

# WES INTELLECTUAL DISABILITY DG 3.2

<i>Gene</i>	<i>Median coverage</i>	<i>% covered &gt;10x</i>	<i>% covered &gt;20x</i>	<i>OMIM disease ID</i>
AAAS	102.9	100.0	99.4	231550
AARS1	107.3	100.0	99.7	616339
AASS	137.6	99.9	99.8	238700;268700
ABAT	92.7	99.9	97.8	613163
ABCA2	134.3	99.9	99.2	618808
ABCC8	124.9	100.0	99.5	606176;240800;256450
ABCC9	145.1	100.0	99.8	239850
ABCD1	80.1	76.0	72.6	300100
ABCD4	135.3	99.8	97.7	614857
ABHD5	190.2	100.0	100.0	275630
ACAD9	124.7	100.0	99.8	611126
ACADS	134.5	100.0	99.4	201470
ACADSB	109.9	99.8	97.9	610006
ACAT1	114.1	99.6	97.9	203750
ACO2	128.7	94.1	86.3	614559
ACOX1	120.3	100.0	99.3	264470
ACSF3	145.9	100.0	99.5	614265
ACSL4	112.9	98.3	94.2	300387
ACTB	80.2	99.9	97.2	243310;607371
ACTG1	128.6	100.0	100.0	614583
ACTL6A	133.5	99.8	98.9	-
ACTL6B	142.5	100.0	100.0	618470;618468
ACVR1	145.3	100.0	99.9	135100
ACY1	134.7	100.0	99.7	609924
ADAM22	137.5	99.8	99.6	617933

ADAR	104.8	100.0	99.4	615010
ADARB1	185.6	97.2	95.3	618862
ADAT3	117.2	100.0	100.0	615286
ADD3	150.4	99.8	98.8	617008
ADGRG1	154.2	100.0	100.0	606854;615752
ADK	80.8	83.3	79.7	614300
ADNP	187.1	90.5	90.5	615873
ADPRS	141.6	100.0	99.9	618170
ADSL	133.4	99.2	98.6	103050
AFF2	109.8	99.8	98.8	309548
AFF3	117.1	98.6	97.9	619297
AFF4	99.9	99.8	98.2	616368
AFG3L2	98.3	94.6	86.3	614487
AGA	159.9	100.0	99.9	208400
AGAP1	119.2	97.1	91.0	-
AGMO	109.5	99.0	92.4	-
AGO2	122.5	99.1	99.1	-
AGTPBP1	127.9	96.3	94.2	618276
AHCY	131.7	99.9	98.8	613752
AHDC1	130.7	100.0	98.9	615829
AHI1	132.9	99.4	97.4	608629
AHSG	168.8	100.0	99.8	203650
AIFM1	103.9	99.9	97.8	300816;310490
AIMP1	72.1	99.2	92.5	260600
AIMP2	112.8	89.4	86.0	618006
AKT3	92.4	97.4	92.4	615937
ALDH18A1	120.0	100.0	99.9	616586;601162;616603;219150
ALDH3A2	112.0	88.8	88.4	270200
ALDH4A1	126.2	100.0	99.7	239510
ALDH5A1	93.1	92.4	83.5	271980

ALDH7A1	65.7	91.1	84.5	266100
ALG1	44.0	53.6	46.9	608540
ALG11	133.4	96.8	96.8	613661
ALG12	149.3	100.0	99.9	607143
ALG13	81.5	97.4	90.0	300884
ALG14	206.7	100.0	99.9	619031
ALG2	90.2	100.0	100.0	616228;607906
ALG3	90.4	100.0	99.5	601110
ALG6	111.2	98.2	93.7	603147
ALG8	107.8	96.6	95.9	608104
ALG9	103.8	99.9	99.3	608776
ALKBH8	109.5	99.7	98.6	618504
ALMS1	174.7	99.7	99.5	203800
ALX3	124.2	80.2	72.8	136760
ALX4	134.4	100.0	99.9	613451
AMER1	96.7	99.6	96.6	300373
AMMECR1	86.2	99.9	98.4	300990
AMPD2	140.3	99.8	99.0	615809
AMT	158.6	100.0	100.0	605899
ANK3	146.2	99.3	99.0	615493
ANKH	108.8	100.0	99.9	-
ANKLE2	152.4	100.0	99.3	616681
ANKRD11	118.2	97.0	94.0	148050
ANKRD17	149.8	99.4	98.2	-
ANKS1B	133.9	99.9	99.3	-
ANO10	116.3	99.2	96.6	613728
ANTXR1	105.6	99.9	99.1	230740
AP1S1	105.8	99.9	99.4	609313
AP1S2	58.4	73.8	66.8	304340
AP2M1	110.8	100.0	99.9	618587

AP2S1	118.7	90.4	90.0	-
AP3B1	114.7	99.2	96.4	608233
AP3B2	113.6	93.3	89.8	617276
AP3D1	124.5	99.6	98.4	617050
AP4B1	118.8	99.8	98.5	614066
AP4E1	103.2	99.5	98.6	613744
AP4M1	136.9	99.8	97.8	612936
AP4S1	70.1	78.9	71.0	614067
APC2	103.6	98.3	94.8	617169
APTX	98.5	94.1	90.6	208920
ARCN1	142.3	96.8	96.6	617164
ARF1	184.4	100.0	99.9	618185
ARFGF2	127.9	99.7	98.7	608097
ARG1	134.7	92.9	92.9	207800
ARHGAP31	143.3	99.7	98.2	100300
ARHGAP35	155.1	100.0	100.0	-
ARHGEF6	124.3	99.0	94.8	-
ARHGEF9	50.0	76.3	72.5	300607
ARID1A	138.3	98.3	96.0	614607
ARID1B	138.9	96.2	94.6	135900
ARID2	160.7	99.7	98.2	617808
ARL13B	85.8	100.0	99.3	612291
ARL6	112.4	99.1	98.4	600151
ARMC9	130.5	99.9	99.4	617622
ARSA	120.1	100.0	99.8	250100
ARSL	92.4	98.9	92.4	302950
ARV1	109.2	99.9	98.8	617020
ARX	41.3	82.1	67.5	309510;308350;300215;300419;300004
ASAH1	136.2	99.1	97.3	159950;228000
ASH1L	148.5	98.7	98.6	617796

ASL	118.5	100.0	99.7	207900
ASNS	80.7	98.1	91.2	615574
ASPA	132.4	99.9	99.1	271900
ASPM	106.6	99.4	97.9	608716
ASS1	95.0	93.2	83.2	215700
ASXL1	128.2	99.8	98.9	605039
ASXL2	137.4	99.9	99.5	617190
ASXL3	133.5	99.9	99.6	615485
ATAD1	62.6	99.1	91.6	618011
ATAD3A	91.9	91.4	86.7	617183
ATIC	122.1	99.8	99.1	608688
ATL1	154.9	99.9	99.5	182600
ATN1	176.8	99.8	98.0	125370
ATP13A2	141.0	100.0	99.6	606693
ATP1A1	120.6	100.0	99.8	618314
ATP1A2	171.1	100.0	99.8	104290;602481
ATP1A3	174.1	100.0	99.9	614820
ATP2A2	148.0	100.0	99.6	124200
ATP6AP1	102.0	98.2	93.0	300972
ATP6AP2	52.2	89.9	69.7	300423
ATP6V0A1	136.0	99.8	98.6	-
ATP6V0A2	116.2	99.9	98.7	219200;278250
ATP6V0C	148.3	100.0	100.0	-
ATP6V1A	137.1	99.8	98.4	617403;618012
ATP6V1B2	130.3	99.9	99.3	616455
ATP7A	117.5	98.7	96.0	309400
ATP8A2	118.4	100.0	99.6	615268
ATR	164.5	99.7	99.0	210600
ATRX	91.1	98.7	95.2	309580;301040
ATXN2L	146.7	98.3	94.7	-

AUH	108.9	99.7	99.4	250950
AUTS2	140.1	98.8	96.9	615834
AVPR2	118.4	100.0	99.8	304800
B3GALNT2	98.9	94.3	89.8	615181
B3GALT6	53.2	77.0	73.0	615349
B3GLCT	100.4	99.7	98.2	261540
B4GALNT1	142.4	98.3	93.5	609195
B4GALT1	102.1	100.0	99.3	607091
B4GALT7	124.9	99.7	96.8	130070
B4GAT1	120.2	100.0	100.0	615287
B9D1	91.9	85.2	85.2	617120
B9D2	108.7	100.0	100.0	614175
BAZ2B	136.2	99.6	98.8	-
BBS1	160.2	100.0	100.0	209900
BBS10	151.0	100.0	99.9	615987
BBS12	167.8	100.0	100.0	615989
BBS2	148.8	99.4	98.0	615981
BBS4	108.1	99.9	98.9	615982
BBS5	95.0	98.4	94.7	615983
BBS7	151.4	99.0	96.5	615984
BBS9	104.9	92.0	89.0	615986
BCAP31	67.6	92.1	79.1	300475
BCAS3	135.2	99.1	98.9	-
BCKDHA	192.2	99.8	97.9	248600
BCKDHB	125.5	99.8	95.4	248600
BCKDK	217.2	100.0	100.0	614923
BCL11A	136.2	97.3	96.0	617101
BCL11B	109.8	99.6	96.5	618092;617237
BCOR	99.9	99.2	95.8	300166;309800
BCORL1	163.7	99.4	97.7	301029

