ADAMTS13	99.9	96.3	91.7	274150
ADAMTS17	117.1	88.9	86.7	613195
ADAMTS18	147.5	99.9	98.9	615458
ADAMTS2	117.4	98.5	96.6	225410
ADAMTSL2	112.2	96.5	91.0	231050
ADAMTSL4	90.6	99.9	98.8	225200;225100
ADAR	125.0	100.0	99.8	615010;127400
ADAT3	82.1	99.5	97.3	615286
ADCY1	145.0	94.7	93.3	610154
ADCY5	129.2	92.3	89.1	606703
ADCY6	172.1	100.0	100.0	616287
ADD3	169.7	100.0	99.7	617008
ADGRE2	160.5	96.7	96.1	125630
ADGRG1	149.7	100.0	100.0	606854;615752
ADGRG2	96.5	97.0	92.3	300985
ADGRG6	147.6	99.8	98.0	616503
ADGRV1	140.3	99.5	97.0	604352;605472
ADIPOQ	139.5	100.0	100.0	612556

ADK	100.4	99.5	96.1	614300
ADNP	242.8	100.0	100.0	615873
ADRA2B	199.9	100.0	100.0	607876
ADRB2	131.3	100.0	100.0	-
ADSL	183.6	99.2	99.1	103050
ADSSL1	113.6	89.8	85.9	617030
AEBP1	134.7	99.8	97.9	618000
AFF2	122.8	99.9	98.9	309548
AFF4	110.7	99.4	97.3	616368
AFG3L2	121.0	91.9	84.9	610246;614487
AFP	100.2	94.2	84.0	615969
AGA	130.2	100.0	100.0	208400
AGBL1	132.3	98.5	98.4	615523
AGBL5	111.0	100.0	99.8	617023
AGK	112.1	99.3	96.4	614691;212350
AGL	146.7	99.7	98.0	232400
AGPAT2	109.5	99.0	95.1	608594
AGPS	51.7	96.8	84.8	600121
AGRN	114.8	95.2	89.3	615120
AGT	214.2	100.0	100.0	267430
AGTR1	134.6	92.0	91.9	267430
AGXT	139.5	99.9	99.2	259900
AHCY	124.5	100.0	99.8	613752
AHDC1	120.9	98.0	96.3	615829
AHI1	139.3	99.2	95.1	608629
AHSG	177.0	100.0	99.8	203650
AICDA	139.0	89.8	82.6	605258
AIFM1	106.2	100.0	99.7	300614;300816;310490
AIMP1	84.8	97.3	89.7	260600
AIMP2	119.1	93.6	86.9	618006

AIP	154.2	99.9	99.0	102000;102200
AIPL1	116.0	100.0	99.5	604393
AIRE	68.2	98.9	92.0	240300
AK1	119.8	100.0	99.2	612631
AK2	111.8	99.8	96.6	267500
AK7	125.9	99.3	94.5	617965
AKAP9	98.0	98.3	94.2	611820
AKR1C2	179.5	96.3	89.6	614279
AKR1D1	106.1	98.5	94.3	235555
AKT1	156.5	99.9	99.5	114480;615109;114500;176920;167000
AKT2	148.8	100.0	99.5	125853;240900
AKT3	79.6	97.8	88.6	615937
ALAD	100.6	99.8	97.4	612740
ALAS2	89.7	99.6	97.1	300751;300752
ALB	156.0	99.9	98.7	616000
ALDH18A1	131.1	100.0	99.9	601162;616586;219150;616603
ALDH1A3	104.7	93.4	89.6	615113
ALDH2	124.7	100.0	99.7	610251
ALDH3A2	125.7	95.3	94.6	270200
ALDH4A1	116.0	100.0	98.6	239510
ALDH5A1	87.6	86.4	80.1	271980
ALDH6A1	127.3	100.0	100.0	614105
ALDH7A1	77.1	93.7	85.4	266100
ALDOA	139.1	76.3	74.7	611881
ALDOB	165.7	100.0	99.4	229600
ALG1	50.9	53.6	48.8	608540
ALG11	139.6	96.7	96.0	613661
ALG12	156.2	100.0	100.0	607143
ALG13	86.7	98.7	94.1	300884
ALG14	233.8	100.0	100.0	616227

ALG2	115.9	100.0	100.0	607906;616228
ALG3	132.9	100.0	100.0	601110
ALG6	96.4	96.0	93.3	603147
ALG8	126.0	96.5	95.1	608104;617874
ALG9	124.3	100.0	99.6	263210;608776
ALMS1	179.8	99.9	99.7	203800
ALOX12B	130.6	100.0	99.5	242100
ALOXE3	122.2	100.0	100.0	606545
ALPK3	98.7	94.6	92.5	618052
ALPL	156.4	100.0	100.0	241500;146300;241510
ALS2	170.2	99.9	99.2	205100;606353;607225
ALX1	153.2	99.9	98.4	613456
ALX3	102.7	73.3	70.9	136760
ALX4	132.7	98.4	92.5	609597;613451
AMACR	157.9	100.0	100.0	614307;214950
AMBN	175.1	94.6	88.5	616270
AMELX	98.2	99.0	95.0	301200
AMER1	96.9	99.8	98.9	300373
AMH	42.1	92.8	74.2	261550
AMHR2	158.0	100.0	99.5	261550
AMMECR1	72.2	99.0	94.0	300990
AMN	66.8	83.5	71.6	261100
AMPD1	126.7	100.0	99.9	615511
AMPD2	135.5	99.9	99.2	615809;615686
AMT	173.1	100.0	100.0	605899
AMTN	125.0	98.8	95.4	617607
ANG	178.0	100.0	99.9	611895
ANGPTL3	89.9	97.5	92.2	605019
ANGPTL4	111.9	99.0	94.2	615881
ANK1	136.5	100.0	99.3	182900

ANK2	160.3	100.0	99.9	600919
ANK3	155.1	99.1	98.8	615493
ANKH	118.6	100.0	99.7	118600;123000
ANKLE2	162.5	98.0	94.7	616681
ANKRD11	96.3	97.4	94.1	148050
ANKRD26	81.0	88.7	76.8	188000
ANKS6	91.8	92.8	88.6	615382
ANLN	146.2	97.2	93.3	616032
ANO10	116.7	98.8	96.5	613728
ANO3	138.8	99.7	98.2	615034
ANO5	142.2	99.5	95.9	613319;166260;611307
ANO6	137.4	98.0	92.9	262890
ANOS1	90.3	89.4	87.6	308700
ANTXR1	123.0	98.3	95.7	230740
ANTXR2	100.0	98.9	94.9	228600
ANXA11	80.8	98.9	88.8	617839
AP1S1	111.3	99.9	99.5	609313
AP1S2	65.7	78.6	70.9	304340
AP2S1	115.7	90.4	89.7	600740
AP3B1	95.0	97.8	90.2	608233
AP3B2	135.1	97.5	94.2	617276
AP3D1	121.0	98.1	97.8	617050
AP4B1	147.4	100.0	99.8	614066
AP4E1	98.7	99.7	97.9	184450;613744
AP4M1	127.2	99.1	96.4	612936
AP4S1	65.8	71.8	69.3	614067
AP5Z1	96.8	99.7	96.6	613647
APC	159.0	99.9	98.9	0;135290;613659;114550;114500;175100
APC2	63.5	93.3	85.3	617169
APCDD1	179.6	100.0	99.3	605389

APOA1	99.3	100.0	100.0	0;105200;604091
APOA2	106.0	88.5	82.2	-
APOA5	152.5	100.0	100.0	144650
APOB	181.7	99.6	99.3	144010;615558
APOC2	99.4	100.0	100.0	207750
APOC3	88.8	100.0	100.0	614028
APOE	56.2	93.9	83.1	269600;611771;104310;617347
APOPT1	63.8	81.4	78.1	220110
APP	138.9	100.0	100.0	104300;605714
APRT	68.2	100.0	98.7	614723
APTX	118.9	94.2	91.1	208920
AQP2	117.4	99.5	95.6	125800
AQP5	110.9	99.8	97.4	600231
AR	85.3	93.8	88.3	300633;313200;300068;312300
ARCN1	167.9	96.6	96.6	617164
ARFGEF2	154.9	100.0	99.3	608097
ARG1	167.8	100.0	100.0	207800
ARHGAP26	153.2	100.0	99.9	607785
ARHGAP31	133.4	99.8	98.3	100300
ARHGDI1	143.9	100.0	99.9	615244
ARHGEF10	132.8	99.8	98.0	608236
ARHGEF18	114.0	97.7	93.0	617433
ARHGEF2	107.6	100.0	99.7	617523
ARHGEF6	133.7	99.1	95.4	300436
ARHGEF9	60.2	76.4	74.4	300607
ARID1A	150.0	92.2	89.7	614607
ARID1B	156.7	94.3	89.5	135900
ARID2	216.9	99.2	95.7	617808
ARL13B	97.3	98.9	92.8	612291
ARL2BP	66.3	88.3	79.3	615434



ARL6	85.2	99.8	95.3	600151;613575
ARL6IP1	66.0	98.8	85.8	615685
ARMC4	129.1	94.4	93.4	615451
ARMC5	136.5	99.8	97.5	615954
ARMC9	127.3	99.8	98.5	617622
ARNT2	153.0	99.6	99.0	615926
ARPC1B	126.4	100.0	99.9	617718
ARR3	98.1	100.0	99.9	301010
ARSA	97.8	100.0	99.7	250100
ARSB	117.5	94.9	87.7	253200
ARSE	102.1	99.2	93.0	302950
ARV1	133.5	100.0	99.3	617020
ARX	29.1	75.8	59.5	300215;300004;308350;300419;309510
ASAH1	105.9	97.6	92.1	228000;159950
ASB10	101.6	99.6	96.8	603383
ASCC1	139.1	96.7	93.2	614266;616867
ASCL1	213.1	90.2	79.5	209880
ASH1L	160.1	98.7	98.5	617796
ASL	114.4	99.9	98.8	207900
ASNS	105.8	97.8	90.5	615574
ASPA	127.6	99.1	95.8	271900
ASPH	117.3	98.8	93.9	601552
ASPM	101.2	98.0	92.2	608716
ASPSCR1	88.4	98.4	93.7	606243
ASS1	97.9	95.7	87.5	215700
ASXL1	159.8	99.1	97.7	614286;605039
ASXL2	152.0	98.1	98.0	617190
ASXL3	162.9	99.8	98.9	615485
ATAD1	59.1	94.9	86.4	618011
ATAD3A	87.9	89.0	86.2	617183

ATCAY	146.1	100.0	99.7	601238
ATF6	134.1	100.0	99.6	616517
ATG5	130.5	98.6	90.5	617584
ATIC	119.5	99.7	99.0	608688
ATL1	161.0	99.7	97.9	182600;613708
ATL3	125.0	98.1	93.8	615632
ATM	109.7	99.0	94.0	0;208900
ATN1	120.9	99.7	97.7	125370
ATOH7	102.8	95.8	89.6	221900
ATP13A2	117.4	100.0	98.8	606693;617225
ATP1A1	142.9	100.0	99.9	618036
ATP1A2	190.8	100.0	99.6	602481;104290
ATP1A3	177.3	100.0	100.0	601338;128235;614820
ATP2A1	155.9	100.0	100.0	601003
ATP2A2	175.2	100.0	99.9	124200;101900
ATP2B3	135.2	99.5	97.7	302500
ATP2C1	118.6	99.9	99.0	169600
ATP5A1	85.3	94.8	85.8	616045;615228
ATP5E	135.5	100.0	100.0	614053
ATP6AP1	112.8	99.1	94.7	300972
ATP6AP2	46.1	81.2	55.6	300423;300911
ATP6V0A2	130.0	100.0	99.3	219200;278250
ATP6V0A4	116.4	99.9	98.6	602722
ATP6V1A	144.8	98.2	94.9	618012;617403
ATP6V1B1	176.6	100.0	100.0	267300
ATP6V1B2	137.0	99.9	98.2	616455;124480
ATP6V1E1	67.2	92.2	85.6	617402
ATP7A	133.2	99.7	97.8	300489;304150;309400
ATP7B	168.9	100.0	99.8	277900
ATP8A2	133.5	100.0	99.5	615268

ATP8B1	139.0	96.7	94.4	243300;147480;211600
ATPAF2	101.4	100.0	100.0	604273
ATR	138.3	99.4	96.9	614564;210600
ATRX	82.6	98.2	92.2	300448;309580;301040
ATXN1	159.7	100.0	100.0	164400
ATXN10	137.7	99.8	97.9	603516
ATXN2	89.3	85.8	77.8	183090
ATXN3	98.3	91.1	86.2	109150
ATXN7	131.0	96.6	94.1	164500
ATXN8OS				608768
AUH	90.9	99.9	97.6	250950
AURKC	79.0	99.8	97.5	243060
AUTS2	110.3	96.9	95.5	615834
AVP	53.3	76.3	57.3	125700
AVPR2	127.5	99.3	97.1	304800;300539
AXIN1	141.2	98.6	96.8	114550;607864
AXIN2	114.5	99.7	98.9	608615;114500
B2M	252.1	100.0	99.9	241600;105200
B3GALNT2	115.0	92.4	89.7	615181
B3GALT6	47.5	76.4	71.7	271640;615349
B3GAT3	93.6	99.4	95.9	245600
B3GLCT	101.2	97.4	93.4	261540
B4GALNT1	151.0	95.6	90.1	609195
B4GALT1	105.4	99.9	99.0	607091
B4GALT7	104.3	96.1	95.0	130070
B4GAT1	120.4	100.0	100.0	615287
B9D1	115.3	92.1	91.4	614209;617120
B9D2	110.9	100.0	100.0	614175
BAAT	121.4	98.3	95.3	607748
BAG3	136.5	100.0	100.0	613881;612954

BANF1	58.3	98.0	88.1	614008
BAP1	111.0	85.1	82.7	614327
BAX	92.9	96.9	95.3	613065;114500
BBIP1	132.0	99.4	94.8	615995
BBS1	148.9	100.0	100.0	209900
BBS10	172.6	100.0	100.0	615987
BBS12	208.6	100.0	100.0	615989
BBS2	181.8	100.0	99.8	616562;615981
BBS4	135.9	99.7	97.3	615982
BBS5	81.1	95.8	84.1	615983
BBS7	120.7	98.1	91.7	615984
BBS9	112.9	96.0	93.8	615986
BCAP31	70.6	93.1	82.5	300475
BCHE	162.9	100.0	99.8	617936
BCKDHA	171.5	100.0	99.5	248600
BCKDHB	112.6	88.9	81.3	248600
BCKDK	178.8	100.0	100.0	614923
BCL10	97.9	100.0	99.8	616098;137245
BCL11A	139.3	98.2	97.0	617101
BCL11B	79.7	96.6	88.6	617237
BCL2	156.0	99.9	98.4	-
BCL7A	136.0	100.0	100.0	-
BCO1	164.9	100.0	100.0	115300
BCOR	109.7	99.3	96.8	300166
BCR	110.6	87.7	84.3	608232;613065
BCS1L	182.3	100.0	100.0	262000;124000;256000;603358
BEAN1	146.2	99.1	95.3	117210
BEST1	144.6	99.6	97.5	611809;613194;153700;193220
BFSP1	98.0	98.2	88.9	611391
BFSP2	89.5	99.8	97.6	611597

BGN	128.9	100.0	99.5	300989;300106
BHLHA9	13.8	57.8	41.3	609432;607539
BICD2	158.6	100.0	99.9	615290
BIN1	100.2	99.1	95.3	255200
BLK	115.7	100.0	100.0	613375
BLM	116.3	99.4	96.5	210900
BLNK	95.7	93.7	91.3	613502
BLOC1S3	28.7	88.7	65.3	614077
BLOC1S6	97.2	98.7	91.3	614171
BLVRA	125.1	100.0	99.7	614156
BMP1	143.9	99.9	99.1	614856
BMP15	120.5	100.0	99.4	300510
BMP2	173.4	100.0	99.9	112600;617877
BMP4	151.7	100.0	99.9	600625;607932
BMPER	159.9	99.9	99.0	608022
BMPR1A	98.0	99.7	94.2	610069;174900
BMPR1B	172.4	100.0	98.9	112600;616849;609441
BMPR2	194.7	99.9	99.7	178600;265450
BMS1	96.6	66.7	65.6	107600
BOLA3	50.1	92.3	81.7	614299
BPGM	130.8	100.0	100.0	222800
BPTF	177.7	96.1	95.1	617755
BRAF	74.4	87.6	77.2	0;211980;613706;613707;115150
BRAT1	108.5	99.8	97.4	618056;614498
BRCA1	177.5	98.9	96.9	617883
BRCA2	102.7	99.0	97.4	194070;605724
BRDT	100.3	92.6	86.5	617644
BRF1	100.0	96.6	92.9	616202
BRIP1	117.8	99.8	97.7	114480;609054
BRPF1	179.1	100.0	99.5	617333

BRWD3	97.1	97.0	92.3	300659
BSCL2	113.5	100.0	100.0	615924;269700;270685;600794
BSND	137.1	100.0	100.0	602522
BTD	166.6	100.0	99.9	253260
BTK	116.2	100.0	99.6	300755;307200
BUB1	136.4	99.8	97.9	-
BUB1B	136.5	98.6	97.9	114500;257300
BVES	115.0	99.8	98.2	616812
C11orf70	60.7	92.3	82.2	618063
C12orf57	152.0	100.0	100.0	218340
C12orf65	88.2	97.3	91.9	613559;615035
C15orf41	124.9	99.9	97.9	615631
C19orf12	93.9	100.0	99.7	615043;614298
C1GALT1C1	147.2	99.8	98.7	300622
C1QA	120.4	100.0	99.0	613652
C1QB	183.4	100.0	99.9	613652
C1QBP	80.7	81.7	71.0	617713
C1QC	198.1	100.0	98.9	613652
C1QTNF5	151.2	79.7	65.5	605670
C1R	156.9	100.0	100.0	130080
C1S	117.6	100.0	99.7	617174;613783
C2	129.9	100.0	100.0	217000
C21orf2	104.4	99.9	98.7	602271;617547
C21orf59	145.8	98.7	94.6	615500
C2CD3	143.1	95.8	95.6	615948
C2orf71	124.6	99.7	98.8	613428
C3	145.5	100.0	99.7	613779
C4A	91.5	98.1	95.9	614380
C4B	90.5	98.5	96.5	614379
C4orf26	197.6	100.0	100.0	614832

C5	134.4	98.4	95.3	609536
C5orf42	122.8	98.6	95.5	614615;277170
C6	157.5	100.0	99.9	0;612446
C7	132.3	99.1	94.8	610102
C8A	120.2	100.0	99.8	613790
C8B	135.8	99.9	99.5	613789
C8orf37	126.4	100.0	99.0	614500;617406
C9	133.7	100.0	98.5	613825
C9orf72	108.5	99.0	94.2	105550
CA12	109.6	100.0	100.0	143860
CA2	140.7	100.0	99.3	259730
CA4	142.4	100.0	99.9	600852
CA5A	124.1	99.5	94.9	615751
CA8	114.6	96.8	93.0	613227
CABP2	67.1	74.6	65.5	614899
CABP4	98.4	99.7	97.7	610427
CACNA1A	87.8	92.7	89.1	108500;141500;183086;617106
CACNA1B	137.5	94.1	91.5	614860
CACNA1C	154.6	99.9	99.2	601005;611875
CACNA1D	149.9	98.0	97.8	615474;614896
CACNA1F	99.4	99.8	97.9	300600;300476;300071
CACNA1G	132.8	99.0	97.5	616795
CACNA1H	103.4	97.6	94.3	617027
CACNA1S	135.5	100.0	99.7	170400
CACNA2D4	112.0	99.2	97.7	610478
CACNB2	150.9	99.5	96.9	611876
CACNB4	106.1	96.3	94.6	613855
CACNG2	114.9	100.0	99.9	614256
CAD	158.9	100.0	99.7	616457
CALM1	114.3	100.0	99.7	614916;616247

CALM2	54.0	67.8	65.8	616249
CALR	113.5	99.9	97.4	187950;254450
CALR3	137.2	100.0	99.4	613875
CAMK2A	123.2	100.0	99.9	617798
CAMK2B	103.4	98.7	93.7	617799
CAMTA1	185.9	99.6	98.8	614756
CANT1	142.1	100.0	99.8	617719;251450
CAPN1	146.0	100.0	100.0	616907
CAPN3	111.4	99.0	96.7	253600
CAPN5	166.1	100.0	99.9	193235
CARD11	154.6	99.9	98.6	616452;617638;615206
CARD14	116.2	99.7	97.7	602723;173200
CARD9	119.7	98.3	96.4	212050
CARS2	121.1	100.0	99.8	616672
CASK	92.3	98.7	93.7	300422;300749
CASP10	117.4	99.5	98.0	613659;605027;603909
CASP14	85.5	100.0	100.0	617320
CASP8	144.8	95.6	95.5	114550;607271
CASQ1	122.0	100.0	99.6	616231
CASQ2	143.3	99.9	99.2	611938
CASR	178.0	100.0	99.7	0;239200;601198;145980
CAST	110.2	96.8	92.8	616295
CAT	148.5	100.0	100.0	614097
CATSPER1	147.2	100.0	99.4	612997
CAV1	265.4	100.0	100.0	606721;615343;612526
CAV3	304.7	100.0	100.0	192600;611818;123320;614321;606072;607801
CAVIN1	137.0	99.9	99.3	613327
CBL	129.8	96.9	95.7	607785;613563
CBS	116.2	97.1	91.1	236200
CBX2	96.6	99.9	98.4	613080



CC2D1A	119.4	99.8	98.3	608443
CC2D2A	127.4	99.5	97.1	612285;216360;612284
CCBE1	75.9	98.9	95.5	235510
CCDC103	116.8	100.0	99.0	614679
CCDC114	120.7	100.0	99.6	615067
CCDC115	59.3	88.0	85.3	616828
CCDC151	116.2	100.0	99.7	616037
CCDC174	133.1	98.1	93.3	616816
CCDC22	93.3	97.3	89.4	300963
CCDC39	74.3	96.6	88.9	613807
CCDC40	126.5	98.9	97.8	613808
CCDC50	135.1	99.9	98.9	607453
CCDC65	105.9	99.7	97.6	615504
CCDC78	114.9	100.0	100.0	614807
CCDC8	111.9	100.0	100.0	614205
CCDC88A	78.9	94.7	84.9	617507
CCDC88C	101.4	99.8	97.4	616053;236600
CCM2	160.0	97.9	97.9	603284
CCND2	152.3	100.0	100.0	615938
CCNO	103.1	99.0	95.6	615872
CCT5	164.5	99.9	99.1	256840
CD151	132.3	100.0	100.0	609057
CD164	130.4	98.0	93.9	616969
CD19	88.8	99.9	98.4	613493
CD247	101.6	100.0	98.9	610163
CD27	118.1	100.0	99.6	615122
CD2AP	98.2	99.6	96.0	607832
CD320	92.0	100.0	99.5	613646
CD36	123.3	99.2	95.7	608404
CD3D	193.8	100.0	100.0	615617

