Supplemental Table 2. Genes in which LoF variants reach p <0.05 in Fisher's Exact Test between cases and controls

FET P = Fisher's Exact Test p-value; pLI values above 0.9 indicate an extremely loss of function intolerant gene; LoF depletion in ExAC genes based on predicted LoF variants is indicated when the FDR p-value is < 0.01 (genic-intolerance.org)

Gene Name	Total Variant	Total SNV	Total Indel	No. of Cases w/ Variant	Case Freq	No. of Cntrls w/ Variant	Cntrl Freq	Enriched Direction	Fet P	pLI	LoF depletion FDR
SORL1	17	10	7	19	0.0027	1	7.56E-05	case	2.17E-08	<0.9	1.98E-07
GRID2IP	12	4	8	11	0.0016	2	1.51E-04	case	2.98E-04	<0.9	>=0.01
WDR76	10	3	7	10	0.0014	2	1.51E-04	case	7.39E-04	<0.9	>=0.01
GRN	12	6	6	11	0.0016	3	2.27E-04	case	9.56E-04	<0.9	7.86E-03
MROH2B	24	14	10	2	2.87E-04	26	0.002	ctrl	0.0012	<0.9	>=0.01
SCAPER	9	7	2	8	0.0011	1	7.56E-05	case	0.0012	<0.9	1.64E-05
ZNF76	9	7	2	8	0.0011	1	7.56E-05	case	0.0012	<0.9	>=0.01
SERAC1	9	6	3	8	0.0011	1	7.56E-05	case	0.0012	<0.9	>=0.01
QPCT	4	3	1	6	8.62E-04	0	0	case	0.0017	<0.9	>=0.01
ZNF366	5	2	3	6	8.62E-04	0	0	case	0.0017	<0.9	7.58E-03
IGLL5	6	5	1	9	0.0013	2	1.51E-04	case	0.0018	<0.9	>=0.01
ACAD10	26	14	12	3	4.31E-04	29	0.0022	ctrl	0.0023	<0.9	>=0.01
TTN	142	83	59	38	0.0055	124	0.0094	ctrl	0.0027	<0.9	1.60E-123
BCKDK	6	5	1	7	0.001	1	7.56E-05	case	0.0032	<0.9	>=0.01
ST5	10	6	4	7	0.001	1	7.56E-05	case	0.0032	1	1.05E-08
CCDC28B	7	5	2	7	0.001	1	7.56E-05	case	0.0032	<0.9	>=0.01
COL15A1	17	8	9	12	0.0017	5	3.78E-04	case	0.0034	<0.9	2.37E-04
POLR3B	20	10	10	3	4.31E-04	27	0.002	ctrl	0.0034	<0.9	>=0.01
ULK2	13	7	6	0	0	14	0.0011	ctrl	0.0036	<0.9	>=0.01
OR13C4	7	3	4	0	0	14	0.0011	ctrl	0.0036	<0.9	>=0.01
EIF3L	4	1	3	5	7.18E-04	0	0	case	0.0049	0.94	>=0.01
SMAD3	4	3	1	5	7.18E-04	0	0	case	0.0049	<0.9	>=0.01
JAG2	5	4	1	5	7.18E-04	0	0	case	0.0049	0.99	5.96E-05
KCTD21	4	2	2	5	7.18E-04	0	0	case	0.0049	<0.9	>=0.01
TMEM253	5	1	4	5	7.18E-04	0	0	case	0.0049	<0.9	>=0.01
OR10G8	2	2	0	5	7.18E-04	0	0	case	0.0049	<0.9	>=0.01
TMEM132A	5	3	2	5	7.18E-04	0	0	case	0.0049	<0.9	>=0.01
TMIGD2	5	2	3	5	7.18E-04	0	0	case	0.0049	<0.9	>=0.01
PHF11	7	3	4	9	0.0013	3	2.27E-04	case	0.005	<0.9	>=0.01
XRCC1	15	9	6	12	0.0017	6	4.53E-04	case	0.0059	<0.9	>=0.01
MTO1	13	7	6	1	1.44E-04	18	0.0014	ctrl	0.0062	<0.9	>=0.01
SEPT10	12	5	7	0	0	13	9.83E-04	ctrl	0.0063	<0.9	>=0.01
TTC36	6	5	1	0	0	13	9.83E-04	ctrl	0.0063	<0.9	>=0.01
KIF24	22	7	15	3	4.31E-04	24	0.0018	ctrl	0.0082	<0.9	>=0.01
BID	6	3	3	6	8.62E-04	1	7.56E-05	case	0.0083	<0.9	>=0.01
ARPC1B	7	5	2	6	8.62E-04	1	7.56E-05	case	0.0083	<0.9	>=0.01
COQ4	5	5	0	6	8.62E-04	1	7.56E-05	case	0.0083	<0.9	>=0.01
ZDHHC3	5	4	1	6	8.62E-04	1	7.56E-05	case	0.0083	<0.9	>=0.01
MAGI2	6	3	3	6	8.62E-04	1	7.56E-05	case	0.0083	<0.9	8.49E-04

ART3	5	3	2	6	8.62E-04	1	7.56E-05	case	0.0083	<0.9	>=0.01
TRIM56	6	4	2	6	8.62E-04	1	7.56E-05	case	0.0083	<0.9	>=0.01
MYO7B	36	22	14	23	0.0033	19	0.0014	case	0.0085	<0.9	>=0.01
MTMR11	12	6	6	1	1.44E-04	16	0.0012	ctrl	0.0101	<0.9	>=0.01