BCS1L	143.8	100.0	100.0	256000;262000;124000
BICRA	111.7	99.8	98.4	619325
BLM	113.6	99.3	97.7	210900
BLOC1S1	108.7	100.0	99.1	-
BOLA3	46.4	99.0	86.7	614299
BPTF	136.1	96.1	94.3	617755
BRAF	63.9	89.4	77.6	163950;613706;613707;115150
BRAT1	139.8	99.9	98.9	614498;618056
BRF1	113.6	99.8	98.4	616202
BRPF1	166.6	100.0	100.0	617333
BRSK2	125.2	99.4	96.9	-
BRWD3	111.6	98.7	95.3	300659
BSCL2	104.6	100.0	99.9	615924;269700
BTD	106.1	83.0	82.9	253260
BUB1B	116.3	99.3	98.3	257300
C12orf4	140.6	99.6	99.5	618221
C12orf57	125.5	100.0	98.6	218340
C12orf65	78.9	99.0	94.5	613559;615035
C2CD3	121.5	95.8	95.4	615948
CA2	149.6	100.0	100.0	259730
CA5A	100.8	87.6	85.6	615751
CA8	107.9	99.4	96.6	613227
CACNA1A	85.3	93.1	88.4	141500;617106
CACNA1B	137.5	98.0	96.1	618497
CACNA1C	151.1	99.9	99.2	601005
CACNA1D	133.5	97.9	97.7	615474
CACNA1E	132.2	100.0	99.8	618285
CACNA1G	155.7	100.0	99.2	616795;618087
CACNA2D2	128.9	93.8	93.1	618501
CAD	139.7	99.8	98.5	616457

CAMK2A	120.3	99.8	98.4	617798;618095
CAMK2B	108.5	100.0	99.4	617799
CAMK2G	110.8	99.9	98.6	618522
CAMTA1	183.1	99.6	99.0	614756
CANT1	145.3	100.0	100.0	251450
CAPN15	140.2	99.8	98.1	619318
CARS2	122.9	100.0	100.0	616672
CASK	88.7	97.2	93.9	300749;300422
CBL	133.8	97.3	96.9	613563
CBS	129.8	99.9	98.5	236200
CC2D1A	148.6	100.0	99.6	608443
CC2D2A	109.3	98.3	96.6	216360;612285
CCBE1	73.7	99.9	98.8	235510
CCDC115	98.8	95.8	90.2	616828
CCDC174	145.7	99.5	96.7	616816
CCDC186	108.5	99.0	95.6	-
CCDC22	105.3	99.0	95.4	300963
CCDC32	98.5	99.9	98.5	No OMIM phenotype
CCDC47	156.1	99.9	97.4	618268
CCDC88A	92.8	95.9	91.8	617507
CCDC88C	106.7	99.9	99.3	236600
CCND2	129.6	100.0	100.0	615938
CCNK	87.9	92.4	89.0	618147
CDC42	94.5	96.3	87.9	616737
CDC42BPB	144.1	99.9	98.5	-
CDC6	142.1	100.0	99.9	613805
CDH11	138.7	100.0	100.0	211380
CDH15	152.7	100.0	99.2	612580
CDK10	122.7	100.0	99.5	617694
CDK13	117.7	97.7	91.7	617360



CDK19	130.7	99.8	99.3	618916
CDK5RAP2	113.5	99.6	98.5	604804
CDK8	169.5	99.6	96.7	-
CDKL5	103.6	91.4	89.0	300672
CDKN1C	71.4	89.9	81.6	614732
CDON	118.7	99.9	98.6	614226
CELF2	147.2	94.9	94.4	-
CENPF	112.9	99.4	96.9	243605
CENPJ	136.5	99.8	98.7	613676;608393
CEP104	113.2	99.9	98.0	616781
CEP120	140.6	99.9	99.6	617761
CEP135	85.9	98.3	90.1	614673
CEP152	163.8	99.5	98.0	613823
CEP290	86.2	96.2	90.8	610188;615991
CEP41	77.1	98.8	93.4	614464
CEP55	110.9	100.0	99.8	236500
CEP57	88.6	97.6	89.3	614114
CEP83	107.1	99.0	96.6	615862
CEP85L	122.6	99.0	96.5	618873
CEP89	137.3	95.8	94.5	-
CERT1	120.0	89.8	86.5	616351
CHAMP1	173.5	100.0	100.0	616579
CHD1	119.6	98.6	93.0	617682
CHD2	124.9	99.3	98.6	615369
CHD3	99.2	96.3	92.0	618205
CHD4	114.6	100.0	99.6	617159
CHD5	101.8	99.6	96.1	-
CHD7	137.1	100.0	99.2	214800
CHD8	131.1	100.0	99.7	615032
CHKB	111.3	100.0	99.6	602541

CHMP1A	129.4	100.0	99.6	614961
CHRNA4	111.7	99.0	96.5	600513
CIC	74.9	63.4	63.3	617600
CIT	106.3	99.8	98.2	617090
CKAP2L	157.9	99.5	98.3	272440
CLCN3	142.0	98.0	94.2	-
CLCN4	109.2	99.9	97.7	300114
CLDN11	157.7	100.0	99.9	619328
CLIC2	62.3	99.3	94.9	300886
CLIP1	120.0	99.8	98.7	-
CLN3	128.6	92.5	92.4	204200
CLN5	106.5	69.0	66.3	256731
CLN6	136.4	99.9	98.9	204300;601780
CLN8	152.5	83.5	83.5	600143;610003
CLP1	117.5	100.0	100.0	615803
CLPB	121.2	94.9	94.0	616271
CLTC	153.2	99.9	99.7	617854
CNKS2	83.3	95.1	89.0	301008
CNNM2	191.2	100.0	99.9	616418
CNOT1	134.5	100.0	99.8	-
CNOT2	137.0	99.9	99.6	-
CNOT3	151.8	100.0	100.0	-
CNPY3	73.8	100.0	99.7	617929
CNTNAP1	162.1	100.0	99.8	618186
CNTNAP2	133.4	100.0	99.5	610042
COA8	71.5	81.9	80.8	220110
COASY	173.4	100.0	100.0	615643
COG1	109.3	100.0	99.9	611209
COG4	99.4	100.0	100.0	618150;613489
COG5	136.7	99.1	96.8	613612

COG6	97.2	98.5	93.1	614576;615328
COG7	109.9	100.0	99.4	608779
COG8	125.4	98.6	95.3	611182
COL4A1	103.1	99.0	97.0	175780;607595
COL4A2	115.6	100.0	99.6	614483
COLEC11	169.1	100.0	100.0	265050
COPB1	139.9	98.4	94.5	619255
COQ2	83.7	97.6	96.7	607426
COQ4	92.0	91.0	89.7	616276
COQ8A	166.1	100.0	99.6	612016
COQ9	69.5	100.0	98.7	614654
COX10	194.2	100.0	99.9	256000;220110
COX15	91.4	99.9	97.8	256000
COX16	76.1	99.3	96.9	619355
COX6B1	169.3	100.0	100.0	220110
CPE	120.7	99.8	98.8	619326
CPLANE1	129.6	99.4	98.2	614615;277170
CPLX1	83.5	100.0	100.0	617976;194190
CPS1	138.3	100.0	100.0	237300
CRADD	112.9	99.9	97.5	614499
CRBN	123.6	87.9	87.8	607417
CREBBP	104.9	99.6	97.8	180849
CRLF1	126.3	91.1	90.3	272430
CRPPA	105.9	98.4	94.7	614643
CSDE1	149.6	100.0	99.7	-
CSF1R	120.5	100.0	99.6	221820;618476
CSNK1G1	134.0	98.4	97.6	-
CSNK2A1	88.1	81.1	76.6	617062
CSNK2B	136.8	100.0	100.0	-
CSPP1	116.4	99.7	98.1	615636

CSTB	72.5	99.6	90.5	254800
CTBP1	108.5	94.3	86.9	617915;194190
CTC1	116.1	100.0	99.1	612199
CTCF	126.8	99.7	98.4	615502
CTDP1	125.4	88.7	85.0	604168
CTNNA2	105.3	99.9	99.7	618174
CTNNB1	127.1	100.0	100.0	615075
CTNND1	132.3	100.0	99.8	-
CTNND2	100.1	93.7	89.7	-
CTSA	139.9	100.0	99.6	256540
CTSD	174.4	98.4	95.0	610127
CTTNBP2	113.4	99.3	96.4	-
CTU2	141.9	100.0	98.7	618142
CUL3	121.8	99.4	97.4	619239
CUL4B	79.2	96.9	88.8	300354
CUX1	124.1	96.5	94.6	618330
CUX2	135.4	99.9	99.3	618141
CWC27	87.4	99.5	95.9	250410
CWF19L1	109.6	100.0	99.6	616127
CXorf56	73.5	99.4	92.9	301013
CYB5R3	161.6	99.1	98.1	250800
CYFIP2	117.8	99.9	98.7	618008
CYP27A1	165.1	99.7	98.1	213700
CYP2U1	125.9	95.3	92.0	615030
D2HGDH	142.4	99.7	98.2	600721
DAG1	202.8	100.0	99.9	616538;613818
DARS1	134.5	99.5	99.3	615281
DARS2	120.7	94.8	93.8	611105
DBT	112.5	99.1	96.1	248600
DCAF17	92.0	98.5	93.4	241080

DCC	124.0	100.0	100.0	617542;157600
DCHS1	155.3	99.9	99.4	601390
DCPS	139.9	91.3	91.2	616459
DCX	97.1	100.0	98.9	300067
DDB1	104.4	100.0	99.5	619426
DDC	101.9	99.2	95.0	608643
DDHD2	131.5	99.7	99.5	615033
DDX11	106.4	84.9	80.0	613398
DDX23	114.1	99.7	97.6	-
DDX3X	66.1	81.1	78.6	300958
DDX59	150.9	100.0	99.8	174300
DDX6	59.8	95.8	81.5	618653
DEAF1	109.9	99.0	94.5	615828;617171
DEGS1	139.6	100.0	100.0	618404
DENND5A	102.7	99.8	98.7	617281
DEPDC5	130.4	99.9	99.7	604364
DHCR24	154.7	97.7	97.7	602398
DHCR7	147.5	100.0	100.0	270400
DHDDS	80.8	99.4	95.6	617836
DHFR	43.9	88.9	76.3	613839
DHPS	126.9	100.0	99.8	618480
DHTKD1	123.4	99.8	98.8	204750
DHX16	145.5	100.0	99.7	618733
DHX30	158.5	100.0	100.0	617804
DHX37	121.9	99.8	97.0	618731
DIAPH1	100.4	99.8	98.4	616632
DIP2B	132.3	99.8	99.0	136630
DIS3L2	152.8	100.0	100.0	267000
DKC1	90.7	99.7	97.2	305000
DLD	112.4	99.9	99.7	246900