CD3E	152.1	100.0	99.9	615615
CD3G	156.8	100.0	100.0	615607
CD4	119.9	100.0	99.7	613949
CD40	165.4	100.0	99.9	606843
CD40LG	126.6	95.9	86.8	308230
CD55	138.9	94.4	86.2	226300
CD59	200.9	93.6	86.5	612300
CD79A	128.3	99.8	97.0	613501
CD79B	210.7	100.0	100.0	612692
CD81	142.6	99.9	98.1	613496
CD8A	110.0	99.9	99.0	608957
CD96	156.8	100.0	99.9	211750
CDAN1	97.6	97.6	95.2	224120
CDC14A	161.4	98.3	93.5	608653
CDC42	97.0	96.7	89.5	616737
CDC45	160.7	99.4	97.5	617063
CDC6	165.4	99.8	98.3	613805
CDC73	102.7	99.8	97.7	608266;145001;145000
CDCA7	109.2	100.0	99.3	616910
CDH1	125.3	99.1	98.4	137215;608089;119580;167000
CDH11	154.2	100.0	100.0	211380
CDH15	120.6	99.8	97.2	612580
CDH23	197.2	100.0	100.0	601067;601386
CDH3	159.3	99.5	97.3	601553;225280
CDHR1	154.2	99.2	98.0	613660
CDK10	114.6	100.0	99.9	617694
CDK13	136.6	95.4	88.1	617360
CDK5	110.4	99.9	99.1	616342
CDK5RAP2	123.9	99.9	98.7	604804
CDK6	105.9	99.4	95.7	616080

CDKL5	114.4	94.9	91.8	300672
CDKN1B	93.2	100.0	99.5	610755
CDKN1C	21.1	68.1	51.8	130650;614732
CDKN2A	79.6	92.2	91.4	0;606719;155755
CDON	143.8	100.0	99.6	614226
CDSN	119.3	100.0	99.5	146520;270300
CDT1	99.3	96.8	93.8	613804
CEACAM16	144.9	100.0	99.7	614614
CEBPA	46.7	75.5	65.1	601626
CEBPE	71.1	99.3	95.8	245480
CEL	130.0	85.0	82.7	609812
CENPE	61.5	95.0	83.3	616051
CENPF	139.5	99.5	97.6	243605
CENPJ	141.7	99.7	97.8	608393;613676
CEP104	119.9	99.0	97.9	616781
CEP120	129.7	99.8	98.1	617761;616300
CEP135	79.2	98.1	89.1	614673
CEP152	162.5	97.2	94.5	613823;614852
CEP164	94.2	99.9	98.0	614845
CEP19	202.7	100.0	100.0	615703
CEP290	66.1	88.4	76.7	610188;610189;611134;615991;611755
CEP41	83.5	97.7	89.6	614464
CEP55	129.5	100.0	99.9	236500
CEP57	92.6	99.4	93.3	614114
CEP63	119.4	96.7	89.9	614728
CEP78	112.1	97.0	93.9	617236
CEP83	96.7	98.3	89.1	615862
CERKL	100.4	98.6	92.8	608380
CERS1	55.7	70.5	60.5	616230
CERS3	106.8	100.0	98.8	615023

CES1	155.1	99.8	98.7	618057
CETP	131.9	100.0	100.0	143470
CFAP43	123.7	99.4	96.1	617592
CFAP44	104.0	99.4	97.1	617593
CFAP53	146.6	97.6	94.2	614779
CFAP69	58.4	96.2	86.6	617959
CFB	147.1	100.0	100.0	615561
CFC1	74.5	82.7	71.3	605376
CFD	80.6	89.7	81.6	613912
CFH	183.2	98.7	95.3	126700;609814
CFHR5	97.3	98.7	93.4	614809
CFI	145.5	96.6	92.8	610984
CFL2	117.3	94.3	86.7	610687
CFP	95.9	98.4	93.4	312060
CFTR	124.0	99.1	96.3	0;219700;277180
CHAMP1	160.6	100.0	100.0	616579
CHAT	130.3	89.3	86.8	254210
CHCHD10	20.0	43.0	35.2	616209;615048;615911
CHCHD2	95.4	99.5	91.9	616710
CHD1	95.4	93.7	83.5	617682
CHD2	137.7	99.3	98.5	615369
CHD4	131.3	100.0	99.8	617159
CHD7	150.7	99.9	98.9	612370;214800
CHEK2	100.8	82.4	78.7	609265;259500
CHKB	98.5	100.0	99.0	602541
CHM	102.6	96.5	87.3	303100
CHMP1A	133.7	100.0	100.0	614961
CHMP2B	92.0	98.6	91.7	614696;600795
CHMP4B	139.3	99.9	99.0	605387
CHN1	141.8	99.2	97.7	604356

CHRD1	109.7	100.0	99.4	309300
CHRM3	160.2	100.0	100.0	100100
CHRNA1	121.8	94.7	94.6	601462;253290;608930
CHRNA2	229.3	100.0	100.0	610353
CHRNA4	142.1	96.7	95.8	600513
CHRNB1	131.8	98.8	96.7	616314;616313
CHRNB2	247.5	98.4	94.6	605375
CHRND	150.5	100.0	99.0	616321;616323;616322;253290
CHRNE	127.7	99.3	95.8	605809;616324;608931
CHRNG	155.2	100.0	100.0	265000;253290
CHST14	165.6	95.7	93.3	601776
CHST3	91.6	100.0	97.5	143095
CHST6	334.0	100.0	100.0	217800
CHST8	263.6	100.0	100.0	616265
CHSY1	138.4	95.9	93.9	605282
CHUK	131.6	100.0	98.4	613630
CIB2	229.9	99.9	99.6	614869;609439
CIC	54.2	63.7	60.9	617600
CIDEC	96.4	99.9	96.4	615238
CIITA	125.0	100.0	100.0	209920
CISD2	127.9	83.4	83.4	604928
CIT	108.6	99.9	98.2	617090
CITED2	111.6	99.2	99.0	614431;614433
CKAP2L	161.3	98.9	96.6	272440
CLCF1	76.2	98.7	97.7	610313
CLCN1	137.4	100.0	99.5	0;160800;255700
CLCN2	108.6	100.0	99.4	615651;605635
CLCN4	123.0	100.0	99.8	300114
CLCN5	134.6	99.6	98.0	308990;300554;300009;310468
CLCN7	129.7	99.5	98.2	166600;611490

CLCNKA	108.5	99.4	94.7	613090
CLCNKB	100.7	98.5	90.5	607364;613090
CLDN1	137.6	100.0	100.0	607626
CLDN10	148.9	100.0	100.0	617671
CLDN14	130.6	100.0	99.9	614035
CLDN16	136.3	100.0	99.9	248250
CLDN19	123.7	98.2	93.7	248190
CLEC7A	150.7	100.0	99.9	613108
CLIC2	72.5	99.3	95.2	300886
CLIC5	118.3	100.0	99.9	616042
CLMP	111.0	100.0	99.9	615237
CLN3	114.9	92.5	90.7	204200
CLN5	146.1	98.2	92.2	256731
CLN6	131.6	98.9	95.3	204300;601780
CLN8	163.9	83.5	83.5	610003;600143
CLP1	182.4	100.0	99.8	615803
CLPB	140.2	100.0	99.5	616271
CLPP	115.4	99.8	96.9	614129
CLPX	151.0	99.7	97.0	618015
CLRN1	157.2	100.0	99.8	614180;276902
CLTC	171.5	99.8	99.2	617854
CNBP	136.7	100.0	100.0	602668
CNGA1	127.2	89.4	84.6	613756
CNGA3	167.7	100.0	99.9	216900
CNGB1	102.5	98.4	94.8	613767
CNGB3	101.4	97.7	93.0	248200;262300
CNKSR2	98.1	96.5	89.7	301008
CNNM2	188.4	100.0	99.2	616418;613882
CNNM4	190.5	98.7	97.8	217080
CNPY3	87.1	99.8	96.7	617929

CNTN1	151.7	99.8	98.3	612540
CNTN2	125.4	92.7	92.6	615400
CNTNAP1	161.2	99.2	97.5	616286
CNTNAP2	148.0	100.0	99.9	610042
COA5	59.2	85.6	84.0	616500
COA6	78.7	98.8	91.9	616501
COA7	146.0	100.0	100.0	220110
COASY	168.5	100.0	100.0	615643
COCH	194.4	99.9	99.6	601369
COG1	124.2	100.0	99.9	611209
COG2	122.6	97.2	94.7	617395
COG4	123.8	100.0	99.9	613489
COG5	107.0	97.4	93.8	613612
COG6	78.4	95.0	85.9	614576;615328
COG7	125.1	100.0	100.0	608779
COG8	122.4	99.9	98.4	611182
COL10A1	88.4	98.6	93.9	156500
COL11A1	90.8	94.9	89.6	228520;604841;154780
COL11A2	92.2	99.9	98.3	601868;609706;215150;184840;614524
COL12A1	137.5	99.5	97.5	616471;616470
COL13A1	85.4	99.8	97.1	616720
COL17A1	107.9	99.2	96.6	122400;226650
COL18A1	88.7	93.9	87.7	267750
COL1A1	134.9	98.1	96.3	166220;114000;259420;130060;166200;166210
COL1A2	101.8	96.7	93.6	166220;225320;617821;259420;166210
COL25A1	126.8	98.4	95.8	616219
COL27A1	116.1	99.5	97.4	615155
COL2A1	103.4	99.9	99.0	616583;108300;183900;609162;184250;200610;0;150600;609508;151210;271700;608805;132450;604864;156550
COL3A1	104.3	97.8	92.3	130050
COL4A1	92.8	97.9	94.0	611773;269160;607595;175780;180000

COL4A2	96.8	98.5	93.9	614483
COL4A3	89.6	97.8	95.5	203780;141200;104200
COL4A3BP	121.6	98.3	92.7	616351
COL4A4	85.0	97.6	93.5	0;203780
COL4A5	52.3	92.1	77.5	301050
COL4A6	81.2	96.0	89.4	300914
COL5A1	114.3	97.7	95.0	130000
COL5A2	89.1	99.5	97.4	130010
COL6A1	137.2	99.5	97.8	158810;254090
COL6A2	165.3	99.3	98.4	158810;255600;254090
COL6A3	174.7	100.0	99.9	158810;254090;616411
COL7A1	129.5	99.6	97.5	0;131750;132000;131850;607523;226600;604129;131705
COL8A2	37.5	84.6	69.4	136800;609140
COL9A1	121.2	99.5	96.9	614134;614135
COL9A2	65.1	98.3	88.8	600204;614284
COL9A3	65.5	95.6	86.7	600969
COLEC10	162.6	100.0	99.1	248340
COLEC11	203.0	100.0	100.0	265050
COLQ	113.2	99.8	98.1	603034
COMP	121.4	93.6	92.4	132400;177170
COPB2	149.7	99.9	99.1	617800
COQ2	89.3	96.1	93.2	607426
COQ4	89.8	88.4	84.9	616276
COQ6	143.9	99.3	96.0	614650
COQ7	158.5	99.7	98.9	616733
COQ8A	134.3	100.0	99.1	612016
COQ8B	90.5	100.0	99.1	615573
COQ9	91.4	99.9	96.6	614654
CORIN	179.1	99.9	99.4	614595
CORO1A	154.4	99.8	96.9	615401



COX10	241.9	100.0	99.6	220110;256000
COX14	108.1	100.0	99.9	220110
COX15	98.6	100.0	99.7	256000;615119
COX20	58.1	83.0	65.4	220110
COX4I2	120.1	100.0	100.0	612714
COX6A1	180.6	100.0	99.4	616039
COX6B1	159.6	100.0	100.0	220110
COX7B	47.9	73.3	42.0	300887
COX8A	98.1	100.0	100.0	220110
CP	120.0	93.9	89.6	604290
CPA6	118.3	99.8	98.5	614417;614418
CPAMD8	102.0	94.7	91.4	617319
CPLX1	79.8	99.9	97.9	617976
CPN1	118.3	100.0	98.8	212070
CPOX	116.8	95.2	88.1	121300
CPS1	143.8	100.0	99.8	237300
CPT1A	169.3	100.0	98.7	255120
CPT1C	111.8	100.0	99.9	616282
CPT2	162.8	97.2	95.4	600649;255110;608836
CR2	160.7	100.0	99.8	614699
CRADD	115.2	99.9	98.5	614499
CRAT	126.6	100.0	99.9	617917
CRB1	191.8	100.0	100.0	600105;613835;172870
CRB2	112.4	99.4	94.7	616220;219730
CRBN	130.7	87.8	83.8	607417
CREB1	147.3	98.6	93.7	612160
CREB3L1	113.8	99.4	97.0	616229
CREBBP	123.5	99.4	96.7	180849
CRELD1	114.4	99.9	97.8	606217
CRIP1	34.5	96.5	74.8	615789

CRLF1	105.6	90.9	89.2	272430
CRTAP	110.4	99.8	97.3	610682
CRTC1	135.2	99.0	95.7	-
CRX	114.2	99.9	98.7	120970;613829
CRYAA	135.3	92.7	86.2	604219
CRYAB	125.7	99.9	98.7	615184;613869;613763;608810
CRYBA1	135.7	100.0	99.2	600881
CRYBA2	150.6	100.0	100.0	115900
CRYBA4	117.5	100.0	100.0	610425
CRYBB1	129.1	100.0	99.4	611544
CRYBB2	150.3	100.0	100.0	601547
CRYBB3	144.3	100.0	100.0	609741
CRYGB	97.4	99.8	97.4	615188
CRYGC	128.5	100.0	99.3	604307
CRYGD	100.4	100.0	99.8	115700
CRYGS	105.4	96.4	88.0	116100
CRYM	97.4	99.9	98.3	616357
CSF1R	139.5	99.5	98.4	221820
CSF2RA	66.0	89.9	88.2	300770
CSF2RB	94.8	99.6	97.8	614370
CSF3R	94.4	99.3	96.5	617014
CSNK1D	148.4	94.8	90.4	615224
CSNK2A1	126.4	94.1	86.2	617062
CSPP1	112.0	99.8	97.8	615636
CSRP3	103.0	100.0	99.9	607482;612124
CST3	106.4	92.0	74.3	105150
CSTA	119.0	99.9	99.0	607936
CSTB	82.5	97.1	82.7	254800
CTBP1	93.4	96.1	85.0	617915
CTC1	119.0	100.0	99.8	612199

CTCF	158.4	98.6	96.7	615502
CTDP1	105.0	86.6	83.6	604168
CTH	152.6	99.9	98.1	0;219500
CTHRC1	90.2	91.9	84.5	614266
CTLA4	193.9	100.0	100.0	616100
CTNNA1	125.6	99.9	99.0	608970
CTNNA3	138.3	100.0	99.9	615616
CTNNB1	163.8	100.0	99.9	155255;114550;132600;615075;617572;114500;167000
CTNND1	153.8	100.0	99.9	617681
CTNS	120.1	100.0	99.9	219900;219800;219750
CTPS1	143.1	100.0	99.6	615897
CTSA	134.1	100.0	99.4	256540
CTSC	127.5	100.0	100.0	245000;245010;170650
CTSD	163.7	98.0	95.3	610127
CTSF	112.8	84.2	80.2	615362
CTSK	105.0	100.0	99.9	265800
CUBN	127.8	99.8	98.4	261100
CUL3	110.3	98.6	94.7	614496
CUL4B	72.8	98.0	88.5	300354
CUL7	149.6	99.8	97.9	273750
CWC27	74.7	97.2	89.7	250410
CWF19L1	119.1	99.5	96.7	616127
CXCR4	202.7	100.0	99.9	0;193670
CXorf56	91.8	99.7	95.5	301013
CYB5A	133.5	100.0	100.0	250790
CYB5R3	147.3	98.0	98.0	250800
CYBA	97.3	77.9	71.0	233690
CYBB	110.8	99.9	99.2	300645;306400
CYC1	184.5	88.1	86.8	615453
CYCS	72.1	99.6	95.0	612004

CYFIP2	139.9	100.0	99.6	618008
CYLD	119.9	98.1	93.0	605041;132700;601606
CYP11A1	123.9	99.6	97.7	613743
CYP11B1	175.9	100.0	100.0	202010;103900
CYP11B2	173.4	100.0	100.0	0;203400;610600
CYP17A1	135.0	100.0	99.7	202110
CYP19A1	160.6	99.1	97.3	139300;613546
CYP1B1	134.8	100.0	100.0	617315;231300
CYP21A2	93.8	95.8	86.6	201910
CYP24A1	165.3	100.0	100.0	143880
CYP26B1	178.1	100.0	99.9	614416
CYP26C1	87.2	99.5	95.6	614974
CYP27A1	175.1	98.3	96.1	213700
CYP27B1	137.1	100.0	99.1	264700
CYP2A6	167.9	100.0	99.8	122700
CYP2B6	120.3	100.0	98.9	614546
CYP2C19	186.3	99.5	96.3	609535
CYP2C9	186.9	99.3	94.4	0;122700
CYP2R1	138.5	96.4	86.6	600081
CYP2U1	119.2	93.7	91.2	615030
CYP4F22	127.7	100.0	99.7	604777
CYP4V2	147.5	99.8	98.5	210370
CYP7B1	93.2	94.7	87.7	613812;270800
D2HGDH	134.5	97.5	95.2	600721
DAB1	123.9	100.0	100.0	615945
DACT1	127.1	92.5	89.4	617466
DAG1	220.8	100.0	100.0	613818;616538
DARS	98.6	98.7	93.8	615281
DARS2	122.3	100.0	99.6	611105
DBH	140.7	100.0	99.8	223360

DBT	102.1	97.3	93.8	248600
DCAF17	91.9	95.6	89.3	241080
DCAF8	124.3	100.0	99.9	610100
DCC	138.5	100.0	99.9	157600;133239;617542;114500
DCDC2	150.5	99.9	99.6	610212;617394;616217
DCHS1	160.1	99.8	99.2	607829;601390
DCLRE1C	128.8	98.2	94.5	602450;603554
DCN	140.0	95.7	94.9	610048
DCPS	143.8	100.0	99.8	616459
DCTN1	131.6	99.7	98.3	607641;168605
DCX	113.2	100.0	99.7	300067
DDB2	162.4	100.0	99.7	278740
DDC	101.0	99.1	95.0	608643
DDHD1	141.8	97.1	94.8	609340
DDHD2	149.7	99.9	98.0	615033
DDOST	120.5	99.9	99.1	614507
DDR2	155.0	100.0	99.9	271665
DDRGK1	87.2	100.0	99.9	602557
DDX11	113.9	86.0	81.0	613398
DDX3X	80.5	85.9	82.1	300958
DDX58	123.3	98.6	95.0	616298
DDX59	151.7	99.7	97.6	174300
DEAF1	125.9	88.3	83.7	615828;617171
DENND5A	123.0	99.8	97.9	617281
DEPDC5	148.3	99.8	99.3	604364
DES	120.8	99.9	98.1	181400;601419;615325;604765
DFNA5	112.9	99.9	99.4	600994
DFNB59	123.6	100.0	99.2	610220
DGAT1	156.2	88.5	86.3	615863
DGKE	142.3	99.5	95.2	615008

DGUOK	119.2	100.0	100.0	251880;617068;617070
DHCR24	183.0	100.0	100.0	602398
DHCR7	158.3	100.0	100.0	270400
DHDDS	93.5	97.8	94.8	613861;617836
DHFR	48.4	91.1	72.0	613839
DHH	117.7	100.0	100.0	233420;607080
DHODH	92.2	100.0	99.9	263750
DHTKD1	141.0	99.6	98.2	204750;615025
DHX30	160.6	99.9	99.2	617804
DIABLO	206.0	100.0	99.5	614152
DIAPH1	120.7	99.3	97.8	124900;616632
DIAPH2	61.7	93.1	79.7	300511
DIAPH3	73.9	97.9	90.1	609129
DICER1	145.4	99.5	98.1	138800;601200;180295
DIP2B	160.3	99.2	98.1	136630
DIS3L2	158.5	99.8	99.0	267000
DKC1	111.9	99.6	98.1	305000
DLAT	91.6	99.1	96.0	245348
DLC1	179.2	99.9	99.4	114500
DLD	123.5	99.9	98.6	246900
DLG3	90.0	99.3	94.3	300850
DLL3	64.1	88.8	79.9	277300
DLL4	181.7	99.8	98.8	616589
DLX3	109.8	100.0	99.1	104510;190320
DLX4	162.4	100.0	100.0	616788
DLX5	123.6	99.9	97.0	220600
DMD	112.4	99.4	97.4	310200;300376;302045
DMGDH	157.0	98.8	97.2	605850
DMP1	159.5	99.9	99.1	241520
DMPK	117.7	99.9	97.9	160900

DMXL2	181.4	98.6	96.0	616113;617605
DNA2	123.6	99.8	96.9	615807;615156
DNAAF1	115.8	100.0	99.7	613193
DNAAF2	105.1	99.7	96.9	612518
DNAAF3	91.8	97.7	90.6	606763
DNAAF4	79.6	96.3	84.1	615482
DNAAF5	107.9	84.5	78.2	614874
DNAH1	183.3	100.0	99.7	617577;617576
DNAH11	134.0	99.8	98.4	611884
DNAH5	123.8	99.7	98.5	608644
DNAI1	135.3	100.0	100.0	244400
DNAI2	156.6	98.4	95.5	612444
DNAJB11	111.3	100.0	99.6	618061
DNAJB13	138.3	100.0	97.3	617091
DNAJB2	102.0	100.0	100.0	614881
DNAJB6	59.8	91.7	79.3	603511
DNAJC12	129.3	87.4	87.3	617384
DNAJC19	97.9	98.5	90.0	610198
DNAJC21	125.7	99.8	98.5	617052
DNAJC3	116.3	99.9	98.1	616192
DNAJC5	200.2	100.0	99.9	162350
DNAJC6	160.8	99.9	98.9	615528
DNAL1	99.0	95.7	84.5	614017
DNAL4	72.6	99.3	93.5	616059
DNASE1L3	141.3	100.0	100.0	614420
DNM1	156.7	89.3	87.5	616346
DNM1L	123.5	99.7	96.6	610708;614388
DNM2	127.4	97.5	94.4	606482;615368;160150
DNMT1	113.4	99.2	98.3	604121;614116
DNMT3A	115.5	98.8	95.8	615879;601626

DNMT3B	124.8	100.0	100.0	242860
DOCK2	143.8	100.0	99.9	616433
DOCK6	119.9	98.9	96.5	614219
DOCK7	114.4	97.9	95.6	615859
DOCK8	129.1	100.0	99.8	243700
DOK7	105.7	93.3	92.5	208150;254300
DOLK	202.9	100.0	99.9	610768
DONSON	104.9	83.9	78.3	251230;617604
DPAGT1	110.7	100.0	100.0	608093;614750
DPF2	102.4	100.0	97.9	618027
DPH1	157.1	100.0	99.7	616901
DPM1	131.1	91.7	86.7	608799
DPM2	102.1	100.0	99.4	615042
DPM3	183.9	100.0	100.0	612937
DPP6	145.5	96.5	94.5	616311
DPY19L2	94.8	72.9	66.6	613958
DPYD	158.3	95.6	93.7	274270
DPYS	133.5	100.0	99.5	222748
DRAM2	131.8	100.0	99.7	616502
DRC1	97.0	99.9	98.6	615294
DRD4	79.0	80.9	70.7	-
DSC2	128.5	99.4	96.2	610476
DSC3	87.1	97.2	89.6	613102
DSE	124.3	99.8	98.5	615539
DSG1	175.0	98.4	96.1	615508;148700
DSG2	140.6	99.9	98.7	610193;612877
DSG4	198.4	98.5	95.7	607903
DSP	154.0	100.0	99.8	607450;612908;609638;605676;607655;615821
DSPP	155.7	99.9	99.3	125490;125500;605594;125420
DST	154.1	99.7	98.2	614653;615425



