

外顯子定序應用於致病位點檢測-基因列表

Clinical Exome Panel									
A2M	A2ML1	A4GALT	AAAS	AAGAB	AARS1	AARS2	AASS	ABAT	ABCA1
ABCA12	ABCA2	ABCA3	ABCA4	ABCA5	ABCA7	ABCB1	ABCB11	ABCB4	ABCB6
ABCB7	ABCC1	ABCC11	ABCC2	ABCC6	ABCC8	ABCC9	ABCD1	ABCD3	ABCD4
ABCG2	ABCG5	ABCG8	ABHD12	ABHD5	ABL1	ABO	ACACA	ACAD8	ACAD9
ACADM	ACADS	ACAD5B	ACADVL	ACAN	ACAT1	ACAT2	ACBD5	ACD	ACE
ACER3	ACHE	ACKR1	ACO2	ACOX1	ACOX2	ACP2	ACP4	ACP5	ACR
ACSF3	ACSL4	ACSL6	ACSM3	ACTA1	ACTA2	ACTB	ACTC1	ACTG1	ACTG2
ACTL6B	ACTN1	ACTN2	ACTN3	ACTN4	ACVR1	ACVR1B	ACVR2B	ACVRL1	ACY1
ADA	ADA2	ADAM10	ADAM17	ADAM22	ADAM9	ADAMTS10	ADAMTS13	ADAMTS17	ADAMTS18
ADAMTS2	ADAMTS3	ADAMTSL2	ADAMTSL4	ADAR	ADARB1	ADAT3	ADCY1	ADCY10	ADCY3
ADCY5	ADCY6	ADD1	ADD3	ADGRE2	ADGRG1	ADGRG2	ADGRG6	ADGRV1	ADH1B
ADH1C	ADH5	ADIPOQ	ADK	ADNP	ADPRS	ADRA2C	ADR81	ADR82	ADR83
ADSL	ADSS1	AEBP1	AFF2	AFF4	AFG3L2	AFP	AGA	AGBL1	AGBL5
AGK	AGL	AGO2	AGPAT2	AGPS	AGRN	AGRP	AGT	AGTPBP1	AGTR1
AGXT	AGXT2	AHCY	AHDC1	AHI1	AHR	AHSG	AICDA	AIFM1	AIMP1
AIMP2	AIP	AIP1	AIRE	AK1	AK2	AK7	AKAP10	AKAP9	AKR1C2
AKR1C4	AKR1D1	AKT1	AKT2	AKT3	ALAD	ALAS2	ALB	ALDH18A1	ALDH1A3
ALDH2	ALDH3A2	ALDH4A1	ALDH5A1	ALDH6A1	ALDH7A1	ALDOA	ALDOB	ALG1	ALG10B
ALG11	ALG12	ALG13	ALG14	ALG2	ALG3	ALG6	ALG8	ALG9	ALK
ALKBH8	ALMS1	ALOX12B	ALOX5	ALOX5AP	ALOXE3	ALPK1	ALPK3	ALPL	ALS2
ALX1	ALX3	ALX4	AMACR	AMBN	AMELX	AMER1	AMH	AMHR2	AMMECR1
AMN	AMPD1	AMPD2	AMPD3	AMT	AMTN	ANAPC1	ANG	ANGPTL3	ANGPTL4
ANK1	ANK2	ANK3	ANKH	ANKLE2	ANKRD11	ANKRD26	ANKS6	ANLN	ANO10
ANO3	ANO5	ANO6	ANOS1	ANTXR1	ANTXR2	ANXA11	ANXA5	AP1B1	AP1S1
AP1S2	AP1S3	AP2M1	AP2S1	AP3B1	AP3B2	AP3D1	AP4B1	AP4E1	AP4M1
AP4S1	AP5Z1	APC	APC2	APCDD1	APCS	APOA1	APOA2	APOA5	APOB
APOC2	APOC3	APOE	APOL1	APOL2	APOL4	APP	APPL1	APRT	APTX
AQP1	AQP2	AQP3	AQP5	AQP7	AR	ARCN1	ARF1	ARFGEF2	ARG1
ARHGAP26	ARHGAP31	ARHGDIA	ARHGEF1	ARHGEF10	ARHGEF18	ARHGEF2	ARHGEF9	ARID1A	ARID1B
ARID2	ARL13B	ARL2	ARL2BP	ARL3	ARL6	ARL6IP1	ARMC2	ARMC5	ARMC9
ARMS2	ARNT2	ARPC1B	ARR3	ARSA	ARSB	ARSG	ARSL	ART4	ARV1