DLG3	77.1	98.9	92.5	300850
DLG4	151.4	99.1	98.7	-
DLL1	167.2	100.0	98.8	618709
DMD	115.1	99.5	98.1	310200
DMPK	157.5	99.8	98.4	160900
DMXL2	156.6	99.7	98.9	616113
DNAJC12	155.7	87.4	87.3	617384
DNAJC19	105.0	99.3	92.2	610198
DNM1	139.8	92.7	89.0	616346
DNM1L	118.8	99.6	98.3	614388
DNMT3A	134.0	99.8	98.2	615879
DNMT3B	123.2	100.0	99.9	242860
DOCK3	122.0	99.9	98.9	618292
DOCK6	124.2	99.4	98.7	614219
DOCK7	124.8	99.6	98.3	615859
DOLK	175.4	100.0	100.0	610768
DONSON	101.7	93.8	85.8	617604
DPAGT1	79.4	100.0	99.8	608093;614750
DPF2	101.3	99.5	96.4	618027
DPH1	166.1	100.0	99.9	616901
DPM1	129.7	97.4	90.9	608799
DPM2	87.3	100.0	97.7	615042
DPP6	127.1	99.7	97.9	616311
DPYD	146.1	99.5	96.5	274270
DPYS	118.4	100.0	100.0	222748
DPYSL5	123.0	100.0	99.9	619435
DYM	99.3	97.0	95.6	223800
DYNC1H1	140.2	99.9	99.3	158600;614228;614563
DYNC1I2	53.3	84.0	66.0	618492
DYRK1A	137.1	100.0	100.0	614104

EARS2	102.2	99.8	98.0	614924
EBF3	137.1	100.0	100.0	617330
EBP	67.1	99.5	94.3	302960;300960
ECHS1	97.3	100.0	99.4	616277
EDC3	108.5	100.0	99.5	616460
EED	75.9	95.6	91.7	617561
EEF1A2	184.6	100.0	100.0	616409;616393
EFNB2	152.7	100.0	99.7	-
EFTUD2	111.1	100.0	99.2	610536
EHMT1	128.4	94.5	93.6	610253
EIF2AK1	130.3	98.1	94.5	618878
EIF2AK2	141.1	99.7	98.9	618877
EIF2AK3	152.9	98.2	95.5	226980
EIF2B4	125.5	100.0	99.5	603896
EIF2B5	104.1	99.8	98.5	603896
EIF2S3	82.9	95.0	86.8	300148
EIF3F	63.5	97.1	82.5	618295
EIF4A3	87.6	100.0	99.2	268305
EIF5A	100.4	99.8	96.4	619376
ELAC2	109.3	100.0	99.2	615440
ELOVL4	104.8	99.7	98.9	614457
ELP2	123.4	99.8	98.3	617270
EMC1	112.1	99.9	98.0	616875
EMC10	120.4	97.1	92.0	619264
EML1	133.7	99.6	98.1	600348
EMX2	142.0	100.0	100.0	269160
ENTPD1	132.2	100.0	99.8	615683
EP300	174.2	99.9	98.9	613684;180849
EPG5	113.6	99.2	97.8	242840
EPHA7	138.2	100.0	99.4	-

ERCC1	81.0	100.0	96.4	610758
ERCC2	130.5	100.0	99.4	601675;610756;278730
ERCC3	92.3	96.8	95.6	616390;610651
ERCC5	118.6	99.9	99.0	616570
ERCC6	169.3	100.0	100.0	278800;133540;214150
ERCC8	92.6	99.0	94.8	216400
ERLIN2	119.7	100.0	99.1	611225
ESCO2	114.4	98.5	94.6	269000;268300
ETFB	125.0	100.0	99.9	231680
ETHE1	85.4	99.3	93.3	602473
EXOC2	107.5	99.8	99.5	619306
EXOC7	101.4	100.0	99.6	619072
EXOSC2	109.0	100.0	99.9	617763
EXOSC3	120.9	98.1	90.5	614678
EXOSC8	75.3	98.7	90.0	616081
EXOSC9	140.4	99.3	94.7	618065
EXTL3	170.1	100.0	100.0	617425
EZH2	144.1	99.7	98.0	277590
FA2H	86.5	92.4	82.6	612319
FAM126A	122.3	99.5	99.4	610532
FAM149B1	96.4	98.2	94.3	618763
FAM20C	135.5	100.0	100.0	259775
FAM50A	95.0	99.8	97.0	300261
FAR1	77.6	97.4	94.0	616154
FARS2	180.1	100.0	100.0	614946;617046
FARSB	81.0	98.0	92.9	613658
FAT4	202.7	100.0	100.0	616006;615546
FBRSL1	70.8	56.4	50.8	-
FBXL3	207.3	100.0	100.0	606220
FBXL4	166.7	100.0	100.0	615471



FBXO11	87.2	97.3	91.2	618089
FBXO31	110.6	97.0	94.2	615979
FDFT1	133.8	98.5	96.7	618156
FGD1	83.8	97.2	91.2	305400
FGF12	114.8	100.0	99.1	617166
FGF13	97.3	99.1	95.1	301058
FGF14	190.5	100.0	100.0	609307
FGFR1	128.6	100.0	99.3	101600;147950;166250;613001;615465
FGFR2	113.3	97.6	97.0	123790;101400;101600;609579;101200;207410;123500
FGFR3	124.7	99.8	98.0	616482;602849;187600;100800;146000;610474
FH	128.8	93.2	87.2	606812
FIBP	130.3	100.0	99.8	617107
FIGN	129.7	100.0	100.0	-
FKRP	140.6	100.0	100.0	236670;606612;613153
FKTN	108.4	99.8	95.2	613152;236670;611588;253800
FLNA	143.7	100.0	99.9	300049;304120;311300;300321;309350;305620
FLVCR1	142.6	99.7	98.3	609033
FLVCR2	124.9	100.0	100.0	225790
FMN2	100.2	85.5	82.8	616193
FMR1	86.1	95.2	90.1	300624;300623
FOLR1	103.2	100.0	99.9	613068
FOXG1	144.1	87.2	79.4	613454
FOXJ1	77.3	100.0	98.9	618699
FOXP1	115.2	99.9	99.1	613670
FOXP2	129.8	99.3	98.7	602081
FOXRED1	121.6	100.0	99.6	618241
FRAS1	124.8	100.0	99.2	219000
FRMD4A	114.4	91.3	89.4	616819
FRMPD4	107.4	97.0	94.2	300983
FRRS1L	110.8	82.5	73.7	616981

FTCD	106.4	97.7	93.2	229100
FTO	100.1	83.8	83.7	612938
FTSJ1	138.4	98.3	93.8	309549
FUCA1	126.0	100.0	100.0	230000
FUT8	127.5	99.8	98.9	618005
GABBR2	114.9	96.1	90.9	617904;617903
GABRA1	165.8	100.0	100.0	615744
GABRA2	148.2	99.5	96.9	618557
GABRA3	82.8	98.0	94.0	-
GABRA5	146.3	100.0	99.4	618559
GABRB1	188.3	100.0	100.0	617153
GABRB2	126.8	100.0	100.0	617829
GABRB3	129.6	99.8	98.1	617113
GABRG2	139.3	89.9	88.4	618396
GAD1	117.4	100.0	99.3	603513
GALC	98.7	99.7	97.6	245200
GALE	149.2	100.0	100.0	230350
GALNT2	117.7	99.8	97.1	618885
GALT	160.1	100.0	99.6	230400
GAMT	124.7	95.0	82.7	612736
GATAD2B	104.9	100.0	99.1	615074
GATM	140.6	100.0	100.0	612718
GCH1	78.0	99.9	97.3	233910
GCSH	27.8	75.7	64.4	605899
GDI1	143.7	99.8	98.6	300849
GEMIN5	121.8	99.9	98.7	619333
GFAP	101.2	91.7	89.5	203450
GFER	89.3	99.8	97.6	613076
GFM1	110.9	99.7	98.7	609060
GFM2	124.8	98.1	93.7	618397

GIGYF1	135.8	99.1	95.1	-
GJA1	151.1	100.0	100.0	257850;164200
GJB1	184.2	100.0	100.0	302800
GJC2	40.5	82.3	64.5	613206;608804
GK	44.9	84.2	61.8	307030
GLB1	77.0	99.2	92.8	230650;230600;230500
GLDC	57.7	88.9	77.8	605899
GLI2	163.8	99.8	98.6	610829;615849
GLI3	131.0	98.5	97.7	175700;146510
GLIS3	118.4	98.5	97.4	610199
GLS	79.5	96.9	88.5	618328
GLUD1	64.6	96.4	84.4	606762
GLYCTK	163.6	98.7	97.3	220120
GM2A	119.1	100.0	100.0	272750
GMPPA	163.9	100.0	100.0	615510
GMPPB	257.0	100.0	100.0	615352;615351;615350
GNAI1	76.7	97.2	89.7	No OMIM phenotype
GNAO1	157.1	93.8	93.8	615473;617493
GNAS	178.6	86.7	84.4	612463;219080;612462;103580
GNB1	161.1	100.0	100.0	616973
GNB5	109.1	99.9	96.5	617182;617173
GNPAT	124.5	99.5	95.6	222765
GNPTAB	148.1	99.9	99.7	252500;252600
GNPTG	144.9	99.8	96.6	252605
GNS	95.6	99.2	94.6	252940
GOT2	74.6	94.6	87.0	618721
GPAA1	114.1	98.6	95.5	617810
GPC3	77.3	98.8	92.9	312870
GPC4	106.3	99.9	98.3	301026
GPHN	153.4	99.9	99.1	615501