DSTYK	144.7	100.0	99.4	610805;270750
DTNA	156.5	100.0	100.0	604169
DTNBP1	115.2	99.3	95.1	614076
DUOX2	136.4	96.7	94.8	607200
DUOXA2	122.2	100.0	99.9	274900
DUSP6	175.9	100.0	99.9	615269
DVL1	113.9	97.8	94.1	616331
DVL3	149.4	100.0	100.0	616894
DYM	101.3	97.2	94.8	607326;223800
DYNC1H1	179.8	100.0	99.6	158600;614563;614228
DYNC2H1	90.5	96.6	87.0	613091
DYNC2LI1	95.1	99.3	96.0	617088
DYRK1A	159.6	100.0	100.0	614104
DYRK1B	105.0	93.0	85.0	615812
DYSF	133.1	100.0	99.8	253601;254130;606768
DZIP1L	98.3	99.4	95.5	617610
EARS2	103.4	99.7	98.3	614924
EBF3	130.4	100.0	99.1	617330
EBP	83.3	100.0	98.0	300960;302960
ECE1	144.6	97.9	97.8	613870
ECEL1	100.7	88.8	83.1	615065
ECHS1	112.8	99.8	97.8	616277
ECM1	170.8	100.0	99.7	247100
EDA	88.5	85.7	77.3	313500;305100
EDAR	138.6	100.0	99.6	129490;224900
EDARADD	99.1	99.3	93.3	614940;614941
EDC3	144.7	100.0	99.6	616460
EDN1	145.5	100.0	100.0	612798;615706
EDN3	134.4	100.0	99.5	209880;613265
EDNRA	218.9	100.0	99.7	616367

EDNRB	131.0	95.6	90.9	600501;277580
EED	94.2	98.4	91.6	617561
EEF1A2	177.7	98.8	93.8	616393;616409
EEF2	167.6	100.0	99.9	609306
EFEMP1	167.9	100.0	99.6	126600
EFEMP2	120.9	100.0	99.9	614437
EFL1	174.8	99.4	97.7	617941
EFNB1	118.5	100.0	99.9	304110
EFTUD2	124.2	100.0	99.4	610536
EGF	135.2	100.0	99.8	611718
EGFR	160.8	100.0	99.1	211980;616069
EGLN1	39.0	79.0	66.3	609820
EGR2	124.4	100.0	100.0	145900;605253;607678
EHHADH	163.2	100.0	99.7	615605
EHMT1	141.4	94.0	92.9	610253
EIF2AK3	147.1	95.1	91.3	226980
EIF2AK4	146.3	99.8	98.0	234810
EIF2B1	149.9	100.0	100.0	603896
EIF2B2	131.9	100.0	99.5	603896
EIF2B3	163.8	100.0	100.0	603896
EIF2B4	146.0	100.0	99.5	603896
EIF2B5	128.0	99.6	97.9	603896
EIF2S3	84.9	97.0	89.8	300148
EIF4A3	106.8	100.0	99.9	268305
ELAC2	123.8	100.0	99.3	615440
ELANE	80.9	99.7	95.9	162800;202700
ELMO2	134.7	100.0	99.1	606893
ELMOD3	156.2	100.0	99.7	615429
ELN	91.1	99.4	97.4	123700;185500
ELOVL4	91.9	99.9	98.0	133190;600110;614457

ELOVL5	120.9	100.0	99.8	615957
ELP1	142.6	99.7	98.1	223900
ELP2	125.5	99.2	96.9	617270
ELP4	54.9	72.2	66.7	617141
EMC1	124.3	100.0	99.8	616875
EMD	100.3	99.8	97.2	310300
EMG1	137.7	100.0	100.0	211180
EML1	163.6	99.0	97.1	600348
EMP2	101.1	99.7	96.9	615861
EMX2	118.0	100.0	100.0	269160
ENAM	148.9	100.0	99.9	204650;104500
ENG	128.8	97.4	93.6	187300
ENO3	179.3	100.0	100.0	612932
ENPP1	134.8	92.4	83.2	208000;615522;613312
ENTPD1	165.1	100.0	99.4	615683
EOGT	119.9	79.5	78.4	615297
EP300	199.7	99.6	97.9	114500;613684
EPAS1	136.7	99.4	97.1	611783
EPB41	135.5	98.7	95.6	611804
EPB41L1	128.7	99.9	97.7	614257
EPB42	160.7	100.0	99.7	612690
EPCAM	64.5	93.3	79.8	613217;613244
EPG5	126.0	99.3	97.7	242840
EPHA2	175.0	99.2	97.8	116600
EPHX1	122.6	98.8	96.1	607748
EPM2A	110.1	86.2	84.0	254780
EPO	90.2	98.1	96.4	617907;617911
EPRS	126.3	100.0	99.2	617951
EPS8	122.8	96.9	91.4	615974
EPS8L2	115.1	94.4	90.9	617637

ERAL1	181.5	100.0	100.0	617565
ERBB2	135.0	98.3	97.3	0;613659;211980;137800
ERBB3	139.2	100.0	99.9	607598
ERBB4	144.5	99.9	99.1	615515
ERCC1	76.6	100.0	97.3	610758
ERCC2	123.7	100.0	99.7	278730;601675;610756
ERCC3	113.2	99.9	98.9	610651;616390
ERCC4	139.2	100.0	99.5	615272;278760;610965
ERCC5	139.8	100.0	99.4	616570;278780
ERCC6	191.3	100.0	99.9	616946;133540;278800;214150;600630
ERCC6L2	107.6	99.7	97.7	615715
ERCC8	89.5	92.9	78.4	216400;614621
ERF	107.9	99.9	97.7	617180;600775
ERGIC1	195.2	95.3	94.7	208100
ERLIN1	146.9	100.0	100.0	615681
ERLIN2	156.0	100.0	99.3	611225
ERMARD	131.0	99.8	98.1	615544
ESCO2	105.2	97.3	90.4	268300;269000
ESPN	28.6	44.2	35.3	0;609006
ESR1	127.5	99.9	99.4	615363
ESRP1	106.5	99.9	98.5	618013
ESRRB	119.7	100.0	99.2	608565
ETFFA	143.3	100.0	99.4	231680
ETFB	126.6	100.0	100.0	231680
ETFDH	105.4	100.0	99.3	231680
ETHE1	85.5	99.3	95.8	602473
ETV6	140.1	100.0	99.9	601626;616216
EVC	110.4	93.2	89.8	225500;193530
EVC2	119.3	96.4	94.3	225500;193530
EWSR1	76.6	91.1	80.9	612219

EXOSC2	142.0	100.0	100.0	617763
EXOSC3	88.5	97.3	89.4	614678
EXOSC8	80.1	91.8	76.9	616081
EXOSC9	129.8	97.5	87.4	618065
EXPH5	183.3	100.0	99.9	615028
EXT1	105.4	99.9	98.5	215300;133700
EXT2	163.5	99.9	99.1	133701;616682
EXTL3	206.4	100.0	100.0	617425
EYA1	144.2	100.0	99.7	166780;113650;602588
EYA4	160.6	100.0	99.5	601316;605362
EYS	135.8	98.9	94.9	602772
EZH2	139.5	99.8	97.6	277590
F10	185.1	99.0	98.3	227600
F11	155.0	100.0	100.0	612416
F12	111.4	100.0	99.5	234000;610618
F13A1	147.3	100.0	99.4	613225
F13B	113.5	96.6	87.6	613235
F2	124.2	99.8	98.1	613679;188050
F5	173.5	99.0	97.3	227400;188055
F7	166.6	100.0	98.5	227500
F8	118.0	99.5	98.1	306700
F9	144.5	99.2	95.9	306900;300807
FA2H	94.1	87.9	79.9	612319
FADD	142.8	100.0	99.6	613759
FAH	151.3	100.0	99.9	276700
FAM111A	292.2	100.0	99.9	602361;127000
FAM111B	152.9	100.0	99.8	615704
FAM126A	125.2	97.3	95.2	610532
FAM161A	115.2	98.5	95.0	606068
FAM20A	105.4	98.4	92.1	204690

FAM20C	101.3	100.0	98.9	259775
FAM46A	146.1	99.9	99.7	617952
FAM58A	73.2	82.8	78.8	300707
FAM83H	76.7	94.9	87.7	130900
FAN1	143.9	100.0	99.9	614817
FANCA	123.3	99.8	98.5	227650
FANCB	68.4	96.7	87.9	300514
FANCC	121.6	99.4	97.1	227645
FANCD2	127.6	98.7	95.5	227646
FANCE	108.0	85.9	84.6	600901
FANCF	166.8	100.0	100.0	603467
FANCG	147.7	100.0	100.0	614082
FANCI	152.1	99.5	97.5	609053
FANCL	87.8	99.4	94.7	614083
FAR1	80.4	96.3	92.4	616154
FARS2	207.7	100.0	100.0	614946;617046
FARSB	76.6	96.0	93.4	618007
FAS	272.1	100.0	99.3	0;601859
FASLG	86.2	100.0	98.5	601859
FASTKD2	118.9	99.5	96.8	220110
FAT2	166.3	100.0	99.9	617769
FAT4	224.5	100.0	99.9	616006;615546
FBLN5	119.6	91.8	91.1	608895;219100;614434
FBN1	159.8	99.9	99.5	102370;616914;604308;614185;129600;154700;184900;608328
FBN2	161.7	100.0	99.5	616118;121050
FBP1	127.0	100.0	98.8	229700
FBXL4	189.8	100.0	100.0	615471
FBXO31	108.8	93.5	89.0	615979
FBXO38	179.7	99.7	98.6	615575
FBXO7	189.4	98.5	93.3	260300

FCGR3A	225.0	99.6	97.7	615707
FCGR3B	176.6	99.1	98.2	-
FCN3	127.8	100.0	99.4	613860
FDPS	72.8	99.7	95.0	616631
FDXR	93.4	100.0	99.1	617717
FECH	121.9	99.9	99.4	177000
FERMT1	104.9	98.9	96.3	173650
FERMT3	122.4	100.0	98.9	612840
FEZF1	158.8	99.9	99.3	616030
FGA	157.0	99.0	96.6	105200;616004;202400
FGB	190.8	99.7	97.9	616004;202400
FGD1	85.7	92.7	86.5	305400
FGD4	111.9	99.3	97.3	609311
FGF10	142.2	100.0	100.0	180920;149730
FGF12	95.5	99.6	96.3	617166
FGF14	190.1	100.0	99.7	609307
FGF16	125.5	99.9	96.7	309630
FGF17	138.6	100.0	100.0	615270
FGF20	99.2	96.9	84.4	615721
FGF23	106.0	99.9	97.8	617993;193100
FGF3	73.9	92.0	75.7	610706
FGF5	109.2	99.7	97.8	190330
FGF8	111.4	90.2	79.7	612702
FGF9	165.0	100.0	100.0	612961
FGFR1	148.0	99.7	98.3	166250;147950;615465;613001;101600;123150;190440
FGFR2	140.1	97.4	96.4	614592;123790;149730;207410;123150;0;613659;123500;101200;101400;101600;609579
FGFR3	110.2	99.6	97.0	109800;162900;616482;603956;602849;114500;149730;187600;187601;146000;612247;610474;273300;100800
FGG	137.0	99.3	96.5	616004;202400
FH	146.4	91.7	87.6	150800;606812
FHL1	87.2	98.8	93.0	300696;300280;300717;300718;300695

FIBP	123.3	100.0	100.0	617107
FIG4	154.9	99.8	98.4	612577;216340;612691;611228
FIGLA	81.8	94.3	89.4	612310
FKBP10	158.6	96.9	92.8	610968;259450
FKBP14	74.3	100.0	99.4	614557
FKRP	94.5	100.0	99.7	607155;613153;606612
FKTN	120.0	99.2	94.2	611588;613152;611615;253800
FLAD1	191.6	100.0	98.9	255100
FLCN	160.5	100.0	99.5	144700;173600;114500;135150
FLG	234.1	100.0	99.9	146700
FLG2	691.5	100.0	100.0	618084
FLI1	189.6	99.4	97.7	617443
FLNA	138.1	100.0	99.5	300049;311300;300048;309350;305620;304120;314400;300244;300321
FLNB	149.9	99.8	99.2	108720;108721;272460;112310;150250
FLNC	165.0	100.0	99.7	0;614065;617047;609524
FLRT3	225.7	100.0	100.0	615271
FLT3	134.7	99.7	98.2	601626;613065
FLT4	155.9	98.6	97.9	153100;602089
FLVCR1	139.5	99.2	95.8	609033
FLVCR2	159.7	100.0	100.0	225790
FMN2	86.6	83.1	77.7	616193
FMO3	153.5	99.9	99.2	602079
FMR1	78.9	94.0	84.7	300623;300624;311360
FN1	145.4	100.0	99.5	601894;184255
FOLR1	150.4	100.0	100.0	613068
FOXC1	32.7	86.0	68.5	602482;601631
FOXC2	44.3	95.2	78.8	153400
FOXE1	29.3	72.3	56.2	241850
FOXE3	20.6	69.0	47.8	610256;612968
FOXF1	93.5	98.9	93.7	265380



FOXG1	157.5	84.8	81.0	613454
FOXI1	152.5	100.0	100.0	600791
FOXL2	39.5	92.8	71.0	110100;608996
FOXN1	112.5	100.0	99.5	601705
FOXO1	139.0	92.8	85.7	268220
FOXP1	129.6	100.0	99.9	613670
FOXP2	160.2	98.9	96.9	602081
FOXP3	124.6	98.7	91.6	304790
FOXRED1	136.6	100.0	99.6	252010;256000
FRAS1	147.8	100.0	99.7	219000
FREM1	138.4	99.9	99.1	248450;608980;614485
FREM2	182.4	100.0	99.5	617666
FRMD4A	116.7	91.4	90.3	616819
FRMD7	114.2	99.9	98.8	310700
FRMPD4	114.1	99.7	98.0	300983
FRRS1L	103.1	68.3	63.4	616981
FSCN2	145.1	100.0	100.0	607921
FSHB	149.1	100.0	100.0	229070
FSHR	140.9	100.0	98.8	276400;608115;233300
FTCD	89.8	94.6	89.8	229100
FTH1	96.4	95.4	84.2	615517
FTL	147.7	99.0	93.2	600886;615604;606159
FTO	118.9	83.7	82.5	612938
FTSJ1	128.3	98.1	94.5	309549
FUCA1	135.0	100.0	99.5	230000
FUS	137.4	97.6	94.7	614782;608030
FUT6	165.8	100.0	100.0	613852
FUT8	166.1	99.9	98.8	618005
FUZ	118.8	100.0	100.0	182940
FXN	75.2	85.7	75.9	229300

FXVD2	96.7	99.8	99.2	154020
FYB1	92.3	97.7	91.9	273900
FYCO1	123.7	100.0	100.0	610019
FZD4	224.2	100.0	99.8	133780
FZD6	208.6	100.0	100.0	614157
G6PC	180.7	100.0	100.0	232200
G6PC3	123.7	100.0	100.0	612541
G6PD	118.3	99.5	97.5	300908
GAA	128.5	100.0	99.9	232300
GAB1	170.0	100.0	99.7	605428
GABBR2	136.0	95.2	92.4	617903;617904
GABRA1	179.5	100.0	100.0	615744
GABRB1	174.1	100.0	99.9	617153
GABRB2	148.9	100.0	100.0	617829
GABRB3	140.5	98.1	93.7	617113
GABRG2	137.9	91.1	90.3	611277
GAD1	128.7	99.9	98.4	603513
GAL	164.2	100.0	98.4	616461
GALC	100.6	98.9	94.6	245200
GALE	154.8	100.0	100.0	230350
GALK1	125.4	100.0	99.7	230200
GALNS	93.2	99.0	95.6	253000
GALNT3	128.2	99.2	96.0	211900
GALT	168.7	100.0	100.0	230400
GAMT	93.5	90.9	80.7	612736
GAN	190.0	100.0	99.9	256850
GANAB	120.1	99.9	98.9	600666
GARS	125.7	99.9	98.5	601472;600794
GAS8	150.7	99.8	99.4	616726
GATA1	83.5	99.6	95.7	300367;300835;314050;190685

GATA2	119.6	99.9	98.5	614172;614038
GATA3	186.8	100.0	100.0	146255
GATA4	87.4	68.6	60.7	614429;614430;615542;187500;607941
GATA5	44.2	98.3	84.4	617912
GATA6	61.7	83.7	72.1	614474;187500;614475;217095;600001
GATAD1	126.6	97.0	92.0	614672
GATAD2B	129.8	100.0	99.8	615074
GATM	150.6	100.0	100.0	612718
GBA	240.3	100.0	100.0	608013;231005;231000;230900;230800
GBA2	176.2	99.9	99.3	614409
GBE1	145.5	99.6	97.2	232500;263570
GCDH	147.6	99.9	99.1	231670
GCH1	74.4	97.0	86.5	128230;233910
GCK	141.4	100.0	100.0	125853;125851;606176;602485
GCLC	133.2	99.9	98.9	230450
GCM2	161.8	100.0	100.0	617343;146200
GCNT2	166.8	99.5	99.5	116700;110800
GCSH	34.2	83.1	67.8	605899
GDAP1	163.1	99.3	96.1	214400;607706;608340;607831
GDF1	19.5	65.0	48.4	208530;613854
GDF2	163.2	100.0	100.0	615506
GDF3	134.9	100.0	100.0	613702;613703;613704
GDF5	141.8	100.0	100.0	615072;112600;615298;201250;200700;113100;228900;610017
GDF6	75.2	98.7	89.0	613703;615360;118100;613094;617898
GDF9	169.5	100.0	100.0	618014
GDI1	152.0	98.9	97.3	300849
GDNF	185.9	99.9	98.8	209880
GEMIN4	167.1	100.0	99.9	617913
GFAP	102.6	91.7	90.3	203450
GFER	76.1	92.9	75.4	613076

GFI1	83.1	99.0	92.9	613107;607847
GFI1B	170.2	98.2	95.7	187900
GFM1	100.3	99.2	95.3	609060
GFPT1	144.4	99.9	97.6	610542
GGCX	115.3	100.0	99.7	277450;610842
GGT1	12.9	19.8	17.2	231950
GH1	175.2	100.0	100.0	262650;262400;612781;173100
GHR	212.3	99.8	99.5	604271;262500
GHRHR	116.4	95.3	94.7	612781
GHSR	206.0	99.9	98.4	615925
GIF	141.2	100.0	99.9	261000
GINS1	124.3	96.6	83.2	617827
GIPC3	103.3	91.8	85.5	601869
GJA1	246.4	100.0	100.0	218400;104100;600309;241550;257850;186100;164200;617525
GJA3	164.7	100.0	99.5	601885
GJA5	268.4	100.0	100.0	108770;614049
GJA8	153.6	100.0	100.0	116200
GJB1	229.8	100.0	99.8	302800
GJB2	205.1	100.0	100.0	220290;124500;148210;149200;602540;148350;601544
GJB3	308.9	100.0	100.0	0;220290;612644;133200
GJB4	369.9	100.0	100.0	617524
GJB6	185.4	100.0	100.0	220290;612643;129500;612645
GJC2	41.9	68.9	58.6	613206;613480;608804
GK	43.6	74.0	54.7	307030
GLA	81.3	99.7	97.6	301500
GLB1	94.3	99.6	97.0	230600;230500;230650;253010
GLDC	78.9	90.6	82.7	605899
GLDN	130.4	98.2	91.8	617194
GLE1	110.8	100.0	99.7	611890;253310
GLI2	138.5	99.4	97.4	615849;610829

GLI3	154.2	100.0	99.7	146510;174700;175700;174200
GLIS2	109.0	99.9	98.2	611498
GLIS3	133.4	99.9	99.3	610199
GLMN	66.8	97.8	86.4	138000
GLRA1	123.3	100.0	100.0	149400
GLRB	98.6	96.6	88.8	614619
GLRX5	108.2	92.6	83.8	616859;616860
GLUD1	74.5	94.4	84.3	606762
GLUL	108.8	99.9	98.2	610015
GLYCTK	202.6	100.0	99.5	220120
GM2A	139.6	100.0	100.0	272750
GMNN	101.2	92.6	83.8	616835
GMPPA	136.8	100.0	99.9	615510
GMPPB	228.5	100.0	100.0	615351;615350;615352
GNA11	149.5	99.5	96.4	145981;615361
GNAI2	138.5	100.0	99.9	0;192605
GNAI3	110.6	99.0	92.0	602483
GNAL	134.9	94.5	91.6	615073
GNAO1	167.8	93.8	93.8	617493;615473
GNAQ	82.6	81.1	69.5	163000;185300
GNAS	141.0	98.5	95.9	103580;219080;166350;612463;174800;612462;617686;603233
GNAS-AS1				603233
GNAT1	153.9	100.0	100.0	610444;616389
GNAT2	130.7	99.9	99.1	613856
GNB1	189.0	100.0	100.0	613065;616973
GNB3	179.0	100.0	100.0	617024
GNB4	152.6	100.0	99.7	615185
GNB5	125.9	99.9	98.3	617173;617182
GNE	153.7	100.0	99.8	269921;605820
GNMT	147.2	99.4	97.0	606664

GNPAT	133.6	99.4	96.4	222765
GNPTAB	167.7	98.3	97.4	252500;252600
GNPTG	151.6	96.1	89.7	252605
GNRH1	86.7	99.5	91.5	614841
GNRHR	161.9	100.0	100.0	146110
GNS	107.9	96.9	92.0	252940
GORAB	176.3	99.7	97.8	231070
GOSR2	127.2	95.9	95.0	614018
GOT1	127.0	100.0	99.5	614419
GP1BA	153.0	97.0	94.3	153670;231200;177820
GP1BB	34.5	74.2	64.3	231200
GP6	136.5	100.0	100.0	614201
GP9	123.3	96.6	89.3	231200
GPAA1	130.0	96.4	95.2	617810
GPC3	85.1	98.6	92.6	194070;312870
GPC6	142.0	100.0	100.0	258315
GPD1	93.5	99.9	99.1	614480
GPD1L	138.3	100.0	98.5	611777
GPHN	167.2	98.4	96.9	615501
GPI	142.6	100.0	99.5	613470
GPIHBP1	119.7	99.9	99.2	615947
GPNMB	177.8	100.0	100.0	617920
GPR101	159.0	100.0	100.0	300943
GPR143	61.5	85.3	75.5	300500;300814
GPR179	133.6	100.0	99.7	614565
GPR68	186.4	96.5	90.2	617217
GPR88	89.9	98.8	94.1	616939
GPSM2	112.9	99.8	97.0	604213
GPT2	138.0	98.2	90.9	616281
GPX4	119.2	85.2	76.6	250220

GREB1L	148.6	100.0	99.5	617805
GREM2	133.7	100.0	100.0	617275
GRHL2	134.6	100.0	100.0	608641;618031;616029
GRHL3	140.7	100.0	99.9	606713
GRHPR	112.5	85.1	78.2	260000
GRIA3	98.2	99.3	94.7	300699
GRIA4	148.3	99.8	98.1	617864
GRID2	175.4	100.0	99.9	616204
GRIK2	133.2	96.0	94.7	611092
GRIN1	150.7	100.0	99.5	614254;617820
GRIN2A	159.1	100.0	100.0	245570
GRIN2B	189.4	99.9	99.3	613970;616139
GRIN2D	73.1	69.1	62.1	617162
GRIP1	130.8	100.0	99.9	617667
GRK1	126.4	100.0	99.9	613411
GRM1	185.8	100.0	99.9	617691;614831
GRM6	151.7	93.3	86.7	257270
GRN	184.5	100.0	100.0	614706;607485
GRXCR1	183.7	100.0	99.8	613285
GRXCR2	114.9	100.0	100.0	615837
GSC	85.4	86.9	74.5	602471
GSN	119.2	94.2	89.0	105120
GSS	104.0	100.0	99.8	231900;266130
GTF2E2	83.5	96.5	91.0	616943
GTF2H5	113.6	100.0	99.1	616395
GTPBP2	156.8	96.5	94.7	617988
GTPBP3	137.4	100.0	99.7	616198
GUCA1A	160.6	100.0	100.0	602093
GUCA1B	144.2	100.0	99.9	613827
GUCY1A3	171.3	99.4	98.0	615750