ANKRD53	12	6	6	1	1.44E-04	16	0.0012	ctrl	0.0101	<0.9	>=0.01
ELL	8	5	3	7	0.001	2	1.51E-04	case	0.0102	0.94	7.12E-04
TBL2	7	4	3	7	0.001	2	1.51E-04	case	0.0102	<0.9	>=0.01
HMOX1	6	5	1	7	0.001	2	1.51E-04	case	0.0102	<0.9	>=0.01
MYH9	9	5	4	7	0.001	2	1.51E-04	case	0.0102	1	1.13E-13
SPTB	7	7	0	7	0.001	2	1.51E-04	case	0.0102	1	1.55E-14
APLP1	8	6	2	7	0.001	2	1.51E-04	case	0.0102	<0.9	6.20E-03
NEK1	15	8	7	1	1.44E-04	17	0.0013	ctrl	0.0105	<0.9	8.60E-03
MROH9	15	7	8	1	1.44E-04	17	0.0013	ctrl	0.0105	<0.9	>=0.01
NOL8	14	2	12	1	1.44E-04	17	0.0013	ctrl	0.0105	<0.9	>=0.01
BANK1	17	5	12	1	1.44E-04	17	0.0013	ctrl	0.0105	<0.9	>=0.01
DNAJC10	16	6	10	1	1.44E-04	17	0.0013	ctrl	0.0105	<0.9	7.38E-04
C19orf57	17	10	7	13	0.0019	8	6.05E-04	case	0.011	<0.9	>=0.01
FN1	10	7	3	8	0.0011	3	2.27E-04	case	0.0111	<0.9	1.47E-10
CDCA7L	11	10	1	8	0.0011	3	2.27E-04	case	0.0111	<0.9	2.09E-03
PGLYRP4	8	5	3	8	0.0011	3	2.27E-04	case	0.0111	<0.9	>=0.01
ARHGEF11	8	6	2	8	0.0011	3	2.27E-04	case	0.0111	1	6.95E-10
GJB7	7	0	7	0	0	12	9.07E-04	ctrl	0.0112	<0.9	>=0.01
ABI3BP	11	6	5	0	0	12	9.07E-04	ctrl	0.0112	<0.9	2.72E-03
FAM217A	14	6	8	2	2.87E-04	20	0.0015	ctrl	0.0119	<0.9	>=0.01
GCFC2	11	6	5	10	0.0014	5	3.78E-04	case	0.0128	<0.9	>=0.01
UFL1	15	10	5	10	0.0014	5	3.78E-04	case	0.0128	<0.9	>=0.01
C5	18	11	7	12	0.0017	7	5.29E-04	case	0.0136	<0.9	9.05E-04
PEX5L	4	3	1	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
DOK5	4	4	0	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
C10orf131	2	2	0	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
PHF23	2	2	0	4	5.74E-04	0	0	case	0.0141	0.99	1.26E-04
PREX1	4	4	0	4	5.74E-04	0	0	case	0.0141	1	3.24E-08
FOXK1	4	2	2	4	5.74E-04	0	0	case	0.0141	0.96	>=0.01
DTNA	4	3	1	4	5.74E-04	0	0	case	0.0141	0.92	6.71E-04
CD300C	4	3	1	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
ARHGAP1	4	3	1	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
PSMD2	4	1	3	4	5.74E-04	0	0	case	0.0141	1	1.99E-07
MRPL10	3	2	1	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
PSMB4	3	3	0	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
ST6GAL2	4	2	2	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
TET3	4	4	0	4	5.74E-04	0	0	case	0.0141	1	5.38E-09
STK38L	4	3	1	4	5.74E-04	0	0	case	0.0141	0.97	>=0.01
SKIDA1	4	3	1	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
NRXN3	3	1	2	4	5.74E-04	0	0	case	0.0141	1	2.00E-05
TP53	3	3	0	4	5.74E-04	0	0	case	0.0141	0.91	8.59E-03
B4GALNT4	4	3	1	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
ZNF576	1	1	0	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01

AMH	3	2	1	4	5.74E-04	0	0	case	0.0141	<0.9	>=0.01
IFT140	30	20	10	20	0.0029	17	0.0013	case	0.0151	<0.9	>=0.01
SLC24A1	9	4	5	9	0.0013	4	3.02E-04	case	0.0154	<0.9	>=0.01
VIPR1	12	8	4	9	0.0013	4	3.02E-04	case	0.0154	<0.9	>=0.01
ADAM18	13	10	3	1	1.44E-04	15	0.0011	ctrl	0.0163	<0.9	>=0.01
DNASE1	15	7	8	1	1.44E-04	15	0.0011	ctrl	0.0163	<0.9	>=0.01
LRRC40	14	8	6	1	1.44E-04	15	0.0011	ctrl	0.0163	<0.9	>=0.01
SPATA6	12	8	4	1	1.44E-04	15	0.0011	ctrl	0.0163	<0.9	>=0.01