GPSM2	118.7	99.9	99.3	604213
GPT2	123.8	99.4	95.3	616281
GRIA2	120.6	99.7	96.6	618917
GRIA3	88.1	99.5	94.0	300699
GRIA4	133.5	99.8	98.9	617864
GRID2	159.5	100.0	99.8	616204
GRIK2	127.0	96.1	95.3	611092
GRIN1	162.9	100.0	99.9	617820;614254
GRIN2A	140.1	100.0	100.0	245570
GRIN2B	155.5	99.6	98.7	616139;613970
GRIN2D	74.5	83.8	69.4	617162
GRIP1	113.7	100.0	99.3	617667
GRM1	154.8	100.0	99.5	614831;617691
GRM7	129.0	99.9	99.1	618922
GRN	178.3	100.0	100.0	614706;607485
GSE1	135.9	100.0	99.4	-
GSS	96.3	96.5	96.3	266130
GTF2H5	72.3	72.2	71.7	616395
GTPBP2	128.9	99.8	98.5	617988
GTPBP3	176.4	100.0	99.9	616198
GUSB	108.2	92.5	90.1	253220
H1-4	108.9	100.0	100.0	617537
H4C3	100.3	100.0	100.0	-
HACE1	146.1	99.7	99.3	616756
HADH	109.8	99.2	97.7	609975
HADHA	70.8	95.5	88.3	609015
HADHB	73.3	97.7	87.0	609015
HAX1	148.7	100.0	100.0	610738
HCCS	99.1	99.3	96.1	309801
HCFC1	95.0	98.1	93.0	309541

HCN1	133.8	98.4	98.3	615871
HDAC4	124.4	100.0	99.9	-
HDAC6	117.9	99.5	97.1	300863
HDAC8	90.2	85.7	83.7	300882
HEATR5B	150.4	100.0	99.3	-
HECW2	114.5	99.8	98.2	617268
HEPACAM	126.0	86.8	78.5	604004;613925;613926
HERC1	147.2	100.0	99.9	617011
HERC2	104.1	79.7	76.7	176270;615516
HESX1	60.2	99.3	97.3	182230
HEXA	99.6	93.8	93.1	272800
HEXB	174.4	99.4	96.6	268800
HGSNAT	109.4	86.4	86.2	252930
HIBCH	70.8	98.2	84.5	250620
HIVEP2	159.9	100.0	99.9	616977
HK1	120.9	100.0	99.9	618547
HLCS	153.7	100.0	100.0	253270
HMGCL	108.0	100.0	99.4	246450
HNMT	144.2	99.9	99.5	616739
HNRNPD	60.0	86.3	79.8	-
HNRNPH1	99.5	99.1	94.2	No OMIM phenotype
HNRNPH2	127.2	100.0	100.0	300986
HNRNPK	63.3	88.8	78.1	616580
HNRNPU	144.7	99.9	98.7	617391
HOXA1	148.0	100.0	100.0	601536
HPD	158.2	100.0	99.8	276710
HPDL	208.5	100.0	100.0	619026
HPRT1	67.0	98.6	90.6	300322
HRAS	179.8	100.0	100.0	218040;163200
HS2ST1	113.6	99.6	99.2	619194

HSD17B10	103.8	99.9	98.3	300438
HSD17B4	114.3	95.3	92.8	261515;233400
HSPA9	76.1	87.1	82.8	616854
HSPD1	81.1	96.7	90.0	612233
HTRA2	120.2	100.0	99.6	617248
HUWE1	80.5	98.6	93.2	309590
HYLS1	145.3	100.0	100.0	236680
IARS1	127.5	99.9	99.4	617093
IARS2	144.8	99.9	99.8	616007
IBA57	129.2	95.4	91.7	615330
IDS	95.1	99.6	95.3	309900
IDUA	139.0	94.6	87.4	607014
IER3IP1	82.2	92.0	80.2	614231
IFIH1	127.4	99.5	97.3	615846
IFT172	94.8	99.6	98.6	615630;616394
IFT27	119.6	100.0	100.0	615996
IFT81	91.9	92.9	89.6	617895
IGBP1	99.0	98.8	93.5	300472
IGF1	87.4	99.8	99.8	608747
IGF1R	123.0	100.0	99.7	270450
IKBKG	55.8	84.6	75.2	308300
IL1RAPL1	109.4	99.8	98.5	300143
IMPA1	70.6	96.1	86.4	617323
INPP5E	113.1	96.9	93.2	610156;213300
INPP5K	95.6	100.0	99.7	617404
INTS1	122.3	99.8	98.6	618571
IQSEC1	92.7	88.6	86.1	618687
IQSEC2	69.3	94.6	84.0	309530
IREB2	137.2	99.9	99.8	618451
IRF2BPL	160.3	100.0	97.9	618088

ISCA2	110.4	99.8	96.5	616370
ITGA7	141.7	99.7	97.9	613204
ITPA	126.4	100.0	100.0	616647
ITPR1	131.7	100.0	99.5	206700;117360
IVD	90.4	100.0	99.9	243500
JAG1	127.4	97.8	96.7	118450
JAM3	134.7	100.0	100.0	613730
JARID2	139.6	100.0	100.0	-
JMJD1C	139.8	99.5	98.9	-
KANK1	127.5	100.0	99.9	612900
KANSL1	143.1	99.8	98.2	610443
KAT5	146.9	99.8	97.8	619103
KAT6A	157.2	100.0	99.2	616268
KAT6B	148.0	99.4	98.0	606170;603736
KAT8	107.1	100.0	98.6	618974
KATNB1	146.7	100.0	100.0	616212
KCNA2	132.6	100.0	99.6	616366
KCNA4	125.0	100.0	100.0	618284
KCNB1	135.0	100.0	99.7	616056
KCNC1	163.2	100.0	100.0	616187
KCNC3	108.4	76.9	64.2	605259
KCNH1	153.7	98.7	98.5	611816;135500
KCNJ10	146.8	89.2	88.5	612780;274600
KCNJ11	174.3	100.0	100.0	606176
KCNJ6	156.8	100.0	100.0	614098
KCNK4	188.7	99.6	98.1	618381
KCNK9	170.6	97.3	97.3	612292
KCNMA1	105.6	94.0	93.0	617643;618729
KCNN2	80.5	73.7	72.7	-
KCNN3	128.6	100.0	99.7	618658

KCNQ2	117.0	91.2	89.1	121200;613720
KCNQ3	106.7	99.8	97.2	121201
KCNQ5	135.9	97.4	95.3	617601
KCNT1	134.5	95.8	95.0	615005;614959
KCNT2	105.9	99.1	96.9	617771
KCTD3	133.2	99.7	99.4	No OMIM phenotype
KCTD7	161.4	95.0	95.0	611726
KDM1A	123.7	97.7	95.1	616728
KDM3B	118.2	97.8	96.2	-
KDM4B	149.5	99.8	98.6	619320
KDM5B	112.2	93.4	90.7	618109
KDM5C	101.9	99.7	97.7	300534
KDM6A	98.7	94.2	85.9	147920;300867
KDM6B	151.7	98.6	97.4	618505
KIAA0586	126.1	97.1	92.0	616490
KIAA1109	143.1	99.8	99.0	617822
KIDINS220	143.1	100.0	99.9	617296
KIF11	87.8	96.8	93.1	152950
KIF14	124.3	99.2	96.8	617914
KIF1A	116.1	97.4	95.3	614213;614255
KIF21B	124.1	98.1	96.8	-
KIF2A	103.7	99.0	95.3	615411
KIF3B	99.2	99.9	98.9	No OMIM phenotype
KIF4A	77.7	98.4	92.2	300923
KIF5A	123.5	100.0	99.8	617235
KIF5C	101.4	99.6	97.0	615282
KIF7	105.7	93.6	91.9	200990;607131
KIFBP	144.9	96.1	96.0	609460
KIRREL3	127.2	99.9	98.8	612581
KLF7	118.1	100.0	98.9	-



KLHL15	134.2	99.9	99.1	300982
KMT2A	129.6	100.0	99.7	605130
KMT2B	143.6	96.2	94.0	617284
KMT2C	147.1	91.9	90.3	617768
KMT2D	133.9	99.9	99.0	147920
KMT2E	160.3	99.6	98.1	618512
KMT5B	164.4	99.7	98.5	617788
KNL1	103.3	99.1	97.3	604321
KPTN	137.0	100.0	100.0	615637
KRAS	68.4	99.0	97.8	615278;609942;163200
L1CAM	132.7	100.0	98.8	307000;304100;303350
L2HGDH	123.6	98.9	96.4	236792
LAMA1	123.5	99.9	99.3	615960
LAMA2	131.5	99.9	99.1	618138;607855
LAMB1	143.0	100.0	99.6	615191
LAMB2	174.2	99.9	99.3	609049
LAMC3	159.8	98.9	97.5	614115
LAMP2	88.2	99.3	96.0	300257
LARGE1	110.3	100.0	99.7	236670;608840;613154
LARP7	61.6	86.6	75.4	615071
LARS1	130.2	99.4	97.2	-
LAS1L	89.9	99.5	95.7	309585
LIAS	130.5	99.8	98.9	614462
LIG4	183.8	99.8	99.3	606593
LINGO1	152.5	100.0	100.0	618103
LINS1	123.0	99.8	98.8	614340
LMAN2L	114.7	100.0	99.5	616887
LMBRD2	122.1	99.1	95.6	-
LMNB1	101.1	99.9	99.2	619179
LMNB2	132.3	98.3	95.5	619180

LONP1	146.9	100.0	99.9	600373
LRP2	147.6	100.0	99.8	222448
LRPPRC	130.9	99.7	99.3	220111
LYRM7	63.5	95.6	86.5	615838
LYST	140.4	99.4	97.8	214500
LZTFL1	112.9	99.7	99.4	615994
LZTR1	141.0	100.0	99.9	616564;605275
MAB21L1	162.3	100.0	100.0	-
MAB21L2	193.2	100.0	100.0	615877
MACF1	121.8	99.6	98.7	618325
MADD	129.0	100.0	99.2	619005
MAF	71.4	84.3	78.9	601088
MAG	163.9	100.0	100.0	616680
MAGEL2	114.3	94.1	89.1	176270;615547
MAN1B1	126.7	100.0	99.7	614202
MAN2B1	140.0	99.6	97.4	248500
MANBA	103.5	87.1	84.9	248510
MAOA	101.4	100.0	99.8	300615
MAP1B	125.6	98.9	97.1	-
MAP2K1	91.3	99.6	96.1	163950;615279
MAP2K2	128.3	98.5	95.3	615280
MAPK1	129.8	100.0	99.9	619087
MAPK8IP3	164.3	99.4	99.0	-
MAPKAPK5	107.6	92.2	92.2	-
MAPRE2	153.4	100.0	98.5	616734
MASP1	141.9	100.0	99.6	257920
MAST1	159.1	99.8	99.3	618273
MAT1A	149.8	99.9	98.5	250850
MBD5	148.0	99.9	99.8	156200
MBOAT7	112.6	100.0	99.3	617188