GUCY2C	135.2	100.0	99.7	614616;614665
GUCY2D	91.3	98.3	91.1	601777;215500;204000
GUF1	70.5	98.7	92.3	617065
GULOP				-
GUSB	116.1	92.2	89.4	253220
GYG1	157.8	100.0	99.6	613507;616199
GYS1	110.8	100.0	98.5	611556
GYS2	150.2	98.5	93.9	240600
GZF1	229.0	100.0	100.0	617662
H19				180860;130650;194071
H6PD	169.5	99.0	99.0	604931
HAAO	100.8	100.0	99.9	617660
HACE1	125.3	99.2	95.0	616756
HADH	110.8	98.0	95.1	231530;609975
HADHA	84.4	96.5	90.3	609015;609016
HADHB	80.5	92.5	79.5	609015
HAMP	175.6	100.0	100.0	613313
HARS	159.4	100.0	100.0	614504;616625
HARS2	169.7	99.9	99.2	614926
HAX1	136.5	100.0	100.0	610738
HBA1	141.9	100.0	100.0	613978;617981;604131;140700;617973
HBA2	133.7	97.8	91.1	613978;617981;604131;140700
HBB	176.7	100.0	100.0	603902;603903;617971;617980;140700;613985;141749
HBD	242.4	100.0	100.0	-
HBG1	174.4	98.3	94.7	141749
HBG2	329.4	100.0	100.0	613977;141749
HCCS	106.6	99.9	99.2	309801
HCFC1	105.8	99.3	96.1	309541
HCN1	122.4	99.9	97.8	615871
HCN4	79.4	98.3	91.8	163800;613123



HCRT	54.2	77.4	66.8	161400
HDAC6	118.7	99.7	97.0	300863
HDAC8	131.9	100.0	99.8	300882
HECW2	133.1	99.9	98.6	617268
HELLS	93.7	94.1	86.8	616911
HEPACAM	142.3	81.4	76.1	613925;613926
HERC1	173.7	99.9	99.4	617011
HERC2	114.4	80.9	77.9	615516
HES7	29.1	64.9	42.6	613686
HESX1	57.6	99.2	92.6	182230
HEXA	118.3	93.8	92.2	272800
HEXB	129.7	99.4	94.0	268800
HFE	142.0	100.0	99.7	235200
HFE2	116.8	100.0	100.0	602390
HFM1	42.8	90.3	76.7	615724
HGD	127.8	100.0	99.8	203500
HGF	146.9	99.4	96.9	608265
HGSNAT	101.0	86.4	85.7	252930;616544
HIBCH	67.7	92.7	69.5	250620
HIKESHI	61.7	90.9	79.7	616881
HINT1	60.0	98.5	88.0	137200
HIST1H1E	60.9	99.9	94.7	617537
HIVEP2	191.2	100.0	100.0	616977
HK1	143.4	100.0	99.9	617460;605285;235700
HLCS	172.8	100.0	100.0	253270
HMBS	109.0	100.0	99.8	176000
HMGB3	38.0	88.1	68.6	300915
HMGCL	143.3	100.0	99.9	246450
HMGCS2	131.5	100.0	100.0	605911
HMOX1	128.7	95.8	89.5	614034

HMX1	23.0	56.8	42.0	612109
HNF1A	156.7	100.0	99.4	142330;612520;144700;600496
HNF1B	123.7	99.9	98.9	125853;137920
HNF4A	140.2	99.9	99.1	616026;125850
HNMT	135.0	100.0	99.7	616739
HNRNPA1	72.7	97.4	87.2	615424;615426
HNRNPA2B1	134.7	98.3	96.9	615422
HNRNPDL	59.0	90.6	79.8	609115
HNRNPH2	170.8	100.0	100.0	300986
HNRNPK	71.7	86.9	78.4	616580
HNRNPU	126.6	99.3	97.9	617391
HOGA1	147.5	99.8	98.1	613616
HOMER2	133.5	99.5	99.4	616707
HOXA1	165.3	100.0	100.0	601536
HOXA11	86.3	88.0	78.5	605432
HOXA13	49.0	69.2	61.7	140000;176305
HOXA2	74.1	99.5	95.6	612290
HOXB1	104.5	100.0	100.0	614744
HOXC13	104.9	97.5	91.1	614931
HOXD10	137.7	100.0	99.8	192950
HOXD13	142.3	93.1	89.6	113300;113200;186000;610713;186300
HPCA	283.4	100.0	100.0	224500
HPD	137.8	100.0	100.0	140350;276710
HPGD	88.0	100.0	98.5	119900;259100
HPRT1	58.2	96.0	84.8	300322;300323
HPS1	117.8	100.0	99.3	203300
HPS3	135.2	99.6	96.4	614072
HPS4	141.9	100.0	100.0	614073
HPS5	133.0	99.9	98.7	614074
HPS6	139.1	91.0	84.3	614075

HPSE2	110.2	98.8	95.4	236730
HR	94.9	97.3	94.2	209500;146550;203655
HRAS	164.7	99.8	98.1	163200;218040
HRG	178.3	95.0	94.3	613116
HSD11B1	147.1	100.0	99.9	614662
HSD11B2	165.2	85.7	82.5	218030
HSD17B10	117.1	100.0	99.2	300438
HSD17B3	156.4	100.0	100.0	264300
HSD17B4	95.1	93.9	90.8	233400;261515
HSD3B2	189.2	100.0	100.0	201810
HSD3B7	136.3	98.2	91.0	607765
HSF4	103.0	97.6	94.9	116800
HSPA9	91.6	91.1	85.9	182170;616854
HSPB1	39.7	93.7	81.8	606595;608634
HSPB3	290.9	100.0	100.0	613376
HSPB8	156.4	100.0	100.0	608673;158590
HSPD1	96.5	98.3	93.2	612233;605280
HSPG2	121.3	99.4	98.2	255800;224410
HTR1A	220.4	100.0	100.0	614674
HTRA1	98.2	84.5	81.4	600142;616779
HTRA2	122.1	100.0	99.7	617248
HTT	143.7	98.5	97.1	143100;617435
HUWE1	98.4	99.2	97.0	300706
HYAL1	115.3	100.0	100.0	601492
HYDIN	133.6	99.9	99.5	608647
HYLS1	171.1	100.0	100.0	236680
IARS	148.8	99.8	98.6	617093
IARS2	131.5	100.0	99.9	616007
IBA57	113.3	93.3	89.5	616451;615330
ICK	131.6	99.9	98.2	612651

ICOS	160.2	100.0	100.0	607594
IDH2	103.5	99.6	96.9	613657
IDH3B	165.5	95.9	95.4	612572
IDS	111.3	99.6	98.3	309900
IDUA	123.0	88.1	80.0	607015;607014;607016
IER3IP1	73.0	93.2	82.2	614231
IFIH1	113.5	99.6	97.1	615846;182250
IFITM5	63.4	99.4	94.9	610967
IFNAR2	138.8	98.5	95.4	616669
IFNGR1	138.5	99.2	97.3	615978;209950
IFNGR2	142.3	93.2	93.1	614889
IFT122	152.0	100.0	99.9	218330
IFT140	114.7	99.9	99.0	266920;617781
IFT172	116.5	100.0	99.6	616394;615630
IFT27	131.7	100.0	99.6	615996
IFT43	114.8	100.0	100.0	617871;614099;617866
IFT52	123.6	100.0	99.3	617102
IFT57	109.9	99.0	94.0	617927
IFT74	80.1	97.8	88.2	617119
IFT80	57.8	87.6	70.7	611263
IFT81	92.9	88.3	81.2	617895
IGBP1	118.3	99.8	97.7	300472
IGF1	122.5	100.0	100.0	608747
IGF1R	144.0	100.0	99.8	270450
IGF2	100.0	100.0	100.0	616489
IGF2R	139.5	98.3	96.7	114550
IGFALS	79.7	99.9	96.8	615961
IGFBP7	71.6	91.7	83.5	614224
IGHG2	34.5	79.6	60.0	-
IGHM	185.2	100.0	100.0	601495

IGHMBP2	107.8	99.3	96.0	604320;616155
IGKC	157.9	100.0	100.0	614102
IGLL1	86.2	99.3	94.9	613500
IGSF1	84.8	99.5	96.6	300888
IGSF3	115.9	96.7	95.0	149700
IHH	129.3	100.0	100.0	112500;607778
IKBKB	123.5	98.5	94.2	615592
IKBKG	52.5	84.6	73.2	300301;300636;300291;300584;300640;308300
IKZF1	183.4	100.0	100.0	616873
IL10RA	141.9	100.0	99.9	613148
IL10RB	168.8	98.7	96.1	612567
IL11RA	139.9	100.0	99.5	614188
IL12B	121.1	100.0	99.9	614890
IL12RB1	124.3	97.0	94.7	614891
IL17F	85.8	99.1	94.4	613956
IL17RA	140.5	99.8	96.9	613953
IL17RC	96.1	99.8	99.0	616445
IL17RD	135.6	99.3	97.7	615267
IL1RAPL1	116.8	99.7	98.0	300143
IL1RN	162.8	100.0	100.0	612852
IL21	94.7	97.8	87.5	615767
IL21R	128.5	100.0	100.0	615207
IL2RA	116.4	100.0	99.5	606367
IL2RG	65.2	99.8	97.3	312863;300400
IL31RA	124.2	99.9	99.6	613955
IL36RN	99.0	100.0	100.0	614204
IL7R	129.5	99.9	99.4	608971
ILD1R	107.4	100.0	99.9	609646
IMPA1	71.4	97.1	85.8	617323
IMPAD1	147.2	99.9	99.4	614078

IMPDH1	61.3	87.8	83.5	180105;613837
IMPG1	103.4	99.6	97.3	616151
IMPG2	154.3	99.5	97.8	616152;613581
INF2	79.2	84.1	81.1	614455;613237
ING1	127.8	99.5	95.4	275355
INPP5E	89.1	95.8	90.0	213300;610156
INPP5K	108.3	100.0	99.6	617404
INPPL1	123.6	96.7	93.7	258480
INS	87.7	100.0	99.7	613370;125852;606176;616214
INSL3	67.5	81.0	77.9	219050
INSR	141.1	97.1	94.5	246200;262190;609968;610549
INTU	122.0	99.7	96.6	617925;617926
INVS	160.5	100.0	100.0	602088
IQCB1	92.2	89.3	75.4	609254
IQCE	132.2	98.8	96.6	617642
IQSEC2	61.2	92.1	82.5	309530
IRAK4	95.4	98.3	90.1	607676;610799
IRF1	185.4	100.0	100.0	0;613659;211980
IRF2BP2	63.2	88.2	70.8	617765
IRF6	113.7	99.9	97.9	119300;119500
IRF7	89.8	99.9	99.1	616345
IRF8	114.7	99.6	97.4	226990;614893
IRX5	74.7	94.2	86.1	611174
ISCA1	50.8	92.5	80.5	617613
ISCA2	92.0	99.7	96.9	616370
ISCU	111.2	100.0	99.7	255125
ISG15	160.1	100.0	100.0	616126
ISPD	104.4	95.2	84.8	616052;614643
ITCH	124.7	95.4	94.8	613385
ITGA2B	107.2	99.6	97.4	0;187800;273800

ITGA3	141.5	99.8	98.3	614748
ITGA6	146.5	99.8	99.0	226730
ITGA7	129.6	99.6	97.6	613204
ITGA8	122.4	99.6	98.1	191830
ITGB2	152.1	100.0	99.8	116920
ITGB3	142.2	99.3	97.4	0;187800;273800
ITGB4	150.1	97.4	94.8	226730;226650;131800
ITGB6	137.0	96.5	95.2	616221
ITK	125.2	100.0	99.6	613011
ITM2B	110.0	99.7	97.9	117300;616079;176500
ITPA	120.2	100.0	100.0	616647
ITPR1	161.4	100.0	99.9	606658;117360;206700
ITPR2	137.3	99.0	95.9	106190
IVD	114.9	100.0	100.0	243500
IYD	117.3	99.7	97.8	274800
JAG1	148.4	98.1	97.5	617992;187500;118450
JAGN1	147.3	100.0	100.0	616022
JAK2	90.6	95.9	94.1	601626;133100;263300;254450;614521
JAK3	104.2	98.2	95.2	600802
JAM3	158.6	100.0	100.0	613730
JPH1	173.9	100.0	99.8	607831
JPH2	87.5	90.4	75.1	613873
JPH3	156.6	100.0	99.7	606438
JUP	145.1	100.0	99.6	611528;601214
KANK1	166.2	100.0	100.0	612900
KANK2	151.4	99.9	99.5	616099;617783
KANSL1	172.3	99.9	99.2	610443
KARS	122.6	100.0	99.3	613916;613641
KAT6A	169.3	100.0	99.8	616268
KAT6B	192.3	99.6	98.5	603736;606170

KATNB1	141.7	100.0	100.0	616212
KBTBD13	107.1	99.8	96.8	609273
KCNA1	167.0	100.0	99.7	160120
KCNA2	157.7	100.0	99.9	616366
KCNA5	143.3	99.4	96.0	612240
KCNB1	145.0	100.0	99.9	616056
KCNC1	199.2	100.0	100.0	616187
KCNC3	144.0	68.5	59.0	605259
KCND3	182.5	99.9	99.1	616399;607346
KCNE1	462.6	100.0	100.0	612347;613695
KCNE2	181.5	100.0	100.0	611493;613693
KCNE3	177.1	100.0	100.0	613119
KCNH1	185.8	98.7	98.7	135500;611816
KCNH2	102.6	92.3	84.8	609620;613688
KCNJ1	233.9	100.0	100.0	241200
KCNJ10	213.4	89.3	89.1	612780;600791
KCNJ11	299.5	100.0	100.0	610582;606176;601820;616329
KCNJ13	210.4	100.0	99.9	614186;193230
KCNJ2	229.3	100.0	100.0	609622;613980;170390
KCNJ5	193.9	100.0	99.8	613485;613677
KCNJ6	156.6	100.0	99.9	614098
KCNK3	165.3	98.9	96.1	615344
KCNK9	193.7	100.0	100.0	612292
KCNMA1	120.4	94.4	93.2	609446;617643
KCNN4	136.1	100.0	99.8	616689
KCNQ1	114.7	93.0	90.3	609621;192500;607554;220400
KCNQ1OT1				130650
KCNQ2	85.4	90.1	86.5	121200;613720
KCNQ3	110.7	98.9	95.5	121201
KCNQ4	135.2	93.7	89.1	600101



KCNQ5	158.0	96.2	94.2	617601
KCNT1	112.0	95.3	92.3	614959;615005
KCNT2	105.1	97.6	89.9	617771
KCNV2	137.7	100.0	100.0	610356
KCTD1	140.5	100.0	100.0	181270
KCTD17	93.7	95.3	88.0	616398
KCTD7	166.7	95.0	95.0	611726
KDF1	103.9	100.0	99.6	617337
KDM1A	129.7	96.2	93.4	616728
KDM5C	112.6	97.9	95.1	300534
KDM6A	109.0	93.2	84.3	300867
KDR	137.9	100.0	99.4	602089
KDSR	173.7	100.0	100.0	617526
KERA	191.6	100.0	100.0	217300
KHDC3L	110.3	99.9	99.2	614293
KIAA0556	134.4	99.9	99.4	616784
KIAA0586	114.7	98.2	92.7	616490;616546
KIAA0753	123.9	99.9	98.7	617127
KIAA1109	144.1	99.1	97.2	617822
KIDINS220	155.4	99.9	99.5	617296
KIF11	83.8	97.2	94.2	152950
KIF14	111.3	98.1	89.9	617914;616258
KIF1A	114.0	99.2	96.1	614255;614213;610357
KIF1B	154.8	100.0	99.5	118210;171300
KIF1BP	159.7	96.2	96.1	609460
KIF1C	121.3	99.9	99.1	611302
KIF21A	123.5	99.4	96.1	135700
KIF22	163.1	100.0	99.9	603546
KIF2A	105.2	97.7	88.7	615411
KIF4A	92.4	98.2	93.7	300923

KIF5A	136.1	100.0	99.9	604187;617235
KIF5C	116.3	99.9	99.1	615282
KIF7	85.7	93.5	88.9	607131;200990;614120
KISS1	41.4	98.5	91.2	614842
KISS1R	106.4	99.5	95.3	614837;176400
KIT	153.0	100.0	99.7	172800;601626;273300;154800;606764
KITLG	81.8	97.0	91.6	145250;616697
KIZ	174.2	98.3	96.0	615780
KL	179.9	97.2	96.0	617994
KLC2	115.9	99.8	98.2	609541
KLF1	52.1	90.8	81.7	613673;111150
KLF11	181.3	99.9	99.4	610508
KLF6	154.0	100.0	100.0	176807;613659
KLHL10	209.7	100.0	100.0	615081
KLHL15	178.1	100.0	99.9	300982
KLHL24	192.9	100.0	100.0	617294
KLHL3	141.1	100.0	99.8	614495
KLHL40	157.9	100.0	100.0	615348
KLHL41	203.5	100.0	99.6	615731
KLHL7	123.5	100.0	99.5	617055;612943
KLK4	185.1	100.0	98.8	204700
KLKB1	143.4	99.6	96.7	612423
KLLN	117.1	100.0	100.0	615107
KMT2A	152.5	99.3	98.6	605130
KMT2B	120.3	94.0	91.2	617284
KMT2C	170.2	91.0	88.6	617768
KMT2D	142.1	99.9	99.0	147920
KMT5B	202.3	100.0	99.6	617788
KNL1	113.7	98.3	95.2	604321
KPTN	112.1	100.0	99.9	615637

KRAS	64.7	99.9	98.7	114480;109800;601626;260350;137215;211980;614470;615278;108010;163200;609942
KREMEN1	149.1	94.7	93.6	617392
KRIT1	85.1	99.9	97.7	116860
KRT1	120.1	99.9	96.7	113800;144200;607602;146590;607654;600962
KRT10	103.0	98.7	93.9	113800;609165;607602
KRT12	126.1	98.6	95.4	122100
KRT13	140.4	99.9	98.9	615785
KRT14	59.3	89.0	82.1	131760;131900;161000;131800;125595;601001
KRT16	38.5	72.4	53.4	167200;613000
KRT17	21.5	47.2	31.9	184500;167210
KRT18	40.2	84.8	67.8	215600
KRT2	140.9	100.0	99.8	146800
KRT25	142.9	100.0	100.0	616760
KRT3	105.1	100.0	99.7	122100
KRT4	130.7	100.0	99.9	193900
KRT5	133.5	100.0	100.0	131760;609352;131960;131900;131800;601001;179850
KRT6A	197.8	94.8	87.9	615726
KRT6B	194.4	95.9	89.3	615728
KRT6C	174.5	87.3	79.7	615735
KRT71	139.8	100.0	100.0	615896
KRT74	150.2	99.9	98.9	614929;613981;194300
KRT8	39.2	91.7	73.4	215600
KRT81	93.4	99.7	96.0	158000
KRT83	81.3	98.4	89.5	158000;617756
KRT85	108.3	98.8	95.3	602032
KRT86	101.4	100.0	98.0	158000
KRT9	84.8	98.2	96.0	144200
KY	135.5	100.0	100.0	617114
KYNU	116.9	98.5	92.2	617661;236800
L1CAM	133.3	99.8	98.4	307000;304100;303350

L2HGDH	129.1	98.4	97.0	236792
LAGE3	50.3	95.0	81.2	301006
LAMA1	137.5	100.0	99.6	615960
LAMA2	143.5	99.9	99.5	607855
LAMA3	147.6	99.7	99.2	226650;245660;226700
LAMA4	132.6	100.0	99.9	615235
LAMB1	169.8	100.0	99.6	615191
LAMB2	201.7	100.0	99.8	609049;614199
LAMB3	123.4	100.0	99.6	104530;226650;226700
LAMC2	117.6	99.9	98.8	226650;226700
LAMC3	130.5	98.3	96.1	614115
LAMP2	106.1	92.7	91.2	300257
LAMTOR2	167.0	100.0	99.9	610798
LARGE1	143.0	100.0	99.6	608840;613154
LARP7	56.3	80.5	63.7	615071
LARS	133.5	99.5	97.1	615438
LARS2	143.0	100.0	100.0	617021;615300
LAS1L	90.2	99.7	97.7	309585
LAT	94.6	99.8	98.4	617514
LBR	87.8	93.3	83.9	169400;613471;618019;215140
LCA5	127.8	97.3	95.7	604537
LCAT	145.6	97.8	91.7	136120;245900
LCK	161.4	98.2	95.5	615758
LCT	142.0	99.9	99.1	223000
LDB3	127.3	95.5	93.7	601493;609452
LDHA	59.8	94.1	87.1	612933
LDLR	171.0	99.6	97.9	143890
LDLRAP1	156.1	95.7	91.2	603813
LEF1	115.9	100.0	99.9	-
LEMD2	68.6	89.1	80.6	212500

LEMD3	96.7	95.4	88.8	166700
LEP	188.8	100.0	99.6	614962
LEPR	109.6	93.8	90.2	614963
LFNG	91.6	85.4	83.3	609813
LGI1	163.8	97.8	94.8	600512
LGI4	73.8	99.0	95.8	617468
LHB	29.0	97.2	73.2	228300
LHCGR	154.5	95.4	92.8	238320;176410
LHFPL5	287.7	100.0	100.0	610265
LHX3	84.7	94.0	80.6	221750
LHX4	144.9	100.0	99.8	262700
LIAS	133.7	99.5	97.1	614462
LIFR	123.4	97.2	92.1	601559
LIG4	165.6	100.0	99.6	606593
LIM2	103.2	100.0	98.6	615277
LIMS2	110.8	93.0	92.3	616827
LINS1	147.8	99.9	98.0	614340
LIPA	110.9	98.8	95.8	278000
LIPC	115.2	100.0	99.8	614025
LIPE	113.4	99.9	98.4	615980
LIPH	140.6	100.0	100.0	604379
LIPN	125.2	99.2	95.8	613943
LIPT1	227.4	100.0	100.0	616299
LIPT2	92.2	97.3	83.2	617668
LITAF	126.3	94.8	91.5	601098
LMAN1	129.8	99.3	94.4	227300
LMAN2L	127.9	100.0	99.8	616887
LMBR1	94.0	95.9	88.1	186200;135750;174500;188740;200500
LMBRD1	80.2	91.9	83.0	277380
LMF1	132.4	99.6	97.8	246650

LMNA	89.2	97.9	91.3	176670;212112;181350;616516;613205;275210;115200;610140;605588;151660;159001;248370
LMNB1	123.3	99.9	99.1	169500
LMNB2	121.2	97.1	93.2	616540
LMOD3	141.5	99.9	98.5	616165
LMX1B	111.4	97.0	92.3	161200
LONP1	141.5	97.9	96.4	600373
LOR	13.5	62.6	33.1	604117
LOX	104.4	99.8	97.6	617168
LOXHD1	136.5	100.0	99.6	613079
LPAR6	104.2	99.7	98.2	278150
LPIN1	134.6	99.8	97.8	268200
LPIN2	111.5	100.0	99.6	609628
LPL	147.2	100.0	100.0	238600;144250
LPP	132.1	100.0	100.0	0;601626
LRAT	298.3	100.0	100.0	613341
LRBA	134.4	99.3	97.8	614700
LRIG2	148.5	99.4	97.5	615112
LRIT3	142.4	94.4	94.1	615058
LRMDA	142.1	97.2	95.6	615179
LRP1	196.0	99.7	99.1	604093
LRP2	176.3	100.0	99.8	222448
LRP4	166.6	99.1	98.9	212780;616304;614305
LRP5	189.8	98.2	97.9	601813;144750;617875;607634;259770;607636
LRP6	169.3	100.0	99.7	616724
LRPAP1	138.3	99.5	97.2	615431
LRPPRC	127.3	99.4	97.2	220111
LRRC6	137.9	94.7	91.0	614935
LRRC8A	273.0	100.0	99.9	613506
LRSAM1	130.4	100.0	99.7	614436
LRTOMT	125.9	99.8	96.6	611451