MAMDC4	29	19	10	5	7.18E-04	28	0.0021	ctrl	0.0173	<0.9	>=0.01
TARBP1	25	11	14	5	7.18E-04	29	0.0022	ctrl	0.0175	<0.9	>=0.01
ZNF747	12	5	7	11	0.0016	6	4.53E-04	case	0.0181	<0.9	>=0.01
EGFL7	9	5	4	0	0	10	7.56E-04	ctrl	0.0189	<0.9	>=0.01
CLIC5	8	8	0	0	0	10	7.56E-04	ctrl	0.0189	<0.9	>=0.01
ZNF665	10	8	2	0	0	10	7.56E-04	ctrl	0.0189	<0.9	>=0.01
GAS2L3	9	4	5	0	0	10	7.56E-04	ctrl	0.0189	<0.9	>=0.01
PTPRH	18	13	5	3	4.31E-04	22	0.0017	ctrl	0.019	<0.9	>=0.01
ANO7	21	15	6	3	4.31E-04	22	0.0017	ctrl	0.019	<0.9	>=0.01
ARAP2	23	10	13	3	4.31E-04	22	0.0017	ctrl	0.019	<0.9	2.49E-05
FAM184A	19	10	9	2	2.87E-04	19	0.0014	ctrl	0.0191	<0.9	>=0.01
ABCC6	17	12	5	2	2.87E-04	19	0.0014	ctrl	0.0191	<0.9	3.29E-03
WDR87	45	18	27	10	0.0014	43	0.0032	ctrl	0.0196	<0.9	>=0.01
ENO3	7	1	6	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
AKR1C2	9	5	4	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
HLA-B	8	3	5	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
SLC52A1	6	2	4	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
NQO1	8	4	4	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
BUD13	10	6	4	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
PCDHGA5	8	2	6	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
TMEM134	8	6	2	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
ECM2	10	4	6	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
LYG1	8	5	3	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
CARF	10	5	5	0	0	11	8.31E-04	ctrl	0.0206	<0.9	>=0.01
CORO2B	5	3	2	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
EIF3K	5	3	2	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
GK2	6	2	4	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
PAQR8	4	2	2	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
KHK	6	6	0	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
WDR73	7	3	4	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
WDR11	5	1	4	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	3.68E-04
PSIP1	3	2	1	5	7.18E-04	1	7.56E-05	case	0.0208	0.95	1.43E-05
HERC3	5	2	3	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	1.51E-03
UBXN2A	5	4	1	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
ANK3	6	3	3	5	7.18E-04	1	7.56E-05	case	0.0208	1	5.96E-26
BRD4	5	4	1	5	7.18E-04	1	7.56E-05	case	0.0208	1	7.03E-09
FFAR1	4	1	3	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
DAAM2	6	3	3	5	7.18E-04	1	7.56E-05	case	0.0208	1	7.96E-07
GCDH	5	4	1	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01

PIP5K1C	6	3	3	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
KCTD13	6	2	4	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
DHRS11	6	4	2	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
PLXNA4	5	3	2	5	7.18E-04	1	7.56E-05	case	0.0208	1	7.72E-11
RPL36AL	2	1	1	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
EXOSC5	6	5	1	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
ASNA1	6	5	1	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