ARX	ASAH1	ASB10	ASCC1	ASCL1	ASH1L	ASIP	ASL	ASNS	ASPA
ASPH	ASPM	ASPN	ASPRV1	ASPSCR1	ASS1	ASXL1	ASXL2	ASXL3	ATAD1
ATAD3A	ATCAY	ATF6	ATG16L1	ATG5	ATIC	ATL1	ATL3	ATM	ATN1
ATOH7	ATP11C	ATP13A2	ATP1A1	ATP1A2	ATP1A3	ATP1B1	ATP2A1	ATP2A2	ATP2B2
ATP2B3	ATP2C1	ATP5F1A	ATP5F1D	ATP5F1E	ATP5MK	ATP6AP1	ATP6AP2	ATP6VOA2	ATP6VOA4
ATP6V1A	ATP6V1B1	ATP6V1B2	ATP6V1E1	ATP7A	ATP7B	ATP8A2	ATP8B1	ATPAF2	ATR
ATRX	ATXN1	ATXN10	ATXN2	ATXN3	ATXN7	ATXN805	AUH	AURKA	AURKC
AUTS2	AVIL	AVP	AVPR2	AXIN1	AXIN2	B2M	B3GALNT1	B3GALNT2	B3GALT6
B3GAT3	B3GLCT	B4GALNT1	B4GALT1	B4GALT7	B4GAT1	B9D1	B9D2	BAAT	BACH2
BAG3	BANF1	BAP1	BARD1	BAX	BBIP1	BBS1	BBS10	BBS12	BBS2
BBS4	BBS5	BBS7	BBS9	BCAM	BCAP31	BCAT2	BCHE	BCKDHA	BCKDHB
BCKDK	BCL10	BCL11A	BCL11B	BCL2	BCL3	BCL6	BCL7A	BCO1	BCOR
BCORL1	BCR	BCS1L	BDP1	BEAN1	BEST1	BFSP1	BFSP2	BGN	BHLHA9
BHLHE41	BICC1	BICD2	BIN1	BLK	BLM	BLNK	BLOC1S3	BLOC1S5	BLOC1S6
BLVRA	BMP1	BMP15	BMP2	BMP4	BMPER	BMPR1A	BMPR1B	BMPR2	BMS1
BNC1	BNC2	BOLA3	BPGM	BPNT2	BPTF	BRAF	BRAT1	BRCA1	BRCA2
BRDT	BRF1	BRIP1	BRPF1	BRWD3	BSCL2	BSG	BSND	BTD	BTG4
BTK	BTNL2	BUB1	BUB1B	BVES	C11orf80	C12orf4	C12orf57	C14orf39	C19orf12
C1GALT1C1	C1QA	C1QB	C1QBP	C1QC	C1QTNF5	C1R	C1S	C2	C2CD3
C3	C4A	C4B	C5	C6	C7	C8A	C8B	C8orf37	C9
C9orf72	CA12	CA2	CASA	CA8	CABP2	CABP4	CACNA1A	CACNA1B	CACNA1C
CACNA1D	CACNA1E	CACNA1F	CACNA1G	CACNA1H	CACNA1S	CACNA2D2	CACNA2D4	CACNB2	CACNB4
CACNG2	CAD	CALCR	CALCRL	CALM1	CALM2	CALM3	CALR	CAMK2A	CAMK2B
CAMK2G	CAMTA1	CANT1	CAPN1	CAPN10	CAPN3	CAPN5	CARD11	CARD14	CARD8
CARD9	CARMIL2	CARS1	CARS2	CARTPT	CASK	CASP10	CASP12	CASP14	CASP8
CASQ1	CASQ2	CASR	CAST	CAT	CATSPER1	CAV1	CAV3	CAVIN1	CBFB
CBL	CBLIF	CBS	CBX2	CC2D1A	CC2D2A	CCBE1	CCDC103	CCDC115	CCDC174
CCDC22	CCDC28B	CCDC32	CCDC39	CCDC40	CCDC47	CCDC50	CCDC65	CCDC78	CCDC8
CCDC88A	CCDC88C	CCL11	CCL2	CCL3	CCL5	CCM2	CCN6	CND1	CND2
CCNF	CCNK	CCNO	CCNQ	CCR2	CCR5	CCT5	CD151	CD164	CD19
CD207	CD209	CD244	CD247	CD27	CD2AP	CD320	CD36	CD3D	CD3E