MBTPS2	116.3	99.9	98.5	308205
MCCC1	149.2	99.9	98.7	210200
MCCC2	117.3	99.9	99.1	210210
MCOLN1	159.2	99.8	98.8	252650
MCPH1	133.9	99.8	98.6	251200
MDH2	102.0	98.0	98.0	617339
MECP2	128.3	99.8	97.5	300260;312750;300673;300055
MECR	104.1	100.0	98.7	617282
MED12	88.0	99.3	94.1	300895;305450;309520
MED13	152.6	99.9	99.6	-
MED13L	111.6	100.0	99.5	616789
MED17	123.7	95.8	92.4	613668
MED23	134.0	99.9	99.0	614249
MED25	148.5	100.0	99.9	616449
MED27	40.7	79.0	65.9	619286
MEF2C	133.8	99.7	95.7	613443
MEGF8	141.9	100.0	99.2	614976
MEIS2	122.2	100.0	99.7	600987
METTTL23	125.2	100.0	100.0	615942
METTTL5	124.6	98.9	97.4	-
MFF	88.3	93.9	89.4	617086
MFSD2A	123.0	99.5	97.3	616486
MFSD8	121.3	99.6	99.4	610951
MGAT2	125.7	100.0	99.9	212066
MGP	138.7	98.7	93.6	245150
MIA3	121.4	99.8	99.3	619269
MICU1	112.0	97.3	92.2	615673
MID1	137.3	99.6	97.7	300000
MID2	108.9	99.8	98.6	300928
MINPP1	167.9	99.7	99.3	-

MKKS	204.9	100.0	100.0	605231
MKS1	93.4	99.4	96.3	615990;617121
MLC1	99.5	100.0	98.8	604004
MLYCD	85.3	96.8	92.5	248360
MMAA	169.4	100.0	100.0	251100
MMAB	109.1	100.0	99.9	251110
MMACHC	198.3	100.0	100.0	277400
MMADHC	90.8	91.6	81.3	277410
MMGT1	110.2	99.2	98.4	-
MMUT	142.3	99.7	98.2	251000
MN1	119.7	100.0	99.7	618774
MOCS1	92.4	98.9	95.5	252150
MOCS2	143.2	99.4	99.4	252160
MOGS	149.2	100.0	99.9	606056
MORC2	127.4	100.0	99.5	619090
MPDU1	105.1	100.0	99.2	609180
MPDZ	134.4	99.8	98.5	615219
MPLKIP	91.8	100.0	99.4	234050
MPP5	139.7	99.8	99.1	-
MPV17	93.4	100.0	98.7	256810
MRAS	105.3	100.0	99.3	618499
MRPS22	127.4	99.7	98.3	611719
MSL2	173.8	100.0	100.0	-
MSL3	74.9	83.4	75.3	-
MSMO1	54.6	93.1	86.8	616834
MTFMT	138.9	99.9	99.5	614947;618248
MTHFR	111.9	97.3	95.9	236250
MTHFS	86.8	75.0	75.0	618367
MTO1	138.3	90.9	88.8	614702
MTOR	114.4	99.9	98.9	607341;616638

MTR	135.6	100.0	99.9	250940
MTRR	129.7	99.8	98.4	236270
MVK	117.9	91.4	90.5	610377
MYCN	164.2	100.0	100.0	164280
MYH9	132.2	99.9	98.9	603622
MYO5A	119.3	99.6	98.3	214450
MYO9A	142.0	99.8	98.9	No OMIM phenotype
MYT1L	130.0	87.0	86.3	616521
NAA10	110.0	99.8	97.9	300855;309800
NAA15	85.7	94.8	91.2	617787
NAA20	118.6	99.9	99.3	-
NACC1	160.6	100.0	100.0	617393
NAGA	149.9	100.0	100.0	609242;609241
NAGLU	119.2	93.8	91.7	252920
NALCN	115.1	99.7	98.9	616266;615419
NANS	98.3	100.0	99.9	610442
NARS1	159.2	100.0	100.0	619091
NARS2	116.3	97.9	97.1	616239
NAXE	80.6	100.0	98.6	617186
NBEA	129.9	91.8	90.3	-
NBN	96.9	99.2	97.8	251260
NCAPG2	123.2	99.8	99.0	618460
NCDN	157.5	100.0	99.9	619373
NCKAP1	104.3	98.5	96.1	-
NDE1	96.2	100.0	99.4	605013;614019
NDP	89.6	100.0	99.7	310600
NDST1	194.3	100.0	100.0	616116
NDUFA1	185.7	99.8	99.3	301020
NDUFA11	118.1	100.0	99.8	618236
NDUFA12	173.0	99.6	99.6	618244

NDUFA2	140.6	100.0	100.0	618235
NDUFA8	135.2	100.0	97.3	619272
NDUFAF3	128.1	100.0	99.9	618240
NDUFAF5	119.6	99.7	99.1	618238
NDUFAF8	38.3	62.6	61.7	618776
NDUFS1	161.0	99.9	99.1	618226
NDUFS2	98.4	100.0	100.0	618228
NDUFS3	127.5	90.7	90.6	618230
NDUFS4	156.0	99.7	99.7	252010
NDUFS6	115.6	100.0	99.8	618232
NDUFS7	146.6	100.0	99.7	618224
NDUFS8	140.2	100.0	99.1	618222
NDUFV1	138.5	99.0	97.0	618225
NDUFV2	69.8	85.8	78.7	618229
NEDD4L	98.2	71.9	71.7	617201
NEMF	115.6	99.6	98.3	619099
NEU1	144.9	99.3	96.1	256550
NEUROD2	100.1	100.0	100.0	618374
NEXMIF	129.9	99.9	99.0	300912
NF1	117.2	91.8	89.3	162200;601321
NFE2L2	161.7	100.0	99.9	617744
NFIA	157.3	99.2	98.4	613735
NFIB	109.3	97.4	96.0	618286
NFIX	172.2	100.0	99.3	602535;614753
NFU1	62.6	98.7	87.7	605711
NGLY1	142.3	99.8	99.7	615273
NHS	113.5	96.1	94.1	302350
NIPBL	119.2	98.4	96.3	122470
NKAP	90.5	99.0	94.1	301039
NKX2-1	67.3	99.3	89.3	118700;610978

NLGN2	142.5	93.7	88.6	No OMIM phenotype
NLGN3	141.3	99.7	98.2	300425
NLGN4X	145.2	99.8	98.2	300495
NONO	82.7	99.8	97.2	300967
NOVA2	120.6	99.0	92.8	-
NPC1	114.4	99.9	99.0	257220
NPC2	136.0	100.0	99.2	607625
NPHP1	135.6	99.8	99.1	609583
NR2F1	188.1	100.0	100.0	615722
NR4A2	120.2	100.0	100.0	-
NRAS	163.7	100.0	100.0	249400;613224;163200
NRROS	253.1	100.0	100.0	618875
NRXN1	148.5	97.5	96.9	614325
NSD1	137.5	100.0	99.8	117550
NSD2	124.0	99.9	98.3	-
NSDHL	132.0	99.8	96.3	308050;300831
NSF	142.3	99.5	99.3	619340
NSUN2	105.9	95.5	92.9	611091
NT5C2	126.3	97.7	94.6	613162
NTNG2	157.8	99.1	97.3	618718
NTRK1	138.8	99.9	98.5	256800
NTRK2	147.5	100.0	99.9	613886;617830
NUBPL	94.2	99.5	96.9	618242
NUDT2	105.2	100.0	100.0	-
NUP107	126.9	99.7	98.4	618348
NUP188	137.1	99.9	99.1	618804
NUP214	161.4	99.8	99.0	-
NUP62	106.6	100.0	100.0	271930
NUS1	57.9	56.5	42.0	617831;617082
OAT	72.2	82.0	73.0	258870

OCLN	193.1	100.0	99.9	251290
OCRL	107.2	99.4	97.6	300555;309000
ODC1	130.0	100.0	99.3	-
OFD1	50.3	87.1	71.3	300804;311200;300209
OGT	114.7	99.7	98.3	300997
OPA3	134.8	100.0	99.5	258501
OPHN1	88.4	99.3	96.3	300486
ORC1	92.5	99.9	97.9	224690
OSGEP	97.9	99.8	95.7	617729
OTC	120.4	100.0	99.9	311250
OTUD5	51.9	89.0	76.4	301056
OTUD6B	93.7	99.7	98.6	617452
OTX2	124.0	100.0	99.0	610125
OXR1	109.8	99.2	96.3	213000
P4HTM	158.5	99.3	97.6	-
PACS1	110.3	99.8	99.0	615009
PACS2	164.7	99.8	97.1	618067
PAFAH1B1	89.9	93.5	84.9	607432
PAH	130.6	100.0	100.0	261600
PAK1	109.5	100.0	99.4	618158
PAK3	78.8	98.9	93.6	300558
PAM16	62.7	65.3	65.2	613320
PANK2	159.3	100.0	99.7	234200;607236
PANX1	124.9	100.0	100.0	-
PARN	110.0	81.1	80.4	616353
PAX1	178.2	92.6	87.5	615560
PAX6	117.9	100.0	99.9	194072
PAX7	142.9	100.0	100.0	618578
PAX8	93.8	100.0	99.6	218700
PBX1	120.7	100.0	99.1	617641