LSS	127.8	100.0	99.1	616509
LTBP2	104.6	99.6	97.1	251750;613086;614819
LTBP3	113.5	98.7	94.7	601216;617809
LTBP4	117.1	98.6	95.0	613177
LYRM4	60.1	63.2	54.3	615595
LYRM7	49.0	87.6	72.4	615838
LYST	134.6	97.8	93.9	214500
LYZ	165.3	100.0	100.0	105200
LZTFL1	109.1	99.1	95.3	615994
LZTR1	134.0	100.0	99.4	616564
LZTS1	105.5	100.0	100.0	133239
MAB21L2	245.6	100.0	100.0	615877
MAD1L1	97.8	99.8	97.1	0;176807
MAD2L2	125.9	100.0	100.0	617243
MAF	60.2	77.5	72.7	610202;601088
MAFA	28.6	79.0	59.6	147630
MAFB	93.8	99.7	97.8	617041;166300
MAG	146.5	100.0	99.5	616680
MAGED2	80.0	99.7	97.4	300971
MAGEL2	83.4	90.6	81.2	615547
MAGI2	98.0	91.8	88.3	617609
MAGT1	101.8	98.4	95.8	300853
MAK	139.1	95.6	94.1	614181
MALT1	136.6	89.1	85.4	615468
MAML2	122.9	100.0	100.0	-
MAMLD1	131.4	99.9	98.3	300758
MAN1B1	128.9	100.0	99.7	614202
MAN2B1	122.3	99.1	96.2	248500
MANBA	119.9	99.7	97.2	248510
MAOA	113.8	99.9	98.7	300615

MAP2K1	92.3	99.8	95.6	615279
MAP2K2	107.9	97.6	89.2	615280
MAP3K1	166.0	92.9	89.2	613762
MAP3K20	125.3	99.8	98.0	616890;617760
MAP3K7	114.6	99.7	98.1	157800;617137
MAP3K8	143.2	100.0	99.8	211980
MAPKAPK3	92.8	98.9	96.3	617111
MAPKBP1	144.1	100.0	100.0	617271
MAPRE2	205.7	100.0	99.5	616734
MAPT	127.2	100.0	98.6	260540;172700;600274;601104
MARS	125.2	99.7	97.3	615486;616280
MARS2	173.2	100.0	100.0	616430;611390
MARVELD2	159.4	97.5	94.0	610153
MASP1	148.6	100.0	99.6	257920
MASP2	139.8	100.0	99.3	613791
MAT1A	185.4	99.7	97.5	250850
MATN3	116.6	84.7	84.7	607078;608728
MATR3	92.5	95.7	88.8	606070
MBD5	196.2	99.9	99.6	156200
MBOAT7	91.8	99.3	94.7	617188
MBTPS2	113.4	99.6	97.6	308800;308205;301014;300918
MC2R	213.1	100.0	100.0	202200
MC4R	272.0	100.0	100.0	601665
MCC	139.0	100.0	99.6	114500
MCCC1	151.7	100.0	99.4	210200
MCCC2	131.1	99.9	98.9	210210
MCEE	99.8	100.0	100.0	251120
MCFD2	101.7	99.9	98.8	613625
MCM2	176.8	100.0	100.0	616968
MCM4	164.3	99.9	98.8	609981



MCM5	131.5	100.0	100.0	617564
MCM6	154.1	100.0	99.7	223100
MCM8	123.6	99.9	98.5	612885
MCM9	151.6	100.0	99.9	616185
MCOLN1	150.2	98.8	97.0	252650
MCPH1	148.6	99.9	98.1	251200
MDH2	123.3	98.0	97.9	617339
MECOM	143.4	100.0	99.6	616738
MECP2	87.3	99.1	93.1	300260;300673;300055;312750
MECR	108.1	98.8	96.1	617282
MED12	105.7	98.0	94.8	309520;300895;305450
MED13L	134.6	100.0	99.6	608808;616789
MED17	118.0	95.2	91.7	613668
MED23	131.2	98.7	96.9	614249
MED25	103.9	99.1	95.7	605589;616449
MEF2C	137.7	97.9	93.5	613443
MEFV	108.8	94.9	91.0	249100;134610
MEGF10	154.3	100.0	99.8	614399
MEGF8	127.6	99.9	98.6	614976
MEIOB	109.3	98.8	92.5	617706
MEIS2	138.2	100.0	99.9	600987
MEN1	123.2	99.5	96.3	0;131100
MEOX1	76.8	96.6	91.2	214300
MERTK	161.4	99.4	97.7	613862
MESP2	81.5	93.1	87.9	608681
MET	184.7	100.0	99.6	605074;616705;114550
METTL23	145.0	100.0	100.0	615942
MFAP5	126.8	100.0	99.5	616166
MFF	93.7	90.4	87.6	617086
MFN2	150.6	100.0	99.9	617087;601152;609260

MFRP	121.3	100.0	100.0	611040;609549
MFSD2A	115.1	98.8	95.9	616486
MFSD8	125.1	99.9	98.4	610951;616170
MGAT2	157.2	100.0	99.9	212066
MGME1	151.1	100.0	100.0	615084
MGP	132.0	92.7	91.6	245150
MIB1	141.7	100.0	99.6	615092
MICU1	134.2	96.0	88.8	615673
MID1	164.6	99.8	98.4	300000
MID2	141.0	99.6	97.3	300928
MINPP1	147.8	98.8	94.8	188470
MIP	132.2	99.8	96.1	615274
MIPEP	102.1	95.3	88.6	617228
MIR17HG				614326
MIR184				614303
MIR204				616722
MIR96				613074
MITF	155.5	100.0	99.9	103470;193510;103500;617306
MKKS	208.5	83.2	83.1	605231;236700
MKL1	101.0	96.2	91.1	-
MKRN3	162.0	100.0	99.9	615346
MKS1	114.5	99.9	98.5	249000;617121;615990
MLC1	103.4	100.0	99.8	604004
MLH1	162.0	100.0	99.7	276300;609310;158320
MLH3	151.7	100.0	100.0	614385;114500
MLLT10	142.0	94.8	91.4	601626
MLPH	99.1	99.6	95.9	609227
MLYCD	75.6	91.3	86.9	248360
MMAA	183.2	100.0	99.6	251100
MMAB	101.2	100.0	99.9	251110

MMACHC	205.8	100.0	100.0	277400
MMADHC	77.0	89.3	75.0	277410
MME	101.1	98.2	93.6	617018;617017
MMP1	163.6	100.0	98.2	606963
MMP13	124.1	93.5	91.5	250400;602111
MMP14	152.1	100.0	99.5	277950
MMP19	129.1	99.6	97.7	611543
MMP2	164.4	100.0	100.0	259600
MMP20	100.5	100.0	98.6	612529
MMP21	93.3	90.2	84.6	616749
MMP9	125.4	96.2	91.8	613073
MN1	93.6	98.6	93.0	607174
MNX1	29.3	63.0	51.9	176450
MOCOS	169.0	99.1	96.6	603592
MOCS1	87.4	98.4	93.0	252150
MOCS2	139.5	99.6	99.6	252160
MOG	105.3	100.0	99.9	614250
MOGS	121.6	99.8	99.1	606056
MORC2	135.9	100.0	99.7	616688
MPC1	121.8	100.0	99.5	614741
MPDU1	111.8	100.0	99.7	609180
MPDZ	149.0	98.7	96.6	615219
MPI	146.2	100.0	100.0	602579
MPIG6B	85.4	100.0	99.3	617441
MPL	136.7	99.6	97.5	601977;254450;604498
MPLKIP	72.5	97.1	79.3	234050
MPO	155.0	100.0	99.9	254600
MPV17	108.5	100.0	99.4	256810
MPZ	123.4	100.0	99.3	118200;607791;145900;180800;605253;607677;607736
MRAP	161.3	100.0	100.0	607398

MRE11	51.2	95.3	82.3	604391
MRPL3	66.3	91.2	77.9	614582
MRPL44	110.5	99.7	97.6	615395
MRPS16	161.1	100.0	99.1	610498
MRPS2	166.4	99.7	97.9	617950
MRPS22	138.8	95.3	91.8	611719
MRPS34	132.7	99.9	98.3	617664
MRPS7	173.5	100.0	100.0	617872
MS4A1	123.7	99.4	96.2	613495
MSH2	113.4	98.6	93.1	276300;120435;158320
MSH3	113.4	99.0	95.0	617100;608089
MSH5	116.5	99.5	96.6	617442
MSH6	171.1	100.0	99.5	276300;614350;608089
MSMO1	45.8	92.6	78.5	616834
MSN	88.6	99.0	95.0	300988
MSR1	170.8	100.0	99.4	614266
MSRB3	155.6	99.7	98.5	613718
MSTN	161.5	100.0	99.5	614160
MSTO1	140.0	99.8	97.0	617675
MSX1	75.2	95.4	87.5	608874;106600;189500
MSX2	94.2	98.0	85.5	168500;168550;604757
MTAP	109.2	93.6	86.5	112250
MTFMT	124.6	99.3	96.2	614947
MTHFD1	139.6	99.8	98.4	617780
MTHFR	126.1	98.4	97.2	236250
MTM1	93.7	99.2	93.0	310400
MTMR2	106.6	100.0	99.2	601382
MTO1	173.7	89.5	87.3	614702
MTOR	140.0	100.0	99.8	607341;616638
MTPAP	109.6	98.9	93.5	613672

MTR	140.9	99.8	98.8	250940
MTRR	139.1	100.0	99.2	236270
MTTP	132.4	99.9	98.8	200100
MUC1	55.6	77.1	66.4	174000
MUSK	159.4	100.0	99.9	208150;616325
MUT	121.8	99.2	95.1	251000
MUTYH	165.0	100.0	99.9	613659;608456;132600
MVD	101.2	100.0	99.0	614714
MVK	124.3	92.1	90.4	610377;175900;260920
MXI1	108.3	90.6	83.6	-
MYBPC1	150.7	99.9	99.4	614915;614335
MYBPC3	142.5	98.5	95.7	115197;615396
MYC	114.3	64.8	63.1	113970
MYCN	94.1	94.9	84.8	164280
MYD88	186.5	100.0	99.9	153600;612260
MYF6	121.6	100.0	100.0	614408
MYH11	132.6	100.0	99.3	132900
MYH14	102.0	97.7	91.5	600652;614369
MYH2	129.4	99.9	98.8	605637
MYH3	110.4	99.9	98.6	178110;193700;601680
MYH6	113.3	99.0	96.1	613251;613252;614089
MYH7	111.4	99.4	96.8	613426;192600;160500;608358;181430;255160
MYH8	134.9	100.0	99.4	608837;158300
MYH9	130.5	99.4	98.1	155100;603622
MYL2	134.6	98.7	90.1	608758
MYL3	103.1	100.0	100.0	608751
MYL4	158.5	100.0	100.0	617280
MYLK	148.4	99.9	99.3	613780
MYLK2	120.0	100.0	100.0	192600
MYMK	141.0	100.0	100.0	254940

MYO15A	116.5	97.3	94.0	600316
MYO18B	132.4	100.0	99.1	616549
MYO1E	131.9	98.6	97.0	614131
MYO3A	119.8	98.5	93.0	607101
MYO5A	125.3	99.5	97.4	214450
MYO5B	137.6	98.2	95.5	251850
MYO6	89.7	98.1	92.3	607821;606346
MYO7A	134.1	99.7	98.1	601317;600060;276900
MYOC	172.5	100.0	99.3	137750
MYOT	139.4	99.3	95.5	182920;609200;159000
MYOZ2	145.9	100.0	100.0	613838
MYPN	142.4	99.3	98.4	617336;615248
MYT1L	178.3	100.0	99.7	616521
NAA10	102.4	98.7	96.7	300855;309800
NAA15	86.6	96.5	90.9	617787
NACC1	167.7	100.0	99.9	617393
NADK2	143.0	96.2	89.3	616034
NAGA	139.4	100.0	100.0	609241;609242
NAGLU	108.7	92.4	90.4	616491;252920
NAGS	81.0	98.0	91.6	237310
NALCN	139.5	99.8	97.5	615419;616266
NANOS1	28.1	87.1	64.7	615413
NANS	106.1	100.0	99.9	610442
NARS2	120.0	97.4	97.1	616239
NAT8L	70.1	89.3	79.9	614063
NAXE	81.1	99.7	95.9	617186
NBAS	145.3	99.5	97.6	616483;614800
NBEAL2	172.7	99.5	99.3	139090
NBN	80.6	99.1	94.6	609135;613065;251260
NCAPD2	138.5	100.0	99.1	617983

NCAPD3	120.7	99.4	98.0	617984
NCAPH	141.2	100.0	100.0	617985
NCF1	23.9	25.8	22.1	233700
NCF2	124.3	100.0	99.4	233710
NCF4	158.7	100.0	100.0	613960
NCSTN	111.9	100.0	99.8	142690
NDE1	100.9	100.0	99.5	605013;614019
NDN	74.2	92.7	79.7	176270
NDP	116.8	100.0	100.0	310600;305390
NDRG1	128.4	99.9	98.8	601455
NDST1	201.4	100.0	100.0	616116
NDUFA1	166.8	100.0	99.6	252010
NDUFA10	136.7	98.9	96.8	256000
NDUFA11	86.9	99.5	95.8	252010
NDUFA12	160.2	100.0	100.0	256000
NDUFA13	91.4	92.3	91.6	252010
NDUFA2	133.9	100.0	100.0	256000
NDUFA9	124.7	98.6	93.2	256000
NDUFAF1	115.6	100.0	100.0	252010
NDUFAF2	58.6	85.7	70.9	252010
NDUFAF3	120.8	100.0	100.0	252010
NDUFAF4	79.4	98.9	91.8	252010
NDUFAF5	95.7	98.8	94.5	252010
NDUFAF6	79.3	97.1	85.6	256000
NDUFB11	109.6	94.4	88.0	300952;252010
NDUFB3	22.6	91.9	59.2	252010
NDUFB9	120.1	99.8	97.4	252010
NDUFS1	132.2	99.8	98.6	252010
NDUFS2	117.8	100.0	100.0	252010
NDUFS3	142.4	90.7	90.6	252010;256000

NDUFS4	147.3	100.0	99.1	252010;256000
NDUFS6	119.1	99.9	99.4	252010
NDUFS7	118.4	100.0	99.7	256000
NDUFS8	141.4	100.0	99.9	256000
NDUFV1	136.7	99.7	97.8	252010
NDUFV2	69.5	78.7	53.9	252010
NEB	124.0	82.9	81.9	256030
NECAP1	116.9	100.0	99.9	615833
NECTIN1	145.4	100.0	100.0	225060
NECTIN4	135.8	100.0	100.0	613573
NEDD4L	105.2	71.7	70.5	617201
NEFH	111.6	96.6	87.5	616924
NEFL	164.6	99.7	98.1	617882;607684;607734
NEK1	103.2	98.1	93.0	263520
NEK2	110.4	98.8	93.3	615565
NEK8	171.4	100.0	99.9	613824;615415
NEK9	136.8	99.7	98.5	614262;617022;617025
NEU1	148.1	99.4	97.1	256550
NEUROD1	166.5	100.0	100.0	606394
NEUROG3	119.4	100.0	99.3	610370
NEXMIF	139.2	99.9	99.0	300912
NEXN	79.8	94.2	79.9	613122;613876
NF1	125.9	92.3	89.3	193520;607785;162200;162210;601321
NF2	100.2	100.0	99.9	607174;101000;162091
NFE2L2	180.4	100.0	99.6	617744
NFIA	145.1	100.0	99.3	613735
NFIX	165.3	97.7	94.9	614753;602535
NFKB1	105.3	99.3	96.8	616576
NFKB2	123.3	97.5	92.6	615577
NFKBIA	116.3	98.5	93.8	612132



NFU1	47.7	94.9	77.2	605711
NGF	257.6	100.0	100.0	608654
NGLY1	128.0	100.0	99.5	615273
NHEJ1	80.3	100.0	99.1	611291
NHLRC1	174.2	100.0	100.0	254780
NHP2	111.0	100.0	100.0	613987
NHS	127.1	94.3	93.3	302350;302200
NIN	143.5	99.7	98.6	614851
NIPA1	174.3	99.9	99.1	600363
NIPAL4	157.8	99.4	93.2	612281
NIPBL	116.1	96.5	94.5	122470
NKX2-1	52.0	96.6	83.3	118700;610978
NKX2-5	83.2	100.0	99.5	225250;187500;217095;614432;108900;614435
NKX2-6	104.4	100.0	99.7	217095
NKX3-2	55.8	92.4	73.9	613330
NKX6-2	52.0	79.0	74.5	617560
NLGN4X	193.6	99.4	97.1	300495
NLRC4	179.9	100.0	99.7	616050;616115
NLRP1	126.1	99.0	96.5	617388;615225
NLRP12	165.9	100.0	99.9	611762
NLRP3	150.4	100.0	100.0	617772;120100;191900;148200;607115
NLRP7	135.9	99.8	98.7	231090
NME1	104.2	99.9	99.2	256700
NME8	105.6	97.5	91.0	610852
NMNAT1	137.9	100.0	99.7	608553
NNT	136.9	98.6	97.1	614736
NOBOX	79.9	99.5	97.4	611548
NOD2	135.8	100.0	99.7	186580
NODAL	160.7	100.0	99.9	270100
NOG	191.9	100.0	100.0	185800;611377;186570;184460;186500

NOL3	76.3	93.5	83.9	614937
NONO	93.8	99.7	96.4	300967
NOP10	160.5	100.0	100.0	224230
NOP56	137.3	99.9	98.6	614153
NOTCH1	137.5	99.1	98.0	109730;616028
NOTCH2	172.4	100.0	99.9	102500;610205
NOTCH3	110.6	93.0	88.2	615293;130720;125310
NPC1	147.9	99.2	97.8	257220
NPC2	140.7	100.0	99.9	607625
NPHP1	117.6	98.8	96.4	266900;609583;256100
NPHP3	115.6	99.4	96.1	208540;267010;604387
NPHP4	136.7	99.9	99.3	606996;606966
NPHS1	102.0	99.9	98.9	256300
NPHS2	116.9	99.8	95.9	600995
NPM1	70.3	88.7	77.9	601626
NPPA	115.4	100.0	100.0	612201;615745
NPR2	164.8	100.0	100.0	615923;616255;602875
NPRL2	168.5	100.0	100.0	617116
NPRL3	127.5	100.0	99.7	617118
NR0B1	119.3	99.9	98.6	300018;300200
NR0B2	96.8	100.0	99.8	601665
NR1H4	141.9	96.6	92.2	617049
NR2E3	93.4	99.9	98.9	611131;268100
NR2F1	201.6	99.9	98.4	615722
NR2F2	246.1	98.7	94.3	615779
NR3C1	137.4	100.0	99.8	615962
NR3C2	159.5	99.4	95.9	177735;605115
NR4A3	112.6	99.8	98.0	612237
NR5A1	79.9	100.0	98.3	617480;613957;612965;612964
NRAS	188.4	100.0	100.0	188470;162900;249400;614470;114500;163200;613224;137550

NRL	68.7	99.7	95.8	0;613750
NRXN1	160.9	96.8	95.7	614325
NSD1	155.2	100.0	99.9	117550
NSD3	125.2	100.0	99.6	601626
NSDHL	169.2	99.9	98.2	300831;308050
NSMCE2	100.3	99.0	92.5	617253
NSMCE3	130.0	99.9	98.5	617241
NSMF	78.4	95.7	95.2	614838
NSUN2	114.7	95.3	92.2	611091
NT5C2	125.3	97.1	92.7	613162
NT5C3A	62.0	89.3	78.8	266120
NT5E	166.3	100.0	99.8	211800
NTF4	98.8	99.7	92.1	613100
NTHL1	98.1	99.1	95.7	616415
NTRK1	130.6	99.7	97.7	256800;155240
NTRK2	170.8	100.0	100.0	617830;613886
NUBPL	89.8	92.9	85.9	252010
NUMA1	127.1	100.0	99.5	612376
NUP107	122.9	99.2	94.1	618078;616730
NUP155	115.1	97.6	92.3	615770
NUP205	133.7	98.9	98.0	616893
NUP214	167.3	99.8	99.2	601626;613065
NUP62	111.6	100.0	99.9	271930
NUP93	140.7	97.9	94.9	616892
NUS1	69.6	62.0	40.7	617831;617082
NYX	94.9	98.1	96.0	310500
OAT	89.2	77.7	70.5	258870
OBSL1	140.5	99.8	98.5	612921
OCA2	139.9	99.5	97.9	203200
OCLN	220.7	100.0	100.0	251290

OCRL	122.2	98.8	96.3	300555;309000
OFD1	51.5	84.0	67.8	300424;300209;300804;311200
OGG1	128.5	100.0	99.6	144700
OGT	125.9	100.0	99.4	300997
OPA1	122.5	99.1	94.1	210000;165500;616896;125250
OPA3	128.0	99.5	97.4	258501;165300
OPHN1	89.0	99.1	96.2	300486
OPLAH	109.4	99.4	97.9	260005
OPN1LW	76.6	67.4	61.9	303900;303700
OPN1MW	67.2	68.2	60.4	303800;303700
OPN1SW	130.2	100.0	100.0	190900
OPTN	113.8	100.0	99.4	137760;613435
ORA11	237.3	93.8	89.8	612782;615883
ORC1	106.7	99.9	98.9	224690
ORC4	57.6	95.8	82.0	613800
ORC6	126.8	100.0	100.0	613803
OSBPL2	145.8	100.0	100.0	616340
OSGEP	120.5	100.0	99.6	617729
OSMR	145.9	100.0	99.9	105250
OSTM1	80.7	90.8	88.4	259720
OTC	123.3	99.9	99.4	311250
OTOA	117.3	99.0	96.6	607039
OTOF	131.2	100.0	99.7	601071
OTOG	145.1	99.4	98.2	614945
OTOGL	113.3	98.4	93.9	614944
OTUD6B	123.4	99.9	98.2	617452
OTULIN	149.5	90.5	86.3	617099
OTX2	154.8	100.0	99.8	610125;613986
OVOL2	119.1	96.9	90.6	122000
OXCT1	121.4	99.6	97.8	245050

P2RX2	132.8	99.0	95.5	608224
P2RY12	186.2	100.0	100.0	609821
P3H1	137.0	100.0	99.9	610915
P3H2	100.2	99.2	93.4	614292
P4HA2	158.7	100.0	99.5	617238
P4HB	105.1	94.6	94.4	112240
PABPN1	66.6	62.4	60.5	164300
PACS1	117.4	97.5	95.7	615009
PACS2	150.7	98.4	95.9	618067
PADI3	148.5	100.0	100.0	191480
PADI6	110.5	100.0	99.0	617234
PAFAH1B1	105.2	89.1	81.4	607432
PAH	151.7	100.0	100.0	261600
PAK3	82.8	97.6	91.8	300558
PALB2	152.6	100.0	99.7	610832
PAM16	50.7	65.2	64.7	613320
PANK2	146.6	99.3	93.1	234200;607236
PAPSS2	108.5	99.7	98.5	612847
PARK7	86.9	100.0	99.0	606324
PARN	128.4	99.9	98.0	616371;616353
PATL2	107.8	99.9	99.2	617743
PAX1	132.4	87.7	82.4	615560
PAX2	168.5	99.9	99.3	120330;616002
PAX3	118.5	100.0	100.0	193500;148820;268220;122880
PAX4	96.6	99.9	98.8	612225;125853
PAX6	119.9	100.0	99.9	106210;120430;120200;148190;136520;604229;165550
PAX7	117.8	100.0	100.0	268220
PAX8	94.1	100.0	99.9	218700
PAX9	238.8	99.6	99.3	604625
PBX1	111.8	99.3	95.2	617641