CD3G	CD4	CD40	CD40LG	CD44	CD46	CD55	CD59	CD70	CD79A
CD79B	CD81	CD8A	CDAN1	CDAN1	CDIC14A	CDC42	CDC45	CD66	CD73
CDCA7	CDH1	CDH11	CDH15	CDH2	CDH23	CDH3	CDHR1	CDIN1	CDK10

Clinical Exome Panel									
CDK13	CDK19	CDK4	CDK5	CDK5RAP2	CDK6	CDK8	CDKL5	CDKN1B	CDKN1C
CDKN2A	CDON	CDSN	CDT1	CEACAM16	CEBPA	CEBPE	CEL	CELA2A	CENPE
CENPF	CENPJ	CENPT	CEP104	CEP112	CEP120	CEP135	CEP152	CEP164	CEP19
CEP250	CEP290	CEP41	CEP43	CEP55	CEP57	CEP63	CEP78	CEP83	CEP85L
CERKL	CERS1	CERS3	CERT1	CES1	CETP	CFAP251	CFAP298	CFAP300	CFAP410
CFAP43	CFAP44	CFAP47	CFAP53	CFAP58	CFAP65	CFAP69	CFAP70	CFAP91	CFB
CFC1	CFD	CFH	CFHR1	CFHR3	CFHR5	CFI	CFL2	CFP	CFTR
CHAMP1	CHAT	CHCHD10	CHCHD2	CHD1	CHD2	CHD3	CHD4	CHD7	CHD8
CHEK2	CHI3L1	CHIC2	CHIT1	CHKB	CHM	CHMP1A	CHMP2B	CHMP4B	CHN1
CHP1	CHRD1	CHRM3	CHRNA1	CHRNA2	CHRNA3	CHRNA4	CHRNA5	CHRNB1	CHRNB2
CHRM2	CHRNE	CHRNG	CHST11	CHST14	CHST3	CHST6	CHST8	CHSY1	CHUK
CIB1	CIB2	CIBAR1	CIC	CIDEC	CIITA	CILK1	CILP	CISD2	CISH
CIT	CITED2	CKAP2L	CLCC1	CLCF1	CLCN1	CLCN2	CLCN4	CLCN5	CLCN6
CLCN7	CLCNKA	CLCNKB	CLDN1	CLDN10	CLDN14	CLDN16	CLDN19	CLDN9	CLEC1A
CLEC7A	CLIC2	CLIC5	CLMP	CLN3	CLN5	CLN6	CLN8	CLP1	CLPB
CLPP	CLPX	CLRN1	CLRN2	CLTC	CNBP	CNGA1	CNGA3	CNGB1	CNGB3
CNKSR2	CNNM2	CNNM4	CNOT1	CNOT2	CNOT3	CNP	CNPY3	CNTN1	CNTN2
CNTNAP1	CNTNAP2	COA3	COA5	COA6	COA7	COA8	COASY	COCH	COG1
COG2	COG4	COG5	COG6	COG7	COG8	COL10A1	COL11A1	COL11A2	COL12A1
COL13A1	COL17A1	COL18A1	COL1A1	COL1A2	COL25A1	COL27A1	COL2A1	COL3A1	COL4A1
COL4A2	COL4A3	COL4A4	COL4A5	COL4A6	COL5A1	COL5A2	COL6A1	COL6A2	COL6A3
COL7A1	COL8A2	COL9A1	COL9A2	COL9A3	COLEC10	COLEC11	COLGALT1	COLQ	COMP
COMT	COPA	COPB2	COQ2	COQ4	COQ5	COQ6	COQ7	COQ8A	COQ8B
COQ9	CORIN	CORO1A	COX10	COX14	COX15	COX20	COX41	COX42	COX5A
COX6A1	COX6A2	COX6B1	COX7B	COX8A	CP	CPA6	CPAMD8	CPLANE1	CPLX1
CPN1	CPOX	CP51	CPSF1	CPT1A	CPT1C	CPT2	CR1	CR2	CRADD
CRAT	CRB1	CRB2	CRBN	CREB1	CREB3L1	CREBBP	CRELD1	CRIPT	CRLF1
CRPPA	CRTAP	CRTC1	CRX	CRY1	CRYAA	CRYAB	CRYBA1	CRYBA2	CRYBA4