PC	158.4	99.7	98.0	266150
PCCA	103.7	98.9	93.4	606054
PCCB	107.3	96.7	95.4	606054
PCDH12	188.9	100.0	100.0	251280
PCDH19	158.0	99.7	97.7	300088
PCDHGC4	170.9	100.0	100.0	-
PCGF2	99.2	99.6	93.3	618371
PCLO	142.9	99.4	98.3	608027
PCNT	108.5	99.3	96.5	210720
PCYT2	144.6	100.0	98.3	618770
PDE2A	114.0	100.0	99.5	619150
PDE4D	106.2	95.7	93.1	614613
PDGFRB	143.8	99.2	97.3	616592
PDHA1	85.2	98.8	95.9	312170
PDHB	111.0	99.2	96.8	614111
PDHX	143.5	99.8	99.6	245349
PDP1	129.4	100.0	100.0	608782
PDSS1	110.5	95.2	87.8	614651
PDSS2	112.7	98.4	94.3	614652
PEPD	103.8	100.0	99.4	170100
PET100	88.7	100.0	99.2	220110
PEX1	135.8	99.8	99.4	601539;214100
PEX10	105.9	98.8	90.6	614871;614870
PEX11B	89.6	100.0	98.3	614920
PEX12	132.6	100.0	100.0	266510
PEX13	168.6	100.0	100.0	614883
PEX16	167.1	97.1	93.9	614876;614877
PEX19	87.0	99.0	94.4	614886
PEX2	133.2	100.0	100.0	614866;614867
PEX26	86.7	100.0	99.8	614873

PEX3	98.2	99.4	99.2	614882;617370
PEX5	110.1	99.9	98.8	616716;202370;214110
PEX6	109.2	96.4	88.0	614863
PEX7	113.8	88.0	81.0	215100;614879
PGAP1	106.2	98.7	94.6	615802
PGAP2	138.8	100.0	99.9	614207
PGAP3	66.7	62.6	58.1	615716
PGK1	43.3	90.3	73.2	300653
PGM2L1	159.1	99.8	97.7	-
PGM3	147.5	99.9	99.7	615816
PHACTR1	105.3	100.0	99.6	618298
PHF21A	102.4	100.0	99.7	-
PHF6	61.0	96.2	84.7	301900
PHF8	81.8	98.9	94.4	300263
PHGDH	111.5	99.9	98.2	601815
PHIP	134.3	98.2	95.7	617991
PI4KA	95.6	92.6	88.7	616531
PIBF1	64.2	99.1	95.0	617767
PIDD1	151.5	100.0	99.5	-
PIGA	73.9	91.6	82.5	300868
PIGB	107.3	99.5	97.3	618580
PIGC	84.9	96.0	86.2	617816
PIGG	149.8	100.0	99.6	616917
PIGH	80.1	81.9	64.4	618010
PIGK	80.0	98.8	94.2	618879
PIGL	123.6	100.0	99.6	280000
PIGN	96.7	93.1	89.6	614080
PIGO	149.1	100.0	99.8	614749
PIGP	76.2	95.6	85.5	617599
PIGQ	143.1	93.4	91.6	618548

PIGS	93.5	100.0	99.6	618143
PIGT	168.8	98.1	98.0	615398
PIGU	90.4	100.0	99.5	618590
PIGV	122.2	100.0	100.0	239300
PIGW	137.3	100.0	99.7	616025
PIGY	87.8	100.0	100.0	616809
PIK3CA	128.2	97.7	97.3	615108;602501
PIK3R2	108.2	90.9	89.1	603387
PISD	161.8	100.0	99.7	618889
PITRM1	104.7	98.2	96.2	No OMIM phenotype
PJA1	116.5	100.0	100.0	-
PLA2G6	111.6	92.1	90.7	610217;256600
PLAA	177.4	99.6	98.4	617527
PLCB1	136.7	99.9	99.4	613722
PLK1	99.7	100.0	99.0	-
PLK4	145.5	99.4	98.4	616171
PLP1	117.9	99.9	97.7	312920;312080
PLPBP	90.1	95.1	88.9	617290
PLXNA1	190.3	100.0	99.9	-
PLXND1	112.8	98.9	96.1	-
PMM2	127.8	99.8	99.8	212065
PMPCA	105.8	97.6	93.5	213200
PMPCB	127.4	99.9	99.2	617954
PNKP	115.5	100.0	100.0	613402;616267
PNP	109.8	99.8	98.7	613179
PNPLA6	144.9	100.0	99.8	215470;275400;245800
POGZ	119.1	99.4	98.8	616364
POLA1	106.1	99.0	93.6	301030
POLG	113.2	99.9	98.8	607459;203700;613662
POLR1C	83.8	89.6	84.8	616494

POLR2A	162.8	100.0	100.0	618603
POLR3A	115.6	99.9	99.0	264090;607694
POLR3B	131.0	99.7	97.6	607694;614381
POMGNT1	116.4	100.0	99.8	613151;253280;613157
POMGNT2	182.2	100.0	100.0	618135;614830
POMK	152.4	100.0	100.0	615249;616094
POMT1	131.1	99.5	97.3	609308;236670;613155
POMT2	98.9	99.8	97.3	613156;236670;613158;613150
PORCN	110.8	100.0	99.1	305600
POU1F1	108.6	99.9	98.2	613038
POU3F3	37.2	76.5	63.8	-
PPIL1	138.5	100.0	100.0	-
PPM1D	148.9	100.0	99.9	617450
PPP1CB	109.6	99.8	98.7	617506
PPP1R12A	122.1	97.8	95.9	618820
PPP1R15B	120.3	100.0	99.6	616817
PPP1R21	125.5	99.3	95.5	-
PPP2CA	161.3	100.0	100.0	618354
PPP2R1A	129.7	91.6	91.6	616362
PPP2R5B	121.8	100.0	100.0	-
PPP2R5C	103.0	96.2	90.5	-
PPP2R5D	150.8	100.0	99.8	616355
PPP3CA	126.9	99.7	96.7	617711
PPT1	137.3	90.3	89.9	256730
PQBP1	138.7	100.0	99.3	309500
PRDM15	130.2	99.6	96.9	-
PRKACB	128.1	98.5	96.1	-
PRKAR1A	78.7	97.0	89.1	101800;610489
PRKAR1B	136.9	100.0	100.0	-
PRMT7	128.4	100.0	99.9	617157

PRODH	81.3	84.0	80.2	239500
PRPS1	103.4	86.4	86.3	301835;311070;300661
PRR12	131.4	98.4	96.7	-
PRSS12	138.1	100.0	99.9	249500
PRUNE1	118.9	93.6	93.1	617481
PSAP	99.1	100.0	99.6	249900
PSAT1	43.1	92.0	75.1	610992
PSMC5	128.9	100.0	100.0	-
PSMD12	77.7	96.7	89.6	617516
PSPH	139.8	100.0	100.0	614023
PTCH1	110.2	99.3	96.6	109400;610828
PTCHD1	143.3	100.0	99.9	300830
PTDSS1	113.5	100.0	100.0	151050
PTEN	144.3	99.5	97.2	605309;158350
PTF1A	85.6	98.8	91.1	609069
PTPN11	81.2	97.7	87.6	163950;151100
PTPN23	153.4	100.0	100.0	618890
PTRH2	223.0	100.0	100.0	616263
PTRHD1	170.0	100.0	100.0	-
PTS	104.8	99.5	99.0	261640
PUF60	184.6	99.9	99.2	615583
PUM1	130.9	100.0	99.4	617931
PURA	144.6	98.6	94.6	616158
PUS1	117.5	99.9	98.0	600462
PUS3	157.8	100.0	100.0	617051
PUS7	155.7	99.8	99.7	618342
PYCR1	95.6	100.0	98.2	612940;614438
PYCR2	127.2	100.0	99.3	616420
QARS1	135.7	100.0	100.0	615760
QDPR	97.7	100.0	98.9	261630

QRICH1	131.5	100.0	99.0	617982
RAB11B	212.9	100.0	100.0	617807
RAB14	105.6	98.8	94.4	-
RAB18	73.6	98.9	94.5	614222
RAB23	114.7	99.7	99.7	201000
RAB27A	131.6	99.5	99.5	607624
RAB39B	96.8	100.0	99.8	311510;300271
RAB3GAP1	119.5	99.2	98.7	600118
RAB3GAP2	90.7	99.1	96.3	614225;212720
RAC1	113.5	99.6	96.3	617751
RAC3	125.8	98.0	94.3	618577
RAD21	89.2	99.2	95.9	614701
RAF1	101.0	99.9	99.2	611553
RAI1	197.2	100.0	100.0	182290
RALA	115.4	89.1	82.1	-
RALGAPA1	48.8	73.6	61.2	618797
RARB	93.0	100.0	99.8	615524
RARS1	94.8	94.1	91.8	616140
RARS2	104.3	99.7	98.6	611523
RBBP8	123.5	99.7	99.4	606744;251255
RBFOX1	150.1	89.2	88.6	-
RBM10	119.3	99.8	97.3	311900
RBM28	132.5	100.0	100.0	612079
RBPJ	79.8	97.4	89.0	614814
RCBTB1	106.1	99.7	98.6	617175
RECQL4	158.3	99.9	98.6	268400;218600
RELN	132.2	100.0	99.6	257320
RERE	71.1	93.3	85.2	616975
REV3L	136.3	97.4	97.0	-
RFT1	106.1	99.7	98.4	612015

RFX3	152.2	100.0	100.0	-
RHEB	38.3	86.5	70.4	-
RHOBTB2	204.0	100.0	100.0	618004
RIC1	137.1	99.9	99.8	618761
RIMS2	130.3	96.6	94.5	618970
RIT1	158.7	100.0	100.0	615355
RLIM	105.9	99.8	98.0	300978
RMND1	156.8	99.7	97.2	614922
RMRP				607095
RNASEH2A	140.3	100.0	99.7	610333
RNASEH2B	97.2	81.0	78.2	610181
RNASEH2C	271.1	100.0	100.0	610329
RNASET2	105.0	95.7	91.0	612951
RNF113A	127.0	100.0	100.0	300953
RNF125	176.6	100.0	98.3	616260
RNF13	81.6	94.8	83.2	618379
RNU4ATAC				226960;210710;616651
ROGDI	102.4	98.6	95.2	226750
ROR2	172.6	100.0	99.4	268310
RORA	99.7	96.2	89.4	618060
RPGRIP1L	129.9	96.5	95.3	216360;611560
RPIA	99.6	99.1	96.1	608611
RPL10	76.9	96.7	87.5	300998
RPS19	95.1	100.0	99.9	105650
RPS6KA3	92.3	98.4	91.4	300844;303600
RRM2B	147.5	100.0	99.8	612075
RSPRY1	146.8	99.9	99.9	616723
RSRC1	67.3	99.0	94.6	618402
RTEL1	130.0	99.7	97.2	615190
RTN4IP1	78.6	99.6	97.3	616732