PC	149.3	97.7	94.6	266150
PCBD1	113.3	99.5	99.1	264070
PCCA	103.1	96.4	89.2	606054
PCCB	129.8	98.7	96.4	606054
PCDH12	206.7	100.0	100.0	251280
PCDH15	153.9	99.0	98.0	602083;609533;601067
PCDH19	224.1	100.0	99.3	300088
PCK1	143.0	100.0	100.0	261680
PCLO	165.2	99.7	98.5	608027
PCNA	92.1	100.0	98.2	615919
PCNT	117.6	98.9	96.0	210720
PCSK1	147.2	100.0	99.0	600955
PCSK9	99.3	94.3	91.3	603776
PCYT1A	113.5	98.3	94.7	608940
PDCD10	85.1	96.3	88.0	603285
PDE10A	119.8	81.2	80.8	616921;616922
PDE11A	168.9	99.9	98.9	610475
PDE3A	124.5	99.9	98.8	112410
PDE4D	101.2	92.8	88.3	614613
PDE6A	125.8	100.0	99.8	613810
PDE6B	147.9	100.0	100.0	613801;163500
PDE6C	137.0	99.0	96.7	613093
PDE6D	106.1	100.0	99.9	615665
PDE6G	95.3	99.5	96.3	613582
PDE6H	68.4	97.6	77.0	610024
PDE8B	111.0	99.9	98.9	609161;614190
PDGFB	95.1	100.0	100.0	607907;607174;615483
PDGFRA	148.3	100.0	100.0	607685;606764
PDGFRB	147.1	99.1	96.5	616592;601812;228550;615007
PDGFRL	158.7	100.0	100.0	114550;114500

PDHA1	109.8	98.1	92.1	312170
PDHB	133.0	99.3	96.8	614111
PDHX	132.5	98.9	94.6	245349
PDK3	105.1	96.4	94.3	300905
PDP1	209.6	100.0	100.0	608782
PDSS1	116.7	88.8	78.7	614651
PDSS2	126.8	96.5	93.5	614652
PDX1	35.4	89.0	72.1	260370;606392
PDYN	107.1	100.0	99.9	610245
PDZD7	80.9	98.4	93.9	618003;605472
PEPD	116.0	99.6	98.5	170100
PER2	95.7	100.0	99.6	604348
PER3	170.7	99.2	95.8	616882
PET100	94.5	88.8	74.8	220110
PEX1	115.8	97.7	95.4	214100;234580;601539
PEX10	111.8	96.1	90.1	614870;614871
PEX11B	105.7	99.7	98.3	614920
PEX12	168.3	100.0	100.0	614859;266510
PEX13	197.6	99.8	98.7	614883;614885
PEX14	149.0	99.7	97.5	614887
PEX16	137.0	97.1	93.1	614876;614877
PEX19	92.9	99.9	99.2	614886
PEX2	147.1	100.0	100.0	614867;614866
PEX26	76.4	100.0	99.8	614872;614873
PEX3	98.1	99.1	94.3	617370;614882
PEX5	111.7	99.9	98.3	616716;202370;214110
PEX6	94.5	90.4	86.1	616617;614862;614863
PEX7	113.5	89.6	82.0	614879;215100
PFKM	150.4	100.0	99.8	232800
PFN1	152.0	100.0	100.0	614808

PGAM2	170.9	100.0	99.9	261670
PGAP1	98.1	94.9	88.6	615802
PGAP2	158.4	100.0	100.0	614207
PGAP3	72.8	62.5	58.0	615716
PGK1	54.5	93.3	81.6	300653
PGM1	133.6	100.0	99.9	614921
PGM3	191.4	99.9	99.7	615816
PHC1	234.9	100.0	99.9	615414
PHEX	125.0	99.9	98.0	307800
PHF6	62.8	92.6	83.7	301900
PHF8	94.0	99.8	97.7	300263
PHGDH	115.6	100.0	99.8	601815;256520
PHIP	124.5	95.9	91.0	617991
PHKA1	106.7	98.9	95.3	300559
PHKA2	108.2	100.0	99.5	306000
PHKB	130.4	99.8	97.5	261750
PHKG2	159.1	100.0	100.0	0;613027
PHOX2A	29.9	59.9	32.6	602078
PHOX2B	92.9	93.0	87.2	209880;613013
PHYH	74.6	97.5	90.8	266500
PI4KA	112.8	93.6	89.4	616531
PIBF1	66.0	96.6	82.4	617767
PICALM	106.1	99.9	96.1	601626
PIEZO1	140.2	99.5	97.4	194380;616843
PIEZO2	126.1	99.9	99.2	108145;617146;114300;248700
PIGA	90.5	90.4	81.3	300868;300818
PIGC	129.0	99.7	96.4	617816
PIGG	167.4	100.0	99.7	616917
PIGH	96.5	77.8	68.5	618010
PIGL	121.8	99.9	99.3	280000



PIGM	165.4	100.0	100.0	610293
PIGN	111.3	92.6	87.1	614080
PIGO	147.0	100.0	99.9	614749
PIGP	101.4	91.6	83.8	617599
PIGT	171.3	98.1	98.0	615399;615398
PIGV	145.5	100.0	100.0	239300
PIGW	147.6	100.0	99.9	616025
PIGY	121.4	100.0	99.9	616809
PIH1D3	70.5	94.3	79.6	300991
PIK3CA	120.7	99.9	99.1	114480;162900;613659;114550;211980;612918;114500;167000;615108;182000;602501
PIK3CD	132.7	99.2	96.8	615513
PIK3R1	129.3	99.7	97.3	615214;616005;269880
PIK3R2	86.2	89.1	86.1	603387
PIK3R5	110.1	100.0	99.8	615217
PIKFYVE	141.6	99.8	98.4	121850
PINK1	90.3	87.2	81.1	605909
PIP5K1C	107.6	96.3	95.1	611369
PITPNM3	117.2	99.0	97.8	600977
PITX1	144.6	91.4	86.8	119800
PITX2	147.8	99.7	97.5	137600;180500;180550
PITX3	40.2	95.6	82.8	610623;107250
PKD1	28.1	42.6	34.5	173900
PKD1L1	123.8	100.0	99.6	617205
PKD2	110.6	89.3	84.2	613095
PKHD1	154.9	100.0	99.7	263200
PKLR	178.8	100.0	100.0	266200;102900
PKP1	122.0	99.9	98.5	604536
PKP2	99.6	94.6	87.7	609040
PLA2G4A	134.3	99.9	98.8	-
PLA2G6	117.5	99.9	98.4	256600;610217;612953

PLA2G7	125.6	99.9	97.2	614278
PLAA	169.4	100.0	99.1	617527
PLAG1	219.1	100.0	100.0	181030
PLAU	111.4	99.8	98.4	601709
PLCB1	142.8	100.0	99.7	613722
PLCB4	126.1	99.2	95.7	614669
PLCD1	116.9	99.5	97.1	151600
PLCE1	155.3	99.5	98.9	610725
PLCG2	118.9	100.0	99.8	614878;614468
PLCZ1	67.1	96.8	85.1	617214
PLD1	125.2	99.9	99.1	212093
PLD3	157.2	100.0	99.3	617770
PLEC	114.1	99.7	98.7	612138;613723;226670;131950;616487
PLEKHG2	131.7	99.8	97.9	616763
PLEKHG5	86.9	96.2	89.0	611067;615376
PLEKHM1	141.1	100.0	99.9	611497
PLG	115.4	87.8	87.0	217090
PLIN1	81.0	96.2	88.4	613877
PLK4	145.5	99.5	96.3	616171
PLN	209.7	100.0	100.0	609909;613874
PLOD1	137.9	99.8	97.5	225400
PLOD2	108.6	94.7	88.6	609220
PLOD3	100.1	99.0	96.3	612394
PLP1	129.2	100.0	99.4	312920;312080
PLPBP	112.6	99.1	92.6	617290
PLPP6	164.4	96.6	84.4	611666
PLS3	131.5	96.8	95.2	300910
PML	124.4	100.0	99.9	-
PMM2	141.1	99.9	99.4	212065
PMP22	111.2	96.7	91.9	139393;118300;118220;145900;162500;180800

PMPCA	120.8	99.4	96.8	213200
PMPCB	121.0	99.7	97.8	617954
PMS2	95.1	83.5	80.7	276300;614337
PMVK	125.3	100.0	99.9	175800
PNKD	99.8	100.0	99.2	118800
PNKP	93.0	99.8	97.7	616267;613402
PNLIP	160.5	99.5	95.6	614338
PNP	151.4	100.0	99.5	613179
PNPLA1	192.6	100.0	100.0	615024
PNPLA2	113.2	99.7	97.4	610717
PNPLA6	122.1	99.7	98.5	275400;612020;215470;245800
PNPLA8	114.4	100.0	99.7	251950
PNPO	66.4	100.0	98.3	610090
PNPT1	53.7	93.3	80.9	614934;614932
POC1A	133.8	100.0	100.0	614813
POC1B	78.7	98.0	94.2	615973
POF1B	74.9	90.9	81.0	300604
POFUT1	139.4	99.9	97.5	615327
POGLUT1	117.4	98.2	93.8	617232;615696
POGZ	168.2	99.4	99.2	616364
POLA1	110.7	98.2	92.8	301220
POLD1	101.2	93.9	90.8	615381
POLE	144.1	100.0	99.5	615139
POLG	114.4	100.0	99.5	607459;613662;203700;157640;258450
POLG2	157.5	98.8	96.8	610131
POLH	140.7	100.0	99.8	278750
POLR1A	120.1	99.9	99.1	616462
POLR1C	117.0	99.7	96.1	616494;248390
POLR1D	176.2	91.6	91.6	613717
POLR3A	137.4	100.0	99.9	607694

POLR3B	146.4	99.9	98.5	614381
POMC	116.2	100.0	100.0	609734
POMGNT1	127.6	99.7	97.1	613151;617123;613157;253280
POMGNT2	259.6	100.0	100.0	614830
POMK	205.1	100.0	100.0	616094;615249
POMP	114.4	95.2	87.5	618048;601952
POMT1	155.7	99.7	98.1	236670;609308;613155
POMT2	111.1	98.9	97.5	613150;613156;613158
POP1	114.2	100.0	99.7	617396
POR	167.7	99.9	98.7	201750;613571
PORCN	117.7	100.0	99.3	305600
POU1F1	106.3	98.2	94.7	613038
POU3F4	151.0	100.0	99.9	304400
POU4F3	298.1	100.0	100.0	602459
PPA2	80.4	94.6	82.5	617223;617222
PPARG	153.9	100.0	99.9	604367;609338;601665
PPIB	118.4	100.0	100.0	259440
PPM1D	166.7	100.0	99.8	114480;617450
PPM1K	180.0	100.0	100.0	615135
PPOX	96.1	99.7	98.2	176200
PPP1CB	96.6	99.6	98.4	617506
PPP1R15B	133.4	99.4	98.0	616817
PPP1R3A	146.5	99.5	98.0	125853
PPP2R1A	134.0	91.7	91.6	616362
PPP2R1B	156.0	100.0	99.8	211980
PPP2R2B	141.9	99.7	97.3	604326
PPP2R5D	143.2	100.0	99.8	616355
PPP3CA	123.8	99.0	92.9	617711
PPT1	144.5	90.0	87.3	256730
PQBP1	186.1	100.0	100.0	309500

PRCC	146.6	99.8	97.9	605074
PRCD	89.4	100.0	99.9	610599
PRDM12	112.2	91.0	87.7	616488
PRDM16	161.5	100.0	99.1	615373
PRDM5	129.4	99.5	95.5	614170
PRDM6	108.3	92.8	79.0	617039
PRDM8	81.2	92.0	85.1	616640
PRDX1	115.0	100.0	99.6	277400
PREPL	107.6	99.5	95.9	616224
PRF1	122.5	91.2	90.8	609135;603553;605027
PRG4	144.6	97.6	88.4	208250
PRICKLE1	117.3	100.0	100.0	612437
PRIMPOL	110.1	95.7	90.1	615420
PRKACA	97.4	78.9	76.9	615830
PRKACG	217.6	100.0	99.9	616176
PRKAG2	125.6	98.1	91.6	261740;600858;194200
PRKAR1A	90.7	99.1	93.9	0;255960;160980;101800;610489
PRKCA	150.1	100.0	100.0	-
PRKCD	181.2	100.0	99.9	615559
PRKCG	116.1	99.0	94.5	605361
PRKCSH	135.2	99.7	96.3	174050
PRKD1	145.3	97.4	94.8	617364
PRKDC	106.7	98.4	94.8	615966
PRKG1	123.4	98.7	95.4	615436
PRKN	98.6	79.6	78.8	600116;211980;167000
PRKRA	179.6	99.8	98.4	612067
PRLR	151.2	100.0	99.9	615555;615554
PRMT7	138.7	100.0	99.8	617157
PRNP	153.4	100.0	100.0	603218;123400;600072;606688;137440
PROC	138.5	99.7	97.2	176860;612304

PRODH	83.8	84.9	82.3	239500
PROK2	105.6	98.4	91.9	610628
PROKR2	331.8	100.0	100.0	244200
PROM1	112.3	95.4	92.8	608051;612095;603786;612657
PROP1	76.5	91.6	84.3	262600
PROS1	101.4	96.8	91.4	612336;614514
PRPF3	86.0	98.8	96.0	601414
PRPF31	115.9	97.5	92.0	600138
PRPF4	149.4	100.0	99.4	615922
PRPF6	130.3	100.0	100.0	613983
PRPF8	139.0	99.9	99.0	600059
PRPH2	244.1	100.0	100.0	608133;136880;169150;608161;613105
PRPS1	149.5	100.0	100.0	301835;311070;304500;300661
PRRT2	78.9	99.9	98.4	128200;602066;605751
PRRX1	100.2	100.0	99.9	202650
PRSS1	190.8	100.0	99.9	167800
PRSS12	153.3	99.9	98.5	249500
PRSS56	51.5	96.6	83.8	613517
PRUNE1	136.1	100.0	100.0	617481
PRX	115.6	99.8	98.3	145900;614895
PSAP	114.4	99.9	99.0	610539;249900;611722;611721
PSAT1	53.2	91.4	75.8	610992;616038
PSEN1	160.7	100.0	99.9	613737;172700;607822;600274;613694
PSEN2	123.9	100.0	100.0	613697;606889
PSENEEN	67.6	100.0	98.4	613736
PSMB4	122.5	100.0	99.2	617591
PSMB8	118.7	100.0	99.8	256040
PSMB9	85.6	99.5	95.7	617591
PSMC3IP	113.4	99.9	99.7	614324
PSMD12	76.3	98.1	90.9	617516

PSPH	128.9	98.8	95.4	614023
PSTPIP1	88.2	99.7	97.7	604416
PTCH1	114.6	98.4	95.9	109400;605462;610828
PTCH2	120.1	99.4	97.5	155255;109400;605462
PTDSS1	127.2	100.0	100.0	151050
PTEN	143.2	99.6	96.0	0;276950;605309;158350;153480
PTF1A	74.0	88.4	78.1	609069;615935
PTGIS	126.7	96.7	94.6	145500
PTH	103.5	99.9	97.6	146200
PTH1R	108.5	99.9	98.8	156400;215045;125350;600002
PTHLH	120.5	99.4	93.2	613382
PTPN11	103.1	97.9	92.5	607785;163950;156250;151100
PTPN12	144.8	97.7	94.8	114500
PTPN14	175.7	99.4	96.4	613611
PTPRC	101.6	93.9	86.3	608971
PTPRF	170.9	100.0	99.9	616001
PTPRJ	169.0	97.2	96.1	114500
PTPRO	140.8	99.9	99.0	614196
PTPRQ	104.7	93.3	89.1	613391;617663
PTRH2	279.6	100.0	100.0	616263
PTS	107.2	99.6	94.1	261640
PUF60	173.4	99.9	98.3	615583
PUM1	158.0	100.0	99.9	617931
PURA	121.8	94.5	87.2	616158
PUS1	127.2	98.6	93.9	600462
PUS3	192.0	100.0	100.0	617051
PXDN	163.8	99.8	98.5	269400
PYCR1	86.3	99.4	94.3	614438;612940
PYCR2	127.6	100.0	97.6	616420
PYGL	158.6	100.0	100.0	232700

PYGM	127.1	100.0	99.9	232600
PYROXD1	48.4	85.5	70.6	617258
QARS	166.6	100.0	100.0	615760
QDPR	92.3	100.0	99.5	261630
QRICH1	165.9	99.9	98.9	617982
RAB11B	249.8	100.0	100.0	617807
RAB18	82.7	97.1	86.4	614222
RAB23	110.3	99.7	98.0	201000
RAB27A	143.9	100.0	99.9	607624
RAB28	52.1	96.5	87.1	615374
RAB33B	233.9	100.0	100.0	615222
RAB39B	113.0	100.0	99.7	311510;300271
RAB3GAP1	124.2	99.4	98.8	600118
RAB3GAP2	94.1	98.4	93.9	614225;212720
RAB7A	157.9	100.0	100.0	600882
RAC1	117.9	97.6	92.8	617751
RAC2	104.1	100.0	99.4	608203
RAD21	78.5	98.8	94.7	614701
RAD50	99.0	92.6	86.2	613078
RAD51	123.2	89.4	89.4	614508;617244
RAD51C	143.4	100.0	98.9	613390
RAD54B	104.6	99.0	93.9	605027;114500
RAD54L	123.6	100.0	99.2	0;605027
RAF1	127.3	100.0	99.7	611554;611553;615916
RAG1	206.9	100.0	100.0	233650;603554;601457;609889
RAG2	221.0	100.0	100.0	233650;603554;601457
RAI1	146.3	100.0	99.7	182290
RAP1GDS1	96.2	99.3	93.5	-
RAPGEF2	157.3	99.0	97.5	618075
RAPSN	140.5	99.6	96.3	208150;616326



RARB	118.7	100.0	100.0	615524
RARS	86.4	92.7	85.9	616140
RARS2	107.2	100.0	99.1	611523
RASA1	96.9	95.6	84.6	608354;608355;605462
RASGRP2	97.5	99.9	98.6	615888
RAX	82.5	88.7	77.3	611038
RAX2	52.2	91.0	67.8	613757;610381
RB1	88.0	90.1	76.3	180200;109800;182280;259500
RB1CC1	111.6	96.8	91.0	114480
RBBP8	110.7	99.6	96.4	0;251255;606744
RBCK1	104.1	99.2	94.9	615895
RBM10	112.1	99.4	95.4	311900
RBM20	180.9	99.2	96.6	613172
RBM28	138.7	100.0	100.0	612079
RBM8A	106.6	100.0	99.4	274000
RBMX	52.9	94.0	82.1	300238
RBP3	155.2	100.0	100.0	615233
RBP4	99.6	99.4	96.1	615147;616428
RBPJ	89.2	94.1	86.4	614814
RCBTB1	123.7	100.0	99.7	617175
RD3	161.6	100.0	99.9	610612
RDH11	119.2	100.0	99.9	616108
RDH12	94.4	100.0	98.4	612712
RDH5	160.2	100.0	99.7	136880
RDX	43.2	84.7	64.8	611022
RECQL4	149.6	99.2	96.5	218600;268400;266280
REEP1	78.3	76.3	75.7	610250;614751
REEP2	135.1	98.7	96.1	615625
REEP6	171.8	99.4	96.4	617304
RELB	90.6	87.9	75.1	617585

RELN	155.6	100.0	99.8	257320
REN	148.9	100.0	100.0	613092;267430
REPS1	123.0	96.0	93.5	617916
RERE	71.4	94.9	88.2	616975
REST	128.6	98.5	98.4	617626
RET	141.0	99.7	97.8	171400;171300;209880;162300;155240
RETREG1	126.1	95.6	90.1	613115
RFT1	108.3	99.8	97.3	612015
RFWD3	139.2	99.8	98.9	617784
RFX5	116.9	98.7	96.3	209920
RFX6	153.9	100.0	99.6	615710
RFXANK	105.9	100.0	100.0	209920
RFXAP	84.8	94.4	91.6	209920
RGR	126.8	100.0	99.4	613769
RGS9	101.4	98.5	97.2	608415
RGS9BP	93.9	100.0	99.6	608415
RHAG	151.4	100.0	99.2	185000;268150
RHBDF2	97.7	99.5	97.0	148500
RHCE	216.6	97.7	97.2	617970
RHO	210.1	100.0	100.0	136880;613731;610445
RHOBTB2	227.5	100.0	100.0	618004
RIMS1	126.6	98.8	96.0	603649
RIN2	113.4	100.0	99.9	613075
RIPK4	163.3	100.0	99.6	263650
RIPOR2	121.4	100.0	99.9	616515
RIPPLY2	63.5	99.0	83.8	616566
RIT1	165.6	100.0	100.0	615355
RLBP1	144.8	100.0	100.0	607476;607475;136880
RLIM	149.6	99.6	97.8	300978
RMND1	137.2	99.8	97.3	614922

RMRP				250460;250250;607095
RNASEH1	98.6	99.1	95.6	616479
RNASEH2A	142.1	100.0	99.9	610333
RNASEH2B	103.8	93.2	87.5	610181
RNASEH2C	209.2	100.0	99.9	610329
RNASEL	147.9	100.0	99.6	601518
RNASET2	96.4	91.9	88.3	612951
RNF113A	144.8	100.0	100.0	300953
RNF125	177.8	100.0	99.1	616260
RNF135	96.0	94.0	91.6	614192
RNF139	223.5	100.0	100.0	144700
RNF168	215.3	100.0	99.1	611943
RNF170	147.1	98.3	91.2	608984
RNF212	118.7	99.1	96.9	612042
RNF216	137.1	99.8	98.6	212840
RNF43	126.5	100.0	99.6	617108
RNF6	195.4	100.0	99.4	133239
RNU4ATAC				616651;210710
ROBO2	155.2	97.9	96.7	610878
ROBO3	99.7	98.7	95.6	607313
ROGDI	112.2	97.9	95.3	226750
ROM1	115.0	100.0	99.4	608133
ROR1	177.5	96.8	96.8	617654
ROR2	165.9	99.4	98.0	113000;268310
RORA	129.8	92.1	87.7	618060
RORC	132.3	100.0	100.0	616622
RP1	121.8	91.4	90.3	180100
RP1L1	94.8	100.0	99.8	613587
RP2	180.0	100.0	98.9	312600
RP9	62.9	77.8	76.0	180104