SNX8	5	4	1	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
RUSC2	6	3	3	5	7.18E-04	1	7.56E-05	case	0.0208	1	3.03E-11
FOXRED1	6	4	2	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
QRSL1	6	5	1	5	7.18E-04	1	7.56E-05	case	0.0208	<0.9	>=0.01
IVNS1ABP	5	3	2	5	7.18E-04	1	7.56E-05	case	0.0208	1	6.63E-05
MED16	21	13	8	15	0.0022	11	8.31E-04	case	0.021	<0.9	2.03E-03
FARP2	28	20	8	6	8.62E-04	30	0.0023	ctrl	0.0228	<0.9	>=0.01
FRMPD2	23	12	11	6	8.62E-04	31	0.0023	ctrl	0.023	<0.9	>=0.01
SLC22A8	8	4	4	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
NFX1	8	5	3	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	1.29E-05
HDGFRP2	7	4	3	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
CRBN	8	1	7	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
CAMKMT	7	4	3	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
RIC8A	6	3	3	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
PDCD4	7	3	4	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
C22orf39	5	4	1	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
PDE12	5	2	3	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
OR4S1	5	3	2	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
TCOF1	6	4	2	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	2.81E-06
ZC3HAV1	8	4	4	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
PEX5	6	3	3	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	2.13E-03
KRT86	8	5	3	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	>=0.01
ITGA8	6	6	0	6	8.62E-04	2	1.51E-04	case	0.0234	<0.9	4.02E-03
PHIP	9	3	6	6	8.62E-04	2	1.51E-04	case	0.0234	1	1.02E-09
PCK2	11	9	2	11	0.0016	7	5.29E-04	case	0.024	<0.9	>=0.01
BCAN	12	9	3	9	0.0013	5	3.78E-04	case	0.0247	<0.9	>=0.01
ZCWPW1	10	5	5	9	0.0013	5	3.78E-04	case	0.0247	<0.9	>=0.01
UBR4	14	10	4	9	0.0013	5	3.78E-04	case	0.0247	1	5.60E-32
LTBP4	14	10	4	9	0.0013	5	3.78E-04	case	0.0247	0.99	4.50E-05
MMP21	10	7	3	9	0.0013	5	3.78E-04	case	0.0247	<0.9	>=0.01
MMP20	10	5	5	9	0.0013	5	3.78E-04	case	0.0247	<0.9	>=0.01
SIRPB1	10	6	4	9	0.0013	5	3.78E-04	case	0.0247	<0.9	>=0.01
MYO5C	30	18	12	18	0.0026	15	0.0011	case	0.026	<0.9	>=0.01
KBTBD12	12	7	5	1	1.44E-04	14	0.0011	ctrl	0.0267	<0.9	>=0.01
RARS	13	6	7	1	1.44E-04	14	0.0011	ctrl	0.0267	<0.9	>=0.01
SDCCAG8	13	8	5	1	1.44E-04	14	0.0011	ctrl	0.0267	<0.9	>=0.01
ZNF528	12	4	8	1	1.44E-04	14	0.0011	ctrl	0.0267	<0.9	>=0.01
ZNF611	20	11	9	4	5.74E-04	24	0.0018	ctrl	0.0272	<0.9	>=0.01
SNED1	14	9	5	2	2.87E-04	17	0.0013	ctrl	0.0289	0.98	4.59E-05
ZNF778	12	5	7	2	2.87E-04	17	0.0013	ctrl	0.0289	<0.9	>=0.01

ZNF571	16	9	7	2	2.87E-04	17	0.0013	ctrl	0.0289	<0.9	>=0.01
SMPDL3A	11	5	6	2	2.87E-04	17	0.0013	ctrl	0.0289	<0.9	>=0.01
ZNF135	12	4	8	2	2.87E-04	17	0.0013	ctrl	0.0289	<0.9	>=0.01
TMEM232	17	6	11	3	4.31E-04	20	0.0015	ctrl	0.029	<0.9	>=0.01
GPATCH1	14	10	4	3	4.31E-04	21	0.0016	ctrl	0.0293	<0.9	5.02E-03
PRAM1	10	5	5	8	0.0011	4	3.02E-04	case	0.0295	<0.9	>=0.01
TRMT1	12	3	9	8	0.0011	4	3.02E-04	case	0.0295	<0.9	>=0.01
FAM208A	10	4	6	8	0.0011	4	3.02E-04	case	0.0295	1	1.15E-07