RTTN	120.4	98.6	97.6	614833
RUBCN	105.6	99.7	97.9	615705
RUSC2	187.4	100.0	100.0	617773
RXYLT1	145.6	99.2	95.9	615041
SALL1	117.9	99.7	97.5	107480
SAMD9	158.4	99.9	99.8	617053
SAMHD1	137.6	98.5	97.9	612952
SARS1	116.5	100.0	99.3	617709
SATB1	107.7	96.4	96.0	619228
SATB2	102.1	99.5	96.5	612313
SBDS	176.5	100.0	99.9	260400
SC5D	178.6	99.9	99.1	607330
SCAF4	115.4	99.3	97.1	-
SCAMP5	120.9	100.0	100.0	-
SCAPER	150.7	99.5	97.1	618195
SCN1A	125.3	99.7	99.1	607208
SCN1B	172.2	98.2	96.3	617350
SCN2A	142.3	99.4	97.4	613721
SCN3A	150.4	99.8	99.1	617935;617938
SCN8A	168.5	100.0	99.5	614306;614558
SCO1	93.4	97.6	94.4	220110
SCO2	117.1	100.0	100.0	604377
SCUBE3	137.9	100.0	99.8	-
SCYL1	152.8	100.0	99.9	616719
SDCCAG8	115.0	99.8	99.8	615993
SDHA	94.3	84.5	77.9	256000;252011
SEC31A	112.1	99.0	96.2	618651
SEMA3E	137.7	99.1	98.9	214800
SEPSECS	154.7	99.9	99.6	613811
SERAC1	108.9	99.6	99.5	614739



SET	55.7	96.7	87.4	618106
SETBP1	117.8	99.5	98.3	269150;616078
SETD1A	163.9	100.0	99.7	-
SETD1B	172.9	98.3	97.6	-
SETD2	140.0	99.9	99.6	616831
SETD5	148.2	100.0	99.7	615761
SFXN4	102.7	99.6	97.4	615578
SGPL1	142.2	100.0	100.0	617575
SGSH	143.6	94.8	94.1	252900
SHANK2	141.9	97.7	97.5	613436
SHANK3	121.9	92.4	84.9	606232
SHH	125.7	100.0	100.0	147250
SHMT2	174.4	100.0	100.0	619121
SHOC2	141.2	99.8	99.6	607721
SHROOM4	94.3	99.8	98.1	300434
SIAH1	130.4	100.0	99.9	No OMIM phenotype
SIK1	108.5	98.2	93.9	616341
SIL1	148.1	98.7	96.0	248800
SIN3A	116.2	99.8	98.2	613406
SIN3B	124.2	96.6	96.0	-
SIX3	164.7	99.3	96.9	157170
SKI	110.2	99.7	97.1	182212
SLC12A2	101.6	94.4	92.4	619080;619083
SLC12A5	110.1	83.9	83.8	616645
SLC12A6	125.8	100.0	100.0	218000
SLC13A5	151.1	100.0	100.0	615905
SLC16A2	58.9	97.6	88.4	300523
SLC17A5	116.5	99.6	96.2	604369;269920
SLC19A3	130.4	97.8	97.0	607483
SLC1A1	146.7	100.0	99.5	222730

SLC1A2	97.7	96.1	94.8	617105
SLC1A4	146.4	99.6	97.0	616657
SLC25A1	91.4	96.9	89.8	615182
SLC25A12	147.0	100.0	99.2	612949
SLC25A15	161.2	99.3	96.6	238970
SLC25A22	117.3	99.2	96.5	609304
SLC25A24	128.8	99.3	98.8	612289
SLC25A42	133.3	97.1	94.3	618416
SLC2A1	164.2	92.8	92.7	606777;608885;612126;601042
SLC33A1	120.6	99.8	98.5	614482
SLC35A1	124.0	99.7	99.3	603585
SLC35A2	110.5	99.6	97.7	300896
SLC35A3	72.7	80.4	78.8	615553
SLC35C1	178.7	100.0	99.4	266265
SLC39A14	102.8	100.0	99.0	617013
SLC39A8	126.5	100.0	99.7	616721
SLC46A1	103.5	100.0	98.5	229050
SLC4A4	122.1	99.9	99.4	604278
SLC5A6	172.1	100.0	100.0	618973
SLC6A1	128.2	96.7	96.6	616421
SLC6A17	159.4	100.0	100.0	616269
SLC6A19	135.9	100.0	100.0	234500;242600
SLC6A3	146.8	100.0	99.9	613135
SLC6A8	54.5	94.8	83.0	300352
SLC6A9	155.6	100.0	99.6	617301
SLC7A7	114.4	100.0	99.9	222700
SLC9A6	106.7	94.7	90.2	300243
SLC9A7	80.1	97.4	89.8	301024
SMAD4	113.8	99.9	99.9	139210
SMARCA1	99.5	99.1	96.3	-

SMARCA2	109.2	96.7	96.3	601358
SMARCA4	154.0	99.9	99.2	614609
SMARCA5	100.7	99.3	96.9	-
SMARCB1	201.9	100.0	99.9	614608
SMARCC2	100.4	98.8	95.7	618362
SMARCD1	118.2	94.9	89.8	-
SMARCE1	74.4	93.7	85.9	616938
SMC1A	89.7	99.6	97.1	300590
SMC3	79.3	94.5	89.0	610759
SMG8	151.1	100.0	100.0	619268
SMG9	98.8	100.0	100.0	616920
SMOC1	116.5	99.8	98.2	206920
SMPD1	154.8	100.0	99.9	257200
SMPD4	98.8	99.6	95.0	618622
SMS	66.0	87.9	72.1	309583
SNAP25	115.9	100.0	99.8	616330
SNAP29	146.8	100.0	100.0	609528
SNIP1	154.3	99.2	97.3	614501
SNORD118				614561
SNRPB	79.3	100.0	98.6	117650
SNRPN	92.4	99.8	96.5	209850;176270
SNX14	81.0	98.9	93.6	616354
SNX27	112.1	100.0	99.1	-
SOBP	171.4	98.5	95.9	613671
SON	123.9	97.6	92.6	617140
SOS1	104.8	99.6	97.9	610733
SOS2	103.3	99.6	98.7	616559
SOX10	69.2	99.9	97.2	609136;611584
SOX11	173.3	100.0	100.0	615866
SOX2	194.7	100.0	99.8	206900

SOX3	54.4	94.9	81.2	300123
SOX4	84.7	97.7	90.6	-
SOX5	93.7	99.8	97.6	616803
SOX6	102.8	99.9	98.9	618971
SPART	137.8	99.7	96.4	275900
SPAST	96.0	99.4	98.1	182601
SPATA5	137.1	99.8	99.5	616577
SPECC1L	118.1	96.0	95.0	145410
SPEN	156.5	100.0	99.8	619312
SPG11	119.3	99.8	99.0	616668;604360
SPOCK1	103.9	100.0	99.7	-
SPOP	147.3	100.0	100.0	618828
SPR	153.3	100.0	99.4	612716
SPRED1	146.8	99.8	98.2	611431
SPTAN1	112.6	99.1	97.9	613477
SPTBN1	150.8	99.9	99.4	619475
SPTBN2	126.1	100.0	99.4	615386;600224
SPTBN4	91.6	98.1	92.1	617519
SRCAP	154.9	99.7	98.9	136140
SRD5A3	122.0	100.0	99.1	612713;612379
SRPX2	64.4	99.3	93.6	300643
SRRM2	178.9	100.0	99.8	-
SSR4	114.0	100.0	99.5	300934
ST3GAL3	95.7	68.8	68.2	611090;615006
ST3GAL5	94.7	85.9	84.0	609056
STAG1	117.6	99.4	96.2	617635
STAG2	74.1	97.0	86.9	301022
STAMPB	94.2	99.4	96.4	614261
STIL	158.3	99.9	99.7	612703
STRA6	131.1	100.0	99.9	601186

STRADA	114.7	100.0	99.0	611087
STT3A	135.2	100.0	100.0	615596
STT3B	127.7	99.7	99.4	615597
STX1B	144.7	100.0	100.0	616172
STXBP1	105.8	96.8	96.2	612164
SUCLA2	55.1	88.8	79.4	612073
SUCLG1	102.4	100.0	99.7	245400
SUMF1	91.4	98.3	92.5	272200
SUOX	179.3	100.0	100.0	272300
SUPT16H	73.0	97.0	89.3	-
SURF1	81.5	89.5	88.1	256000
SUZ12	115.7	90.7	86.2	-
SVBP	116.3	100.0	100.0	-
SYN1	60.6	82.0	71.6	300491
SYNCRIP	58.1	97.0	82.0	-
SYNGAP1	154.8	98.8	97.4	612621
SYNJ1	133.5	99.7	98.1	617389;615530
SYP	64.3	99.9	96.2	300802
SYT1	144.4	99.5	97.5	618218
SZT2	144.1	99.6	99.3	615476
TACO1	86.6	98.9	93.7	619052
TAF1	89.4	99.2	95.7	300966
TAF13	95.7	99.6	99.1	617432
TAF1C	153.4	100.0	100.0	-
TAF2	116.6	99.5	98.6	615599
TAF6	128.1	99.6	98.1	617126
TANC2	145.1	99.8	98.9	-
TANGO2	127.0	100.0	99.3	616878
TAOK1	126.8	99.6	97.5	-
TASP1	132.3	99.8	98.7	-

TAT	113.5	100.0	100.0	276600
TBC1D20	114.7	94.3	93.9	615663
TBC1D23	95.2	98.7	94.5	617695
TBC1D24	180.7	100.0	100.0	220500;615338
TBC1D2B	110.4	99.0	97.1	No OMIM phenotype
TBC1D7	99.9	99.7	99.3	248000
TBCD	136.5	95.5	93.3	617193
TBCE	118.0	99.7	96.6	617207;241410
TBCK	101.5	99.4	95.8	616900
TBL1XR1	68.6	93.4	80.7	602342;616944
TBP	116.0	99.9	99.2	168600
TBR1	137.4	100.0	99.6	606053
TBX1	91.3	87.4	77.6	188400;192430
TCF20	128.9	100.0	100.0	618430
TCF4	106.4	100.0	99.9	610954
TCF7L2	154.7	99.3	97.0	-
TCN2	165.7	100.0	100.0	275350
TCTN2	127.2	99.9	99.1	616654
TCTN3	118.9	100.0	100.0	614815
TDP2	166.5	99.6	99.5	616949
TECPR2	140.7	100.0	100.0	615031
TECR	131.9	100.0	98.5	614020
TELO2	119.0	99.9	98.0	616954
TENM3	153.2	100.0	99.7	615145
TET3	174.9	94.4	94.4	618798
TFAP2A	101.7	98.1	92.1	113620
TFE3	86.4	98.1	91.0	-
TGDS	95.5	99.4	95.9	616145
TGFBR1	156.6	93.6	93.6	609192
TGIF1	133.3	100.0	100.0	142946