RPE65	130.3	100.0	99.3	204100;613794
RPGR	91.8	83.1	73.8	300455;300834;304020;300029
RPGRIP1	154.2	100.0	99.9	613826;608194
RPGRIP1L	126.2	96.4	93.9	611561;611560;216360
RPIA	113.1	94.3	90.9	608611
RPL10	85.9	99.1	93.1	300998
RPL11	99.8	100.0	99.5	612562
RPL15	41.6	88.3	81.2	615550
RPL21	64.7	79.0	57.4	615885
RPL26	46.8	94.8	83.7	614900
RPL27	39.3	80.4	58.3	617408
RPL35A	83.9	99.2	91.0	612528
RPL5	43.8	81.8	69.3	612561
RPS10	140.1	99.8	97.1	613308
RPS14	133.3	99.7	96.2	153550
RPS17	52.4	85.0	73.7	612527
RPS19	82.5	99.7	95.5	105650
RPS23	63.2	90.3	82.2	617412
RPS24	110.4	92.4	87.2	610629
RPS26	106.8	94.8	82.1	613309
RPS27	39.7	86.7	60.3	617409
RPS28	47.7	100.0	92.0	606164
RPS29	106.2	97.9	96.6	615909
RPS6KA3	79.3	94.2	83.3	303600;300844
RPS7	93.7	76.9	63.4	612563
RPSA	88.8	100.0	99.7	271400
RRAS2	73.4	86.9	70.3	-
RRM2B	128.6	99.7	97.5	612075;613077
RS1	60.0	97.8	88.3	312700
RSPH1	146.1	100.0	100.0	615481

RSPH3	132.5	99.7	97.5	616481
RSPH4A	139.0	98.3	96.5	612649
RSPH9	127.4	100.0	99.6	612650
RSPO1	109.7	100.0	100.0	610644
RSPO2	127.1	98.9	95.2	618021;618022
RSPO4	107.2	100.0	100.0	206800
RSPRY1	168.9	100.0	99.9	616723
RTEL1	110.9	99.2	95.1	616373;615190
RTN2	104.8	99.2	96.7	604805
RTN4IP1	98.1	99.9	99.1	616732
RTTN	129.5	97.2	94.7	614833
RUBCN	104.1	98.0	97.5	615705
RUNX1	92.0	97.2	89.7	601626;601399
RUNX2	106.4	72.3	72.2	156510;119600
RUSC2	182.3	100.0	99.9	617773
RYR1	120.7	96.8	93.7	117000;145600;255320
RYR2	142.2	99.7	98.4	600996;604772
S1PR2	278.0	97.4	92.7	610419
SACS	154.5	100.0	99.7	270550
SAG	131.3	100.0	99.9	613758;258100
SALL1	138.5	99.3	98.4	107480
SALL2	138.9	100.0	100.0	216820
SALL4	147.5	97.6	96.3	607323;147750
SAMD12	161.6	100.0	99.9	601068
SAMD9	159.1	99.9	99.3	610455;617053
SAMD9L	165.7	100.0	99.9	159550
SAMHD1	127.9	99.6	96.6	612952;614415
SAR1B	125.0	89.8	88.9	246700
SARS	113.7	100.0	99.7	617709
SARS2	104.8	94.8	92.7	613845

SASS6	62.9	97.6	84.1	616402
SATB2	110.5	98.5	93.4	612313
SBDS	212.3	100.0	99.9	260400
SBF1	107.9	98.5	96.5	615284
SBF2	117.0	99.6	96.8	604563
SC5D	198.4	100.0	99.2	607330
SCARB2	121.2	100.0	99.9	254900
SCARF2	82.5	85.2	73.6	600920
SCN10A	165.3	100.0	99.5	615551
SCN11A	138.1	99.2	97.6	615552;615548
SCN1A	135.2	99.6	98.0	609634;607208;604403
SCN1B	168.3	97.1	96.1	617350;615377;612838;604233
SCN2A	156.7	99.0	96.4	607745;613721
SCN2B	185.8	100.0	100.0	615378
SCN3A	166.0	99.3	97.5	617938;617935
SCN3B	147.3	100.0	100.0	613120
SCN4A	214.0	99.9	99.5	168300;170500;614198;608390;613345
SCN4B	77.5	100.0	97.9	611819
SCN5A	169.4	99.0	99.0	603829;614022;601154;601144;608567;113900;603830
SCN8A	198.3	100.0	99.7	614306;617080;614558
SCN9A	146.5	98.5	97.0	167400;133020;243000;613863
SCNN1A	134.3	99.0	96.3	613021;264350
SCNN1B	148.9	100.0	99.8	211400;264350;177200
SCNN1G	139.4	99.7	97.1	613071;264350;177200
SCO1	109.6	97.9	94.3	220110
SCO2	113.1	100.0	100.0	608908;604377
SCP2	106.9	99.6	96.5	613724
SCYL1	143.2	98.6	96.3	616719
SDCCAG8	123.9	99.8	97.4	613615;615993
SDHA	122.2	84.8	80.8	252011;614165;256000;613642

SDHAF1	42.5	100.0	96.2	252011
SDHAF2	144.3	94.7	94.3	601650
SDHB	120.3	100.0	99.3	171300;115310;606864;606444
SDHC	100.1	99.8	96.8	605373;606864;606764
SDHD	48.4	55.2	50.4	171300;252011;606864;168000
SDR9C7	198.3	100.0	100.0	617574
SEC23A	121.8	98.0	94.6	607812
SEC23B	161.1	97.5	96.4	616858;224100
SEC24D	136.9	99.9	98.6	616294
SEC61A1	132.9	100.0	100.0	617056
SEC63	60.8	85.4	75.7	617004
SECISBP2	122.5	98.3	95.3	609698
SELENON	111.7	85.2	83.3	255310;602771
SEMA3E	142.6	99.9	99.0	214800
SEMA4A	127.5	99.9	98.9	610283;610282
SEPSECS	159.3	100.0	100.0	613811
SEPT12	105.0	97.4	93.8	614822
SEPT9	118.7	99.7	96.8	162100
SERAC1	112.5	98.8	94.6	614739
SERPINA1	141.1	100.0	99.9	613490
SERPINA3	152.8	100.0	100.0	-
SERPINA6	190.9	100.0	100.0	611489
SERPINB6	164.1	95.9	95.9	613453
SERPINB7	127.4	100.0	99.5	615598
SERPINB8	151.6	95.0	95.0	617115
SERPINC1	143.1	100.0	100.0	613118
SERPIND1	181.8	100.0	100.0	612356
SERPINE1	155.0	100.0	100.0	613329
SERPINF1	101.8	100.0	99.4	613982
SERPINF2	143.8	99.9	99.3	262850

SERPING1	97.9	97.3	92.6	106100;120790
SERPINH1	183.7	100.0	99.9	613848
SERPINI1	105.2	99.9	96.9	604218
SETBP1	151.7	97.6	96.1	269150;616078
SETD2	147.8	100.0	99.6	616831
SETD5	184.5	100.0	99.7	615761
SETX	163.2	99.9	99.1	606002;602433
SF3B1	128.7	99.3	97.5	614286
SF3B4	89.5	99.8	97.7	154400
SFRP4	164.1	100.0	98.5	265900
SFTPA2	167.9	100.0	99.1	178500
SFTPBB	99.4	99.9	98.7	265120
SFTPC	102.6	99.8	95.6	610913
SFXN4	131.7	100.0	99.1	615578
SGCA	147.3	100.0	99.7	608099
SGCB	154.2	96.6	94.2	604286
SGCD	94.8	100.0	99.4	606685;601287
SGCE	88.9	93.7	90.0	159900
SGCG	138.7	100.0	100.0	253700
SGO1	94.8	98.0	94.3	616201
SGPL1	164.1	100.0	100.0	617575
SGSH	129.0	95.1	93.6	252900
SH2B3	97.5	90.7	79.0	133100;187950;254450
SH2D1A	104.7	89.9	89.4	308240
SH3BP2	110.9	91.4	91.4	118400
SH3PXD2B	140.2	100.0	99.8	249420
SH3TC2	121.3	100.0	99.7	613353;601596
SHANK3	84.8	81.2	73.5	606232
SHH	117.5	99.0	94.0	269160;142945;147250;611638
SHOC2	140.4	100.0	99.4	607721



SHOX	29.1	73.5	61.4	249700;127300;300582
SHROOM4	100.8	99.8	98.2	300434
SI	98.1	96.2	87.1	222900
SIGMAR1	148.5	100.0	100.0	605726;614373
SIK1	85.6	97.0	92.4	616341
SIL1	154.4	99.8	98.0	248800
SIM1	151.4	100.0	99.8	601665
SIN3A	137.9	100.0	99.4	613406
SIPA1L3	140.8	99.7	98.6	616851
SIX1	117.3	99.7	97.6	608389;605192
SIX3	145.3	100.0	98.9	269160;157170
SIX5	43.8	88.3	76.1	610896
SIX6	228.6	100.0	100.0	212550
SKI	85.3	96.4	90.8	182212
SKIV2L	149.1	100.0	99.8	614602
SLC10A2	151.0	100.0	100.0	613291
SLC11A2	135.2	100.0	99.3	206100
SLC12A1	172.7	99.8	99.1	601678
SLC12A3	139.3	100.0	100.0	263800
SLC12A5	125.9	85.4	81.6	616645
SLC12A6	141.8	100.0	99.9	218000
SLC13A5	164.1	100.0	100.0	615905
SLC16A1	157.1	99.9	98.8	616095;610021;245340
SLC16A12	164.4	100.0	99.9	612018
SLC16A2	60.3	92.8	82.1	300523
SLC17A5	119.6	96.8	92.9	269920;604369
SLC17A8	132.7	100.0	100.0	605583
SLC17A9	111.5	95.6	95.6	616063
SLC18A2	126.5	100.0	99.2	618049
SLC18A3	276.6	100.0	100.0	617239

SLC19A2	119.5	99.8	97.8	249270
SLC19A3	186.4	100.0	99.9	607483
SLC1A1	174.2	100.0	99.9	222730
SLC1A2	128.0	99.9	99.4	617105
SLC1A3	121.9	100.0	99.8	612656
SLC1A4	156.5	98.9	94.9	616657
SLC20A2	119.0	99.7	97.3	213600
SLC22A12	105.7	100.0	99.7	220150
SLC22A18	85.1	92.8	81.7	114480;211980;268210
SLC22A5	153.3	100.0	100.0	212140
SLC24A1	218.5	100.0	100.0	613830
SLC24A4	126.8	99.6	97.3	615887
SLC24A5	114.5	99.6	97.7	113750
SLC25A1	71.0	92.2	87.0	615182
SLC25A12	150.5	99.8	98.4	612949
SLC25A13	110.7	95.7	92.3	605814;603471
SLC25A15	192.5	98.8	95.0	238970
SLC25A19	88.6	99.9	98.3	607196;613710
SLC25A20	110.3	100.0	99.7	212138
SLC25A22	108.7	99.5	96.9	609304
SLC25A24	115.8	98.6	96.3	612289
SLC25A26	98.0	98.9	96.0	616794
SLC25A3	139.0	99.8	97.6	610773
SLC25A32	117.0	100.0	100.0	616839
SLC25A38	111.4	99.8	98.1	205950
SLC25A4	134.1	100.0	100.0	615418;617184;609283
SLC25A46	205.7	95.9	87.3	616505
SLC26A1	139.8	100.0	99.9	167030
SLC26A2	233.2	100.0	100.0	222600;256050;600972;226900
SLC26A3	156.1	99.9	98.9	214700

SLC26A4	123.3	99.9	99.1	274600;600791
SLC26A5	150.9	98.7	95.8	613865
SLC26A8	138.9	100.0	99.3	606766
SLC27A4	155.8	99.6	97.9	608649
SLC29A3	203.6	99.9	99.5	602782
SLC2A1	190.1	92.9	92.8	612126;608885;601042;606777
SLC2A10	166.4	97.7	97.6	208050
SLC2A2	178.4	100.0	99.9	227810
SLC2A9	119.0	99.2	96.2	612076
SLC30A10	164.4	100.0	100.0	613280
SLC30A2	146.1	100.0	99.6	608118
SLC30A9	81.2	96.0	88.3	617595
SLC33A1	140.9	96.8	90.1	614482;612539
SLC34A1	153.2	100.0	99.5	612286;616963;613388
SLC34A2	169.1	100.0	100.0	265100
SLC34A3	105.6	98.9	94.5	241530
SLC35A1	124.0	99.9	97.7	603585
SLC35A2	108.8	99.7	96.8	300896
SLC35A3	50.2	78.1	71.9	615553
SLC35C1	230.2	99.9	98.4	266265
SLC35D1	115.4	95.7	90.4	269250
SLC36A2	123.9	100.0	100.0	242600;138500
SLC37A4	140.2	100.0	99.9	232240;232220
SLC38A8	76.4	99.4	95.8	609218
SLC39A13	114.8	99.8	98.0	612350
SLC39A14	107.7	99.8	97.9	144755;617013
SLC39A4	81.8	99.2	96.0	201100
SLC39A5	119.3	100.0	99.2	615946
SLC39A8	128.5	100.0	99.7	616721
SLC3A1	162.8	100.0	99.5	220100

SLC40A1	155.7	99.9	99.4	606069
SLC44A4	122.9	100.0	99.9	617606
SLC45A1	120.7	100.0	99.2	617532
SLC45A2	148.1	100.0	99.9	606574
SLC46A1	106.0	99.4	96.4	229050
SLC4A1	140.0	100.0	99.9	612653;166900;611590;179800;185020
SLC4A11	153.0	100.0	99.7	217700;217400;613268
SLC4A4	122.3	99.0	97.1	604278
SLC52A1	219.3	100.0	100.0	615026
SLC52A2	177.6	100.0	100.0	614707
SLC52A3	119.6	100.0	100.0	211500;211530
SLC5A1	140.0	100.0	100.0	606824
SLC5A2	118.7	100.0	100.0	233100
SLC5A5	93.9	99.7	96.8	274400
SLC5A7	117.1	100.0	99.9	617143;158580
SLC6A1	143.6	100.0	100.0	616421
SLC6A17	189.8	100.0	100.0	616269
SLC6A19	149.1	100.0	99.3	242600;138500;234500
SLC6A2	149.9	100.0	99.8	604715
SLC6A20	178.6	100.0	99.9	242600;138500
SLC6A3	145.7	100.0	99.8	613135
SLC6A5	136.5	100.0	99.7	614618
SLC6A8	56.5	89.8	79.1	300352
SLC6A9	161.2	100.0	99.4	617301
SLC7A14	191.9	100.0	100.0	615725
SLC7A7	123.9	100.0	99.9	222700
SLC7A9	125.5	99.9	99.0	220100
SLC9A1	160.9	100.0	100.0	616291
SLC9A3	147.1	98.7	96.9	616868
SLC9A3R1	111.5	99.5	96.0	612287

SLC9A6	104.2	97.6	91.3	300243
SLCO1B1	46.0	92.8	84.4	237450
SLCO1B3	48.9	94.9	79.5	237450
SLCO2A1	110.5	100.0	99.6	614441
SLFN14	193.1	100.0	100.0	616913
SLITRK1	132.6	100.0	100.0	613229;137580
SLITRK6	206.9	100.0	100.0	221200
SLURP1	97.1	99.8	96.2	248300
SLX4	114.2	100.0	99.8	613951
SMAD3	131.7	99.9	99.2	613795
SMAD4	125.5	100.0	100.0	175050;260350;174900;139210
SMAD6	100.5	80.0	72.0	614823
SMAD9	132.8	100.0	100.0	615342
SMARCA2	113.8	95.7	93.7	601358
SMARCA4	143.8	100.0	99.5	614609
SMARCAD1	85.5	99.6	96.1	129200;136000
SMARCAL1	134.6	100.0	99.9	242900
SMARCB1	214.3	100.0	100.0	609322;614608
SMARCD2	92.9	87.0	85.7	617475
SMARCE1	73.6	96.5	86.8	616938
SMC1A	99.4	99.9	98.8	300590
SMC3	81.4	93.8	87.6	610759
SMCHD1	91.3	98.1	92.3	158901;603457
SMG9	101.8	100.0	99.9	616920
SMN1	112.7	99.8	96.5	271150;253400;253550;253300
SMO	149.2	96.5	93.4	601707;605462
SMOC1	129.8	99.5	97.3	206920
SMOC2	91.5	75.4	72.6	125400
SMPD1	123.5	99.6	97.9	257200;607616
SMPX	68.5	99.9	95.5	300066

SMS	67.8	88.3	73.9	309583
SNAI2	129.8	100.0	99.8	172800;608890
SNAP25	133.7	100.0	99.9	616330
SNAP29	153.5	100.0	100.0	609528
SNCA	129.8	100.0	100.0	168601;127750;605543
SNCB	79.3	100.0	99.9	127750
SNIP1	139.3	99.2	96.7	614501
SNORD118				614561
SNRNP200	161.1	100.0	99.6	610359
SNRPB	75.2	99.8	97.4	117650
SNRPE	79.0	98.5	89.1	615059
SNRPN	116.8	99.4	95.0	176270
SNTA1	97.0	82.3	77.3	612955
SNX10	118.9	96.2	96.1	615085
SNX14	70.1	95.2	82.9	616354
SOBP	130.7	92.9	85.4	613671
SOD1	161.9	100.0	100.0	105400
SOHLH1	87.0	97.9	90.0	617690
SON	159.7	98.4	94.4	617140
SOS1	94.3	96.7	90.3	135300;610733
SOS2	97.1	98.5	92.8	616559
SOST	112.6	100.0	99.6	239100;122860;269500
SOX10	65.8	98.2	91.3	609136;611584;613266
SOX11	118.2	99.7	96.8	615866
SOX17	70.8	99.6	94.6	613674
SOX18	21.2	62.6	48.8	137940;607823
SOX2	128.8	98.3	93.1	206900
SOX3	37.7	86.4	71.5	300123;312000
SOX5	107.3	99.1	96.2	616803
SOX9	134.0	97.8	93.8	114290

SP110	121.6	100.0	99.5	235550
SP7	159.1	99.9	99.3	613849
SPAG1	87.3	96.3	88.2	615505
SPARC	161.0	100.0	100.0	616507
SPART	132.4	99.8	98.2	275900
SPAST	63.8	93.1	81.9	182601
SPATA16	142.2	99.7	96.6	102530
SPATA5	132.0	99.9	99.2	616577
SPATA7	119.6	97.8	90.8	604232
SPECC1L	157.9	100.0	100.0	145410;600251
SPEG	100.9	93.3	86.5	615959
SPG11	129.2	99.2	96.9	604360;602099;616668
SPG21	121.4	98.6	94.8	248900
SPG7	119.2	93.3	92.4	607259
SPINK1	80.2	100.0	99.4	608189;167800
SPINK5	145.0	99.4	96.5	256500
SPINT2	71.5	97.8	84.2	270420
SPR	166.5	98.9	90.0	612716
SPRED1	164.3	98.7	96.7	611431
SPRTN	167.8	100.0	100.0	616200
SPRY4	138.7	100.0	100.0	615266
SPTA1	119.4	99.8	98.9	270970;130600;266140
SPTAN1	125.5	99.1	98.6	613477
SPTB	148.0	100.0	99.9	616649;617948
SPTBN2	118.0	99.9	99.3	615386;600224
SPTBN4	83.9	96.6	89.1	617519
SPTLC1	115.5	99.0	93.9	162400
SPTLC2	160.2	100.0	100.0	613640
SPZ1	88.0	99.7	97.6	618063
SQSTM1	109.1	98.6	94.5	617145;617158;167250;616437

SRC	105.2	99.8	97.3	616937;114500
SRCAP	153.9	99.8	99.1	136140
SRD5A2	77.6	100.0	96.4	264600
SRD5A3	135.9	100.0	99.7	612379;612713
SRP72	70.0	93.1	84.0	614675
SRPX2	81.8	100.0	98.5	300643
SRY	46.1	50.0	50.0	400044;400045
SSR4	89.8	100.0	98.8	300934
SSTR5	155.8	100.0	99.2	-
SSX1	103.4	80.8	76.5	300813
SSX2	69.8	63.0	57.8	300813
ST14	154.0	98.0	97.0	602400
ST3GAL3	144.5	100.0	99.9	615006;611090
ST3GAL5	121.9	84.4	84.2	609056
STAC3	120.0	100.0	99.9	255995
STAG1	104.4	98.8	95.5	617635
STAG3	112.3	93.5	92.8	615723
STAMPB	112.3	99.3	96.5	614261
STAR	124.0	100.0	100.0	201710
STAT1	126.2	98.0	95.8	614162;614892;613796
STAT2	116.0	100.0	99.9	616636
STAT3	119.5	99.9	99.0	147060;615952
STAT5B	130.6	99.7	97.2	102578;245590
STEAP3	199.0	100.0	99.8	615234
STIL	157.2	99.8	98.6	612703
STIM1	145.3	100.0	99.2	185070;160565;612783
STK11	111.9	99.7	95.8	0;260350;273300;175200
STK4	138.9	100.0	99.3	614868
STN1	94.4	99.9	99.5	617341
STOX1	177.7	89.6	89.5	609404



STRA6	116.5	100.0	99.9	601186
STRADA	134.1	100.0	98.9	611087
STRC	119.0	99.9	98.4	603720
STS	91.6	99.7	97.8	308100
STT3A	156.2	100.0	100.0	615596
STT3B	125.1	99.2	96.0	615597
STUB1	176.1	100.0	98.9	615768
STX11	311.4	100.0	100.0	603552
STX16	140.6	99.8	97.8	603233
STX1B	152.2	100.0	98.4	616172
STXBP1	124.5	96.8	96.8	612164
STXBP2	102.3	88.9	83.8	613101
SUCLA2	64.9	93.3	82.8	612073
SUCLG1	101.3	99.6	95.4	245400
SUFU	122.6	99.9	99.0	155255;109400;617757
SUGCT	129.1	94.1	87.6	231690
SULT2B1	111.4	100.0	100.0	617571
SUMF1	103.3	98.6	91.1	272200
SUMO1	17.6	58.8	37.0	613705
SUN5	115.0	99.9	99.1	617187
SUOX	212.6	100.0	100.0	272300
SURF1	96.2	88.3	88.3	616684;256000
SYCE1	92.9	98.7	93.6	616947;616950
SYCP3	79.0	97.5	86.8	270960
SYN1	64.2	74.0	63.2	300491
SYNE1	136.6	98.2	97.6	612998;610743
SYNE2	123.1	98.6	96.0	612999
SYNE4	73.9	98.3	91.6	615540
SYNGAP1	141.3	98.4	98.0	612621
SYNJ1	127.2	99.3	96.1	615530;617389

SYP	72.0	99.8	94.0	300802
SYT14	113.5	59.9	53.8	614229
SYT2	101.3	100.0	99.0	616040
SZT2	149.5	99.5	99.2	615476
T	141.2	98.8	93.6	615709
TAB2	210.5	99.7	97.6	614980
TAC3	80.5	99.1	91.1	614839
TACO1	91.7	97.0	92.6	220110
TACR3	180.3	100.0	100.0	614840
TACSTD2	223.6	99.1	96.6	204870
TAF1	112.4	99.4	96.6	300966;314250
TAF13	81.8	100.0	99.9	617432
TAF2	112.8	98.8	94.7	615599
TAF4B	146.1	96.5	90.9	615841
TAF6	130.0	99.9	98.6	617126
TAL1	43.7	73.9	63.3	613065
TAL2	112.5	100.0	100.0	613065
TALDO1	130.5	100.0	99.9	606003
TANGO2	145.3	100.0	100.0	616878
TAP1	103.3	100.0	99.1	604571
TAP2	95.2	99.6	98.6	0;604571
TAPBP	100.7	96.1	94.3	604571
TAPT1	83.5	88.5	85.9	616897
TARDBP	175.2	100.0	100.0	612069
TARS2	98.8	99.9	98.5	615918
TAT	143.1	100.0	100.0	276600
TAZ	94.0	99.9	98.8	302060
TBC1D20	145.7	94.2	94.1	615663
TBC1D23	86.0	95.7	91.5	617695
TBC1D24	179.2	100.0	100.0	614617;616044;605021;220500;615338