NOTCH3	12	8	4	8	0.0011	4	3.02E-04	case	0.0295	<0.9	1.79E-03
PLEKHG4	17	7	10	12	0.0017	8	6.05E-04	case	0.0308	<0.9	>=0.01
CES3	14	8	6	10	0.0014	6	4.53E-04	case	0.0313	<0.9	>=0.01
FAM124A	10	6	4	10	0.0014	6	4.53E-04	case	0.0313	<0.9	>=0.01
FAM47E	4	3	1	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
HLA-DOA	6	4	2	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
KANSL1L	8	4	4	0	0	9	6.80E-04	ctrl	0.0324	<0.9	2.90E-07
C17orf78	6	5	1	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
CPA1	8	4	4	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
CENPQ	7	3	4	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
MRPL46	7	5	2	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
QKI	4	3	1	0	0	9	6.80E-04	ctrl	0.0324	0.96	>=0.01
DUSP19	8	3	5	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
OR2M7	5	3	2	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
REM1	7	5	2	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
OXNAD1	5	2	3	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
HID1	5	4	1	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
PLEKHB2	5	5	0	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
PAX2	8	5	3	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
OAZ3	5	4	1	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
ZNF610	7	4	3	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
NAT2	7	4	3	0	0	9	6.80E-04	ctrl	0.0324	<0.9	>=0.01
IQGAP1	8	7	1	0	0	9	6.80E-04	ctrl	0.0324	1	9.69E-12
MSH3	18	7	11	14	0.002	11	8.31E-04	case	0.0333	<0.9	>=0.01
ANKRD27	19	9	10	14	0.002	11	8.31E-04	case	0.0333	<0.9	>=0.01
MCM8	17	9	8	12	0.0017	9	6.80E-04	case	0.0375	<0.9	>=0.01
MYO1C	21	15	6	12	0.0017	9	6.80E-04	case	0.0375	<0.9	4.87E-03
ZSWIM2	14	9	5	12	0.0017	9	6.80E-04	case	0.0375	<0.9	>=0.01
CIC	9	7	2	7	0.001	3	2.27E-04	case	0.0384	1	3.19E-08
EIF2A	10	4	6	7	0.001	3	2.27E-04	case	0.0384	<0.9	>=0.01
SLC44A4	7	3	4	7	0.001	3	2.27E-04	case	0.0384	<0.9	>=0.01
SEL1L3	7	4	3	7	0.001	3	2.27E-04	case	0.0384	<0.9	1.48E-04
SETD1B	8	3	5	7	0.001	3	2.27E-04	case	0.0384	<0.9	>=0.01
XRCC3	11	8	3	7	0.001	3	2.27E-04	case	0.0384	<0.9	>=0.01
ZNF683	9	5	4	7	0.001	3	2.27E-04	case	0.0384	<0.9	>=0.01
PACS2	10	7	3	7	0.001	3	2.27E-04	case	0.0384	1	1.70E-05
CCDC178	22	10	12	17	0.0024	15	0.0011	case	0.0387	<0.9	>=0.01
BRCA2	35	12	23	7	0.001	31	0.0023	ctrl	0.04	<0.9	5.72E-06
ULK4	21	11	10	4	5.74E-04	22	0.0017	ctrl	0.0402	<0.9	>=0.01

Gene												
ZBTB4	3	1	2	3	4.31E-04	0	0	case	0.041	1	4.80E-06
ZHX2	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	2.08E-03
TULP1	2	1	1	3	4.31E-04	0	0	case	0.041	<0.9	6.16E-03
ASXL3	3	3	0	3	4.31E-04	0	0	case	0.041	1	3.01E-13
LRRN4CL	2	1	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
MRPS7	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
STT3A	3	3	0	3	4.31E-04	0	0	case	0.041	0.98	3.34E-03
TVP23B	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	NA
ADM5	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
TFDP2	3	3	0	3	4.31E-04	0	0	case	0.041	0.98	5.50E-04