TH	93.5	99.8	98.0	605407
THOC2	83.8	98.1	91.2	300957
THOC6	234.0	100.0	100.0	613680
THRB	155.0	100.0	99.6	188570
TIMM50	126.6	98.4	95.0	617698
TIMM8A	50.9	96.2	83.1	304700
TINF2	160.3	100.0	100.0	127550;268130;613990
TKFC	142.5	100.0	99.8	618805
TKT	113.2	98.6	96.8	617044
TLK2	93.9	98.5	93.2	618050
TMCO1	73.6	87.8	87.0	213980
TMEM106B	126.9	99.3	98.3	617964
TMEM165	123.8	100.0	100.0	614727
TMEM216	89.9	98.5	92.8	608091
TMEM222	168.6	100.0	99.5	619470
TMEM231	99.0	100.0	99.3	614970
TMEM237	121.4	99.8	99.3	614424
TMEM240	144.4	100.0	100.0	607454
TMEM63A	89.3	100.0	99.2	618688
TMEM67	84.8	98.6	93.5	613550;610688;216360
TMEM70	116.7	98.4	94.6	614052
TMEM94	170.9	100.0	100.0	618316
TMLHE	91.2	98.6	94.1	300872
TMTC3	93.3	98.7	95.8	617255
TMX2	130.2	100.0	99.2	618730
TNIK	112.0	99.8	98.5	617028
TNR	132.7	100.0	99.6	-
TNRC6B	119.9	99.9	99.2	-
TOE1	156.3	100.0	100.0	614969
TOGARAM1	127.1	99.6	97.5	619185

TOMM70	111.7	99.9	99.3	-
TOR1A	127.6	91.3	91.3	618947
TP53RK	59.8	95.5	84.9	617730
TPI1	117.0	99.8	98.0	615512
TPO	142.5	100.0	99.2	274500
TPP1	130.4	100.0	100.0	204500
TPP2	118.6	99.2	95.1	619220
TPRKB	66.7	80.2	75.2	617731
TRAF7	176.7	100.0	100.0	618164
TRAIP	123.0	100.0	100.0	616777
TRAK1	149.2	93.3	93.1	618201
TRAPPC11	133.5	99.7	98.7	615356
TRAPPC2L	186.5	100.0	100.0	618331
TRAPPC4	123.0	100.0	100.0	618741
TRAPPC6B	76.6	99.2	96.4	617862
TRAPPC9	132.9	100.0	99.7	613192
TREX1	288.9	100.0	100.0	225750;192315
TRIM32	119.5	100.0	99.9	615988
TRIM8	130.3	98.9	96.2	-
TRIO	123.8	99.3	97.5	617061
TRIP12	135.9	99.7	98.6	617752
TRIT1	113.2	100.0	100.0	617873
TRMT1	129.3	99.5	96.2	618302
TRMT10A	147.2	99.7	99.5	616033
TRNT1	84.7	99.7	97.4	616084
TRPM3	113.3	99.9	99.4	-
TRRAP	139.1	99.9	99.1	-
TSC1	118.1	99.5	98.2	607341;191100
TSC2	140.3	100.0	99.8	607341;613254
TSEN15	63.1	78.9	77.0	617026



TSEN2	108.2	99.9	99.2	612389
TSEN54	118.6	96.7	94.8	277470;225753
TSFM	121.7	100.0	99.3	610505
TSHB	254.9	100.0	100.0	275100
TSPAN7	115.0	100.0	99.8	300210
TTC19	73.2	83.8	74.1	615157
TTC37	137.3	99.7	98.8	222470
TTC5	88.1	99.9	99.0	No OMIM phenotype
TTC8	125.6	99.5	98.0	615985
TTI2	97.1	100.0	99.9	615541
TUBA1A	76.0	99.5	93.2	611603
TUBA8	131.0	99.9	99.2	613180
TUBB	116.1	96.8	93.7	615771;156610
TUBB2A	68.3	96.9	95.7	615763
TUBB2B	67.3	100.0	99.7	610031
TUBB3	118.3	98.5	96.8	600638;614039
TUBB4A	84.5	96.0	95.6	612438
TUBG1	178.0	100.0	100.0	615412
TUBGCP2	100.5	99.1	95.5	618737
TUBGCP4	109.1	98.9	94.7	616335
TUBGCP6	147.7	100.0	99.4	251270
TUSC3	171.7	100.0	99.7	611093
TWIST1	102.3	100.0	99.4	101400;617746
TWNK	173.4	100.0	99.9	607459;271245;609286
U2AF2	111.3	99.8	97.7	-
UBA5	81.6	97.4	86.6	617132
UBE2A	103.4	99.5	97.4	300860
UBE3A	84.7	98.9	94.1	105830
UBE3B	117.0	100.0	99.7	244450
UBE4A	111.6	99.7	98.7	-

UBR1	124.0	99.6	99.1	243800
UBR7	117.2	99.9	99.9	619189
UBTF	116.6	99.9	99.1	617672
UFC1	113.9	100.0	100.0	618076
UFM1	124.9	72.4	69.1	617899
UFSP2	146.5	99.7	98.9	-
UGDH	134.3	99.7	99.1	618792
UGP2	122.5	98.7	98.2	618744
UNC13A	119.4	99.4	97.8	-
UNC80	112.0	97.9	97.1	616801
UPB1	135.4	100.0	100.0	613161
UPF1	169.1	99.8	99.6	-
UPF3B	54.9	90.8	80.3	300676
UROC1	151.8	100.0	99.9	276880
USP27X	157.2	100.0	99.9	300984
USP7	82.3	90.8	85.2	-
USP9X	97.2	98.1	91.7	300919;300968
VAMP1	142.8	100.0	99.8	108600
VAMP2	109.3	99.1	97.0	-
VAR1	129.0	100.0	99.7	617802
VAR2	122.4	100.0	99.0	615917
VLDLR	141.3	100.0	100.0	224050
VPS11	117.7	94.6	92.2	616683
VPS13B	139.7	99.4	97.8	216550
VPS16	150.4	100.0	100.0	619291
VPS35L	142.6	100.0	99.8	619135
VPS37A	59.9	91.3	76.0	614898
VPS41	121.9	99.8	98.8	619389
VPS4A	109.1	100.0	99.9	619273
VPS53	115.6	91.1	89.9	615851

VRK1	133.6	99.4	97.8	607596
VWA3B	125.6	99.9	98.9	616948
WAC	148.6	99.8	99.6	616708
WARS2	136.3	100.0	99.8	617710
WASF1	94.9	99.2	94.1	-
WASHC4	116.8	98.9	96.0	615817
WDFY3	127.6	99.8	99.1	617520
WDPCP	101.6	98.0	94.1	-
WDR13	115.8	99.8	98.7	-
WDR26	80.7	89.2	84.2	617616
WDR37	132.9	86.5	86.3	618652
WDR4	155.0	100.0	100.0	618347
WDR45	71.6	98.2	92.0	300894
WDR45B	68.4	94.8	80.3	617977
WDR62	164.4	100.0	99.9	604317
WDR73	177.2	100.0	100.0	251300
WDR81	189.2	100.0	100.0	610185
WFS1	192.3	100.0	99.8	222300
WVOX	116.3	100.0	99.9	616211;614322
XPA	73.4	99.2	97.3	278700
XRCC4	131.6	99.7	98.4	616541
XYLT1	134.5	97.8	91.1	615777
YIF1B	104.2	99.9	99.2	619125
YIPF5	135.9	100.0	100.0	619278
YME1L1	109.3	98.9	93.7	617302
YWHAE	145.6	100.0	100.0	-
YWHAG	169.1	100.0	99.9	617665
YY1	104.5	99.9	99.3	617557
ZBTB11	174.9	99.9	99.3	618383
ZBTB16	165.2	100.0	100.0	612447

ZBTB18	167.6	100.0	99.8	612337
ZBTB20	167.9	100.0	100.0	259050
ZBTB24	134.3	100.0	100.0	614069
ZC3H14	152.8	99.7	98.2	617125
ZC4H2	78.1	100.0	98.1	314580
ZDHHC9	51.0	97.3	84.5	300799
ZEB2	137.0	99.7	98.5	235730
ZFHX4	164.0	100.0	99.7	-
ZFYVE26	103.1	99.7	97.8	270700
ZIC1	240.6	100.0	100.0	616602
ZIC2	104.5	100.0	99.3	609637
ZMIZ1	149.1	99.8	99.0	-
ZMYM2	150.1	99.7	97.8	-
ZMYND11	120.1	99.9	99.7	616083
ZNF142	134.4	100.0	99.7	618425
ZNF148	163.3	99.9	99.8	617260
ZNF292	124.3	99.5	98.1	-
ZNF335	137.3	100.0	99.7	615095
ZNF407	147.1	99.9	99.1	-
ZNF41	111.1	100.0	99.7	-
ZNF462	164.5	100.0	99.8	-
ZNF526	197.6	100.0	100.0	-
ZNF699	115.5	99.9	99.2	-
ZNF711	114.3	99.4	96.5	300803
ZSWIM6	118.8	95.1	91.6	603671;617865

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

*TWIST is the default chemistry for all WES samples. Agilent V5 was the default chemistry until Q3 2021.*

*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 no value for coverage are non protein coding genes.*

*Non protein coding genes are covered, but as coverage statistics are based on protein coding regions, statistics could not be generated.*

*OMIM release used for OMIM disease identifiers and descriptions: September 1st, 2021.*

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