CRYBB1	CRYBB2	CRYBB3	CRYGB	CRYGC	CRYGD	CRYG5	CRYM	CSF1R	CSF2RA
CSF2RB	CSF3R	CSGALNACT1	CSH1	CSNK1D	CSNK2A1	CSNK2B	CSPP1	CSRP3	CT3
CT6	CSTA	CTSB	CTBP1	CTC1	CTCF	CTDP1	CTH	CTHRC1	CTLA4
CTNNA1	CTNNA2	CTNNA3	CTNNB1	CTNND1	CTNS	CTPS1	CTRC	CTSA	CTS5
CTSC	CTSD	CTSF	CTSK	CTU2	CUBN	CUL3	CUL4B	CUL7	CUX1
CUX2	CWC27	CWF19L1	CX3CR1	CXCL12	CXCR1	CXCR4	CYB561	CYB5A	CYB5R3
CYBA	CYBB	CYBC1	CYC1	CYCS	CYFIP2	CYLD	CYP11A1	CYP11B1	CYP11B2
CYP17A1	CYP19A1	CYP1B1	CYP21A2	CYP24A1	CYP26B1	CYP26C1	CYP27A1	CYP27B1	CYP2A6
CYP2B6	CYP2C19	CYP2C8	CYP2C9	CYP2D6	CYP2R1	CYP2U1	CYP3A4	CYP3A5	CYP4F22
CYP4V2	CYP7B1	D2HGDH	DAB1	DACT1	DAG1	DALRD3	DAOA	DARS1	DARS2
DAZL	DBH	DBT	DCAF17	DCAF8	DCC	DCDC2	DCHS1	DCLRE1C	DCN
DCPS	DCT	DCTN1	DCX	DCXR	DDB2	DDC	DDHD1	DDHD2	DDOST
DDR2	DDRGK1	DDX11	DDX3X	DDX41	DDX58	DDX59	DDX6	DEAF1	DEGS1
DEK	DENND5A	DEPDC5	DES	DGAT1	DGKE	DGUOK	DHCR24	DHCR7	DHDDS
DHFR	DHH	DHODH	DHPS	DHTKD1	DHX16	DHX30	DHX37	DHX38	DIABLO
DIAPH1	DIAPH2	DIAPH3	DICER1	DIP2B	DIS3L2	DISC1	DISC2	DKC1	DLAT
DLC1	DLD	DLG3	DLG4	DLL1	DLL3	DLL4	DLST	DLX3	DLX4
DLX5	DMD	DMGDH	DMP1	DMPK	DMXL2	DNA2	DNAAF1	DNAAF11	DNAAF2
DNAAF3	DNAAF4	DNAAF5	DNAAF6	DNAH1	DNAH11	DNAH17	DNAH2	DNAH5	DNAH8
DNAH9	DNAI1	DNAI2	DNAJB11	DNAJB13	DNAJB2	DNAJB6	DNAJC12	DNAJC19	DNAJC21
DNAJC3	DNAJC5	DNAJC6	DNAL1	DNAL4	DNAE1	DNAE1L3	DNM1	DNM1L	DNM2
DNMBP	DNMT1	DNMT3A	DNMT3B	DOCK2	DOCK3	DOCK6	DOCK7	DOCK8	DOK7
DOLK	DONSON	DPAGT1	DPF2	DPH1	DPM1	DPM2	DPM3	DPP6	DPY19L2
DPYD	DPYS	DRAM2	DRC1	DRD3	DRD4	DRD5	DSC2	DSC3	DSE
DSG1	DSG2	DSG4	DSP	DSPP	DST	DSTYK	DTNA	DTNBP1	DUOX2
DUOX2	DUSP6	DVL1	DVL3	DYM	DYNC1H1	DYNC1I2	DYNC2H1	DYNC2I1	DYNC2I2
DYNC2L1	DYNTL2B	DYRK1A	DYRK1B	DYSF	DZIP1	DZIP1L	EARS2	EBF3	EBP
ECE1	ECEL1	ECHS1	ECM1	EDA	EDAR	EDARADD	EDC3	EDN1	EDN3
EDNRA	EDNRB	EED	EEF1A2	EEF1AKNMT	EEF2	EFEMP1	EFEMP2	EFHC1	EF1
EFNB1	EFTUD2	EGF	EGFR	EGLN1	EGR2	EHBP1	EHHADH	EHMT1	EIF2AK1
EIF2AK2	EIF2AK3	EIF2AK4	EIF2B1	EIF2B2	EIF2B3	EIF2B4	EIF2B5	EIF2S3	EIF3F
EIF4A3	EIF4E	EIF4G1	ELAC2	ELANE	ELMO2	ELMOD3	ELN	ELOVL1	ELOVL4