MAPK8IP3	3	3	0	3	4.31E-04	0	0	case	0.041	1	1.03E-10
DNM1	3	3	0	3	4.31E-04	0	0	case	0.041	1	>=0.01
PGAP3	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
GPR63	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
LRRC72	4	2	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
BEND3	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
BEND4	3	1	2	3	4.31E-04	0	0	case	0.041	0.99	9.82E-03
PPP1R18	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
FUT5	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
KRTAP4-3	5	0	5	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
SMCR8	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	2.28E-03
PHGDH	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
BLOC1S3	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
HLA-DQA1	2	1	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
HELLS	3	3	0	3	4.31E-04	0	0	case	0.041	1	3.14E-05
STARD7	2	1	1	3	4.31E-04	0	0	case	0.041	0.93	>=0.01
DOC2A	2	2	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
WDTC1	3	3	0	3	4.31E-04	0	0	case	0.041	1	5.47E-04
DVL2	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
OR52N1	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
FAM134A	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
PSMC3	3	3	0	3	4.31E-04	0	0	case	0.041	0.98	>=0.01
PTPRR	2	2	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
GALR3	1	0	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
REL	3	0	3	3	4.31E-04	0	0	case	0.041	0.97	8.34E-04
BICD2	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
DENND4A	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	1.02E-03
GAS6	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
RBM6	3	3	0	3	4.31E-04	0	0	case	0.041	1	2.35E-13
OR2K2	3	0	3	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
DEFB125	2	2	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
MYT1L	3	2	1	3	4.31E-04	0	0	case	0.041	1	4.58E-05
NUAK2	2	1	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
TPRG1L	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
HOXC11	2	2	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
NUDT8	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
UBE2O	3	2	1	3	4.31E-04	0	0	case	0.041	1	1.22E-06

FBP1	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
TMEM38A	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
NOSIP	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
CYB5R4	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
JPH2	3	3	0	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
ARHGAP31	3	1	2	3	4.31E-04	0	0	case	0.041	1	1.32E-08
POU6F1	3	2	1	3	4.31E-04	0	0	case	0.041	0.91	>=0.01
F2RL1	2	1	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
RIPK2	3	1	2	3	4.31E-04	0		case	0.041	<0.9	>=0.01
P2RY13	3	1	2	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
SPEN	3	0	3	3	4.31E-04	0	0	case	0.041	1	1.17E-27
GABBR2	3	2	1	3	4.31E-04	0	0	case	0.041	1	1.27E-03
DEF6	3	2	1	3	4.31E-04	0	0	case	0.041	0.98	>=0.01