TBC1D7	105.5	99.6	96.6	248000
TBCD	152.9	95.5	92.3	617193
TBCE	128.0	99.9	98.2	241410;244460;617207
TBCK	86.5	95.7	89.3	616900
TBK1	102.5	97.8	90.7	616439
TBL1XR1	79.4	91.5	73.0	602342;616944
TBP	129.5	100.0	98.1	607136
TBX1	75.3	77.1	67.4	187500;217095;188400;192430
TBX15	131.7	100.0	99.4	260660
TBX18	94.4	98.0	95.2	143400
TBX19	174.4	100.0	100.0	201400
TBX20	142.8	99.9	99.3	611363
TBX21	81.7	90.0	83.1	208550
TBX22	121.8	99.2	96.3	302905;303400
TBX3	80.5	99.6	95.3	181450
TBX4	170.7	94.9	92.8	147891
TBX5	141.3	100.0	100.0	142900
TBX6	122.1	91.5	79.7	122600
TBXAS1	140.3	100.0	100.0	231095
TCAP	89.0	100.0	99.2	601954;607487
TCF12	150.3	100.0	99.8	615314
TCF3	67.8	98.9	92.3	616941
TCF4	128.0	99.9	99.5	613267;610954
TCHH	148.1	100.0	100.0	617252
TCIRG1	113.5	95.4	89.4	259700
TCN2	175.6	100.0	100.0	275350
TCOF1	98.6	99.5	97.3	154500
TCTEX1D2	126.1	100.0	99.3	617405
TCTN1	98.8	95.7	92.8	614173
TCTN2	144.2	99.5	97.0	616654;613885

TCTN3	127.6	100.0	99.8	614815;258860
TDGF1	151.4	99.8	96.4	-
TDP1	122.9	98.7	95.3	607250
TDP2	165.1	99.9	98.8	616949
TDRD7	168.3	99.0	97.7	613887
TEAD1	158.6	99.8	98.2	108985
TECPR2	161.1	100.0	99.9	615031
TECR	94.6	99.9	97.9	614020
TECRL	59.3	89.9	77.1	614021
TECTA	208.0	100.0	100.0	603629;601543
TEK	184.1	100.0	100.0	617272;600195
TELO2	98.1	97.4	93.7	616954
TENM3	185.7	99.5	98.7	615145
TENM4	160.8	99.9	99.2	616736
TERC				127550
TET2	212.4	100.0	99.9	614286
TEX11	77.3	91.6	83.4	309120
TEX14	111.6	99.7	98.0	617707
TEX15	114.6	99.8	99.0	617960
TF	125.9	100.0	100.0	209300
TFAM	65.0	88.7	66.2	617156
TFAP2A	109.3	100.0	99.3	113620
TFAP2B	153.5	98.8	96.3	617035;169100
TFE3	73.5	99.5	93.1	300854
TFG	121.5	93.9	90.7	604484;615658
TFR2	104.4	98.2	93.5	604250
TFRC	157.2	99.9	99.1	616740
TG	133.4	100.0	99.7	274700
TGDS	82.4	98.1	88.8	616145
TGFB1	86.9	99.7	95.1	131300

TGFB2	176.9	100.0	99.9	614816
TGFB3	171.5	100.0	100.0	107970;615582
TGFBI	130.9	99.0	94.5	121820;602082;122200;608471;607541;608470;121900
TGFBR1	173.4	93.7	93.6	609192
TGFBR2	193.5	100.0	99.9	610168;133239;614331
TGIF1	138.3	100.0	100.0	142946
TGM1	158.8	100.0	100.0	242300
TGM3	187.1	100.0	99.8	617251
TGM5	173.9	100.0	100.0	609796
TGM6	149.7	99.7	98.0	613908
TH	68.2	97.6	88.7	605407
THAP1	122.0	100.0	100.0	602629
THBD	108.2	99.8	97.8	614486
THOC2	77.9	96.2	86.6	300957
THOC6	248.6	100.0	99.9	613680
THPO	88.2	100.0	100.0	187950
THRA	172.8	100.0	99.8	614450
THRB	167.4	100.0	99.5	188570;274300;145650
TIA1	128.5	98.6	89.6	604454
TIMM50	108.2	98.8	95.3	617698
TIMM8A	46.0	94.5	78.8	304700
TIMMDC1	152.2	100.0	100.0	252010
TIMP3	147.0	100.0	100.0	136900
TINF2	184.0	100.0	100.0	613990;268130
TJP2	111.1	93.8	92.2	607748;615878
TK2	105.7	93.4	89.4	609560;617069
TKT	114.1	98.7	97.7	617044
TLE6	109.9	99.9	98.9	616814
TLK2	113.0	98.8	94.7	618050
TLL1	140.1	100.0	99.9	613087

TMC1	122.8	98.2	93.8	600974;606705
TMC6	83.7	99.9	99.0	226400
TMC8	108.1	97.6	91.6	226400
TMCO1	78.7	88.0	86.5	213980
TMEM106B	120.2	99.8	96.4	617964
TMEM107	163.8	100.0	100.0	617562;617563
TMEM126A	120.3	98.4	86.2	612989
TMEM126B	79.2	99.8	97.7	252010
TMEM138	100.2	100.0	99.5	614465
TMEM165	113.9	99.8	98.1	614727
TMEM173	100.8	98.7	93.4	615934
TMEM199	105.1	100.0	99.9	616829
TMEM216	111.9	100.0	98.7	603194;608091
TMEM231	111.5	100.0	99.9	615397;614970
TMEM237	100.7	99.8	98.3	614424
TMEM240	112.2	99.8	97.4	607454
TMEM260	116.7	96.8	90.0	617478
TMEM38B	114.3	100.0	99.4	615066
TMEM43	124.9	100.0	99.5	604400;614302
TMEM5	120.5	96.8	92.9	615041
TMEM67	72.9	93.3	83.4	607361;216360;613550;610688
TMEM70	138.7	94.6	90.3	614052
TMEM98	136.3	99.4	98.7	615972
TMIE	109.6	98.8	92.1	600971
TMPRSS15	116.9	95.5	89.1	226200
TMPRSS3	125.5	100.0	99.9	601072
TMPRSS6	101.7	100.0	99.1	206200
TMTC3	83.2	98.9	93.0	617255
TNC	187.5	100.0	99.7	615629
TNFAIP3	135.9	100.0	99.9	616744

TNFRSF10B	114.1	100.0	100.0	275355
TNFRSF11A	146.3	93.3	91.4	612301;174810
TNFRSF11B	224.8	100.0	100.0	239000
TNFRSF13B	102.1	100.0	99.7	240500;609529
TNFRSF13C	55.8	76.5	66.8	613494
TNFRSF1A	93.2	90.8	87.9	142680
TNFRSF4	51.6	97.3	85.4	615593
TNFSF11	150.4	99.3	93.2	259710
TNIK	111.1	99.9	99.3	617028
TNNC1	174.5	100.0	100.0	613243;611879
TNNI2	121.2	100.0	99.6	601680
TNNI3	86.7	98.1	86.5	115210;611880;613690;613286
TNNI3K	118.8	98.8	96.0	616117
TNNT1	86.9	96.3	94.0	605355
TNNT2	106.3	100.0	99.9	115195;612422;601494
TNNT3	121.0	99.9	97.8	601680
TNPO3	139.6	100.0	99.7	608423
TNRC6A	162.9	99.9	99.4	618074
TNXB	96.4	98.4	91.4	606408;615963
TOE1	165.1	100.0	100.0	614969
TOP1	97.9	99.5	97.3	-
TOP2A	123.8	99.6	97.2	-
TOPORS	210.6	100.0	100.0	609923
TOR1A	185.0	100.0	99.8	128100
TOR1AIP1	143.8	97.6	95.9	617072
TP53	92.0	99.9	98.1	114480;202300;260350;114550;151623;259500;260500;607107;114500
TP53RK	37.4	91.3	76.5	617730
TP63	206.3	100.0	100.0	103285;604292;129400;603543;605289;106260
TPI1	103.0	99.2	96.7	615512
TPK1	112.7	99.8	97.3	614458

TPM1	132.9	99.7	97.9	115196;611878
TPM2	109.1	100.0	99.6	609285;601680;108120
TPM3	98.9	89.4	89.1	255310;609284
TPO	134.8	99.9	98.5	274500
TPP1	146.3	100.0	100.0	204500;609270
TPRKB	56.8	79.3	67.1	617731
TPRN	62.7	74.7	65.4	613307
TRAC	170.9	100.0	100.0	615387
TRAF3IP1	90.3	96.3	92.8	616629
TRAF3IP2	116.6	99.9	97.7	615527
TRAIP	141.6	100.0	100.0	616777
TRAPPC11	126.2	99.4	96.4	615356
TRAPPC12	141.6	99.9	98.5	617669
TRAPPC2	85.3	87.0	66.7	313400
TRAPPC6B	61.8	99.4	94.4	617862
TRAPPC9	135.0	100.0	99.9	613192
TRDN	71.9	83.6	70.8	615441
TREH	143.1	98.0	93.5	612119
TREM2	149.0	99.9	99.6	221770
TREX1	242.4	100.0	100.0	192315;225750;610448
TRHR	232.0	100.0	99.7	-
TRIM2	157.7	93.6	91.4	615490
TRIM32	141.2	100.0	100.0	254110;615988
TRIM36	156.8	99.1	96.8	206500
TRIM37	110.2	98.2	97.2	253250
TRIM44	141.7	100.0	100.0	617142
TRIO	134.3	97.9	95.4	617061
TRIOBP	135.6	97.0	94.9	609823
TRIP11	84.3	95.2	87.4	200600
TRIP12	139.8	99.5	98.8	617752



TRIP13	141.2	100.0	100.0	617598
TRIP4	113.5	100.0	98.8	617066;616866
TRIT1	119.4	100.0	99.8	617873
TRMT10A	135.2	100.0	99.4	616033
TRMT10C	131.4	99.8	98.8	616974
TRMT5	208.7	99.2	93.9	616539
TRMU	99.0	100.0	99.6	613070
TRNT1	104.6	97.8	92.3	616084;616959
TRPA1	92.4	91.9	85.3	615040
TRPC3	180.8	98.7	95.6	616410
TRPC6	103.8	99.0	96.1	603965
TRPM1	161.0	100.0	99.6	613216
TRPM4	109.2	99.8	98.5	604559
TRPM6	151.1	99.8	98.7	602014
TRPS1	175.0	100.0	99.8	190351;190350
TRPV3	144.9	100.0	99.4	614594;616400
TRPV4	172.4	99.5	98.7	156530;168400;617383;113500;184095;181405;184252;600175;606071;606835
TSC1	128.8	99.8	98.8	607341;606690;191100
TSC2	131.2	100.0	99.0	607341;606690;613254
TSEN15	74.2	99.0	93.6	617026
TSEN2	123.8	100.0	99.8	612389
TSEN34	53.5	90.5	85.7	612390
TSEN54	82.9	95.9	92.9	277470;225753;610204
TSFM	127.2	100.0	100.0	610505
TSGA10	102.5	98.5	93.1	617961
TSHB	271.7	100.0	100.0	275100
TSHR	216.5	99.2	96.8	0;275200;603373;609152
TSHZ1	166.6	98.8	98.5	607842
TSPAN12	129.4	100.0	99.5	613310
TSPAN7	120.7	99.9	98.6	300210

TSPEAR	141.5	100.0	99.0	614861
TSPYL1	141.5	100.0	99.4	608800
TSR2	81.6	100.0	99.1	300946
TTBK2	123.2	100.0	98.9	604432
TTC19	92.1	80.6	72.5	615157
TTC21B	100.7	99.7	97.6	613819;613820
TTC25	103.4	100.0	99.5	617092
TTC37	124.0	99.6	98.1	222470
TTC7A	123.0	99.9	98.3	243150
TTC8	106.9	97.9	92.0	613464;615985
TTI2	104.5	100.0	99.7	615541
TTLL5	152.7	99.9	98.7	615860
TTN	187.8	98.2	97.2	608807;611705;604145;603689;600334;613765
TTPA	101.5	83.6	76.6	277460
TTR	152.3	94.6	94.6	105210;115430
TUB	103.0	97.3	95.2	616188
TUBA1A	113.2	99.9	97.8	611603
TUBA3D	144.5	100.0	99.6	617928
TUBA4A	220.6	100.0	100.0	616208
TUBA8	177.1	99.9	99.7	613180
TUBB	158.6	99.3	97.4	156610;615771
TUBB1	186.5	100.0	100.0	613112
TUBB2A	109.9	96.7	95.6	615763
TUBB2B	100.0	100.0	100.0	610031
TUBB3	136.1	98.1	96.9	600638;614039
TUBB4A	121.2	96.0	95.3	128101;612438
TUBB4B	109.8	98.4	96.0	617879
TUBB6	111.2	90.9	90.5	617732
TUBB8	31.3	95.5	71.0	616780
TUBG1	164.2	100.0	100.0	615412

TUBGCP4	130.8	99.1	96.2	616335
TUBGCP6	152.2	99.9	98.9	251270
TUFM	135.4	100.0	99.7	610678
TULP1	97.8	96.8	91.7	600132;613843
TUSC3	136.4	100.0	98.3	611093
TWIST1	134.4	96.6	87.2	180750;101400;123100;617746
TWIST2	131.3	100.0	99.3	200110;227260;209885
TWNK	178.8	100.0	100.0	609286;271245;616138
TXN2	81.2	100.0	100.0	616811
TXNL4A	109.0	100.0	99.5	608572
TXNRD2	119.3	93.3	91.2	617825
TYK2	119.2	99.9	98.8	611521
TYMP	95.2	98.3	85.0	603041
TYR	185.3	100.0	100.0	103470;203100;606952
TYROBP	95.2	100.0	99.9	221770
TYRP1	176.9	100.0	99.9	203290
UBA1	162.0	99.8	98.9	301830
UBA5	75.4	94.1	77.1	617133;617132
UBE2A	100.5	99.9	96.9	300860
UBE2T	107.0	100.0	99.3	616435
UBE3A	89.8	97.8	91.4	105830
UBE3B	127.8	100.0	99.9	244450
UBIAD1	248.8	98.9	95.2	121800
UBQLN2	136.3	99.7	98.0	300857
UBR1	128.2	99.2	96.0	243800
UBTF	123.6	99.9	99.0	617672
UCHL1	109.1	97.9	89.1	615491
UFC1	150.3	100.0	100.0	618076
UFM1	105.8	71.0	70.1	617899
UFSP2	128.4	99.7	96.5	617974;142669

UGT1A1	240.6	100.0	100.0	218800;237900;606785
UMOD	127.0	97.8	97.2	609886;603860;162000
UMPS	173.6	99.3	97.2	258900
UNC119	92.9	97.8	90.4	0;615518
UNC13D	97.0	99.6	97.7	608898
UNC45B	143.0	100.0	99.5	616279
UNC80	133.4	99.9	99.1	616801
UNG	78.4	99.5	94.2	608106
UPB1	157.4	100.0	100.0	613161
UPF3B	47.4	91.2	76.6	300676
UQCC2	96.6	100.0	99.1	615824
UQCC3	95.0	100.0	99.2	616111
UQCRB	107.6	99.6	96.8	615158
UQCRC2	122.6	99.9	99.1	615160
UQCRQ	131.3	100.0	99.9	615159
UROC1	132.0	99.9	99.0	276880
UROD	163.1	99.8	97.9	176100
UROS	108.3	100.0	99.9	263700
USB1	125.0	99.9	98.2	604173
USH1C	97.5	100.0	99.4	602092;276904
USH1G	195.3	98.4	96.3	606943
USH2A	148.5	100.0	99.7	613809;276901
USP18	201.4	95.9	95.9	617397
USP27X	248.7	100.0	100.0	300984
USP8	71.5	97.3	87.8	219090
USP9X	108.2	97.2	91.1	300968;300919
USP9Y	30.8	47.2	39.9	415000
UVSSA	149.4	99.1	98.4	614640
VAC14	108.4	99.8	98.5	617054
VAMP1	131.5	100.0	100.0	108600

VANGL1	165.3	100.0	100.0	600145
VANGL2	184.6	100.0	99.6	182940
VAPB	107.8	99.0	95.9	608627;182980
VARS	126.1	99.9	98.0	617802
VARS2	110.9	99.9	98.9	615917
VAX1	52.2	88.4	78.0	614402
VCAN	186.5	100.0	100.0	143200
VCL	115.8	100.0	99.8	611407;613255
VCP	144.8	99.9	99.5	613954;616687;167320
VDR	123.3	98.0	95.2	277440
VEGFC	164.5	100.0	99.5	615907
VHL	119.7	92.6	85.3	0;193300;171300;144700;263400
VIM	126.5	99.1	97.2	116300
VIPAS39	144.6	100.0	100.0	613404
VKORC1	162.1	100.0	100.0	607473;122700
VLDLR	200.9	99.9	99.4	224050
VMA21	42.3	95.2	81.3	310440
VPS11	144.9	95.3	93.2	616683
VPS13A	69.5	95.3	85.3	200150
VPS13B	143.8	98.6	96.8	216550
VPS13C	106.6	96.6	90.0	616840
VPS33A	106.3	96.2	95.1	617303
VPS33B	138.3	100.0	100.0	208085
VPS37A	73.6	86.6	66.4	614898
VPS45	131.5	96.2	94.9	615285
VPS53	129.2	91.4	90.4	615851
VRK1	124.8	97.5	94.2	607596
VSX1	52.2	85.5	76.1	614195;148300
VSX2	77.7	99.8	97.3	610092;610093
VWA3B	141.5	99.8	98.4	616948

WVF	120.9	100.0	99.6	193400;277480;613554
WAC	165.5	99.7	96.7	616708
WARS	123.8	99.7	98.0	617721
WARS2	140.7	100.0	99.5	617710
WAS	66.1	88.2	78.7	313900;300299;301000
WASHC4	91.8	95.3	89.6	615817
WASHC5	146.6	99.6	98.1	220210;603563
WBP2	93.7	100.0	100.0	617639
WDFY3	133.6	99.7	98.1	617520
WDPCP	107.3	93.9	88.9	615992;217085
WDR11	130.6	96.9	96.4	614858
WDR19	132.1	99.8	98.1	614376;614377;614378;616307
WDR26	97.5	98.3	94.6	617616
WDR34	106.6	99.5	96.2	615633
WDR35	145.1	99.3	97.7	613610;614091
WDR36	112.3	97.7	90.1	609887
WDR45	75.0	97.4	90.1	300894
WDR45B	85.5	95.8	85.6	617977
WDR60	114.2	99.1	96.3	615503
WDR62	161.5	100.0	99.7	604317
WDR72	132.2	96.5	95.4	613211
WDR73	138.9	100.0	100.0	251300
WDR81	163.3	99.9	99.4	610185;617967
WEE2	102.2	99.6	95.7	617996
WFS1	251.4	100.0	99.7	600965;614296;116400;222300
WHRN	114.0	99.8	98.8	611383;607084
WIPF1	77.5	100.0	99.2	614493
WISP3	118.4	100.0	100.0	208230
WNK1	167.7	99.9	99.5	614492;201300
WNK4	123.1	99.7	98.7	614491

WNT1	188.8	100.0	99.9	615220
WNT10A	114.0	100.0	99.1	224750;150400;257980
WNT10B	144.7	100.0	99.9	617073;225300
WNT3	166.8	100.0	99.6	273395
WNT4	263.1	93.4	92.7	611812;158330
WNT5A	155.7	100.0	100.0	180700
WNT7A	216.8	100.0	100.0	228930;276820
WRAP53	154.4	100.0	100.0	613988
WRN	123.6	98.3	94.6	277700
WT1	76.5	91.8	81.4	194070;194080;608978;156240;136680;256370
WWOX	130.9	100.0	99.7	133239;616211;614322
XDH	109.1	100.0	99.9	278300
XIAP	107.1	91.9	86.6	300635
XIST				300087
XK	96.8	99.9	99.1	300842
XPA	52.9	98.5	88.9	278700
XPC	140.7	100.0	99.7	278720
XPNPEP3	134.0	100.0	99.2	613159
XPR1	131.7	100.0	99.8	616413
XRCC1	106.6	99.7	97.5	617633
XRCC2	165.6	93.0	89.4	617247
XRCC4	103.2	99.7	97.3	616541
XYLT1	132.5	90.4	87.1	615777
XYLT2	136.3	98.9	94.9	605822
YAP1	95.6	87.8	81.6	120433
YARS	122.4	100.0	100.0	608323
YARS2	173.2	99.8	98.9	613561
YME1L1	105.3	97.7	91.9	617302
YWHAG	226.6	100.0	100.0	617665
YY1	134.8	100.0	98.6	617557

YY1AP1	159.2	98.3	97.0	602531
ZAP70	185.6	99.9	99.5	269840;617006
ZBTB16	151.4	100.0	100.0	0;612447
ZBTB18	222.7	99.7	99.0	612337
ZBTB20	216.9	100.0	100.0	259050
ZBTB24	178.1	100.0	100.0	614069
ZBTB42	125.6	100.0	100.0	616248
ZC3H14	184.1	99.6	97.2	617125
ZC4H2	78.6	99.8	98.1	314580
ZDHHC15	89.8	97.9	92.6	300577
ZDHHC9	55.5	98.4	89.4	300799
ZEB1	192.7	100.0	99.3	613270;609141
ZEB2	157.0	99.8	98.8	235730
ZFHX2	119.0	99.9	99.2	147430
ZFP57	104.4	99.8	98.7	601410
ZFPM2	196.3	100.0	99.6	610187;616067;187500
ZFYVE26	120.3	99.9	99.4	270700
ZFYVE27	118.3	100.0	100.0	610244
ZIC1	231.1	100.0	100.0	616602
ZIC2	122.5	90.5	78.9	609637
ZIC3	113.7	100.0	99.8	306955;314390
ZMPSTE24	113.3	100.0	99.1	275210;608612
ZMYND10	136.5	100.0	100.0	615444
ZMYND11	137.0	100.0	99.8	616083
ZMYND15	129.6	99.5	96.0	615842
ZNF141	160.6	100.0	99.9	615226
ZNF148	190.8	99.8	98.8	617260
ZNF335	139.9	99.6	98.9	615095
ZNF408	135.7	100.0	100.0	616468;616469
ZNF423	250.8	100.0	100.0	614844



ZNF469	93.1	98.7	96.3	229200
ZNF513	110.7	100.0	99.7	613617
ZNF644	156.3	100.0	99.8	614167
ZNF687	164.7	100.0	100.0	616833
ZNF711	137.7	98.7	95.5	300803
ZNF750	150.3	100.0	99.9	610227
ZNHIT3	121.0	74.4	74.4	260565
ZP1	196.0	100.0	100.0	615774
ZP3	181.7	100.0	100.0	617712
ZSWIM6	150.9	93.1	89.1	603671;617865

*Gene symbols used follow HGCN guidelines: Gray KA, Yates B, Seal RL, Wright MW, Bruford EA. Nucleic Acids Res. 2015 Jan;43(Database issue):D1079-85.*

*Median Coverage describes the average number of reads seen across 50 exomes.*

*% Covered 10x describes the percentage of a gene's coding sequence that is covered at least 10x.*

*% Covered 20x describes the percentage of a gene's coding sequence that is covered at least 20x.*

*Genes with Median Coverage and % Covered 10x/20x denoting NC are non-coding genes for which coverage statistics could not be generated.*

*OMIM release used for OMIM disease identifiers and descriptions : October 1st, 2016.*

*Ad 1. "No OMIM phenotype" signifies a gene without a current OMIM association Ad 2. OMIM phenotype descriptions between {} signify risk factors*