NDUFB7	3	2	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
CD84	2	1	1	3	4.31E-04	0	0	case	0.041	<0.9	>=0.01
OGDH	3	0	3	3	4.31E-04	0	0	case	0.041	0.99	2.13E-03
DYSF	36	25	11	9	0.0013	36	0.0027	ctrl	0.0416	<0.9	3.01E-03
L3MBTL1	10	7	3	10	0.0014	7	5.29E-04	case	0.042	<0.9	>=0.01
NLN	14	9	5	10	0.0014	7	5.29E-04	case	0.042	<0.9	>=0.01
CDCP2	12	3	9	3	4.31E-04	19	0.0014	ctrl	0.0431	<0.9	>=0.01
TRPV2	19	11	8	3	4.31E-04	19	0.0014	ctrl	0.0431	<0.9	5.50E-03
ZNF726	15	4	11	3	4.31E-04	19	0.0014	ctrl	0.0431	<0.9	>=0.01
CHTF18	20	12	8	3	4.31E-04	19	0.0014	ctrl	0.0431	<0.9	>=0.01
HTR3E	9	4	5	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
ECSIT	9	7	2	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
PCSK9	12	7	5	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
PLA2G4D	12	7	5	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
KMT2E	9	1	8	1	1.44E-04	12	9.07E-04	ctrl	0.0434	1	>=0.01
ICAM3	10	4	6	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
ACOX2	13	8	5	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
FSCN3	13	8	5	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
ALG1	10	6	4	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
ATG4D	12	5	7	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
ANGPTL7	9	8	1	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
KPRP	9	8	1	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
SIDT1	10	8	2	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
ZNF467	11	5	6	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
NUDT12	8	5	3	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
SLC2A5	9	6	3	1	1.44E-04	12	9.07E-04	ctrl	0.0434	<0.9	>=0.01
NID2	11	6	5	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	2.99E-03
CEP72	10	2	8	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	>=0.01
C11orf40	9	3	6	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	>=0.01
KIAA0141	10	3	7	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	>=0.01
CCDC122	6	4	2	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	>=0.01
KRT15	13	8	5	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	>=0.01
PIGU	9	3	6	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	>=0.01
ZNF180	12	4	8	1	1.44E-04	13	9.83E-04	ctrl	0.0444	<0.9	>=0.01

CATSPERG	26	12	14	17	0.0024	16	0.0012	case	0.0445	<0.9	>=0.01
HACL1	13	8	5	2	2.87E-04	16	0.0012	ctrl	0.0449	<0.9	>=0.01
ALDH16A1	13	8	5	2	2.87E-04	16	0.0012	ctrl	0.0449	<0.9	>=0.01
PTPN7	10	8	2	2	2.87E-04	16	0.0012	ctrl	0.0449	<0.9	>=0.01
CLCN1	16	7	9	2	2.87E-04	16	0.0012	ctrl	0.0449	<0.9	>=0.01
CASP10	11	6	5	2	2.87E-04	16	0.0012	ctrl	0.0449	<0.9	>=0.01
ZNF169	13	6	7	13	0.0019	10	7.56E-04	case	0.0452	<0.9	>=0.01
MPEG1	14	6	8	13	0.0019	10	7.56E-04	case	0.0452	<0.9	>=0.01
APOB	28	16	12	6	8.62E-04	28	0.0021	ctrl	0.0457	<0.9	9.17E-09
MYO3B	31	19	12	8	0.0011	33	0.0025	ctrl	0.048	<0.9	>=0.01
TSTD2	13	6	7	11	0.0016	8	6.05E-04	case	0.0499	<0.9	>=0.01
CRYZ	16	8	8	11	0.0016	8	6.05E-04	case	0.0499	<0.9	>=0.01
PSTPIP1	16	10	6	11	0.0016	8	6.05E-04	case	0.0499	<0.9	>=0.01