ELOVL5	ELP1	ELP2	ELP4	EMC1	EMD	EMG1	EML1	EMP2	EMX2
ENAM	ENG	ENO1	ENO3	ENPP1	ENTPD1	EOGT	EP300	EPAS1	EPB41
EPB41L1	EPB42	EPCAM	EPG5	EPHA2	EPHB2	EPHB4	EPHX1	EPHX2	EPMB2A
EPO	EPOR	EPRS1	EPS8	EPS8L2	EPS8L3	EPX	ERAL1	ERBB2	ERBB3
ERBB4	ERCC1	ERCC2	ERCC3	ERCC4	ERCC5	ERCC6	ERCC6L2	ERCC8	ERF

Clinical Exome Panel									
ERIC1	ERLIN1	ERLIN2	ERMAP	ERMARD	ESCO2	ESPN	ESR1	ESR2	ESRP1
ESRRB	ETFA	ETFB	ETFDH	ETHE1	ETV6	EVC	EVC2	EWSR1	EXOC6B
EXOC7	EXOC8	EXOSC2	EXOSC3	EXOSC8	EXOSC9	EXPH5	EXT1	EXT2	EXTL3
EYA1	EYA4	EYS	EZH2	F10	F11	F12	F13A1	F13B	F2
F5	F7	F8	F9	FA2H	FAAH	FADD	FAH	FAM111A	FAM111B
FAM126A	FAM149B1	FAM161A	FAM20A	FAM20C	FAM50A	FAM83H	FAN1	FANCA	FANCB
FANCC	FANCD2	FANCE	FANCF	FANCG	FANCI	FANCL	FANCM	FANL	FARS2
FARSA	FARSB	FAS	FASLG	FASTKD2	FAT2	FAT4	FBLN1	FBLN5	FBN1
FBN2	FBP1	FBXL3	FBXL4	FBXO11	FBXO31	FBXO38	FBXO7	FBXW11	FCGR1A
FCGR2A	FCGR2B	FCGR3A	FCHO1	FCN3	FCSK	FDF1	FDP5	FDX2	FDXR
FECH	FERMT1	FERMT3	FEZF1	FFAR4	FGA	FGB	FGD1	FGD2	FGF10
FGF12	FGF13	FGF14	FGF16	FGF17	FGF20	FGF23	FGF3	FGF5	FGF8
FGF9	FGFR1	FGFR2	FGFR3	FGFR4	FGG	FH	FHL1	FIBP	FIG4
FIGLA	FITM2	FKBP10	FKBP14	FKBP5	KRP	FTN	FLAD1	FLCN	FLG
FLG2	FLI1	FLNA	FLNB	FLNC	FLRT3	FLT3	FLT4	FLVCR1	FLVCR2
FMN2	FMO3	FMR1	FN1	FOLR1	FOXC1	FOXC2	FOXO3	FOXO1	FOXO3
FOXF1	FOXG1	FOXI1	FOXJ1	FOXO2	FOXN1	FOXO1	FOXP1	FOXP2	FOXP3
FOXRED1	FRAS1	FREM1	FREM2	FRMD4A	FRMD7	FRMPD4	FRRS1L	FRZB	FSCN2
FSHB	FSHR	FSIP2	FTCD	FTH1	FTL	FTO	FTSJ1	FUCA1	FUS
FUT1	FUT2	FUT3	FUT6	FUT8	FUZ	FXN	FXR1	FXR2	FYB1
FYCO1	FZD2	FZD4	FZD6	G6PC1	G6PC3	G6PD	GAA	GAB1	GABBR2
GABRA1	GABRA2	GABRA5	GABRB1	GABRB2	GABRB3	GABRD	GABRG2	GAD1	GAL
GALC	GALE	GALK1	GALM	GALN5	GALNT12	GALNT2	GALNT3	GALT	GAMT
GAN	GANAB	GARS1	GAS2L2	GAS8	GATA1	GATA2	GATA3	GATA4	GATA5
GATA6	GATAD1	GATAD2B	GATB	GATC	GATM	GBA	GBA2	GBE1	GCDH
GCH1	GCK	GCKR	GCLC	GCLM	GCM2	GCNT2	GCSH	GDAP1	GDAP2
GDF1	GDF11	GDF2	GDF3	GDF5	GDF6	GDF9	GDI1	GDNF	GEMIN4
GFAP	GFER	GFI1	GFI1B	GFM1	GFM2	GFPT1	GGCX	GGT1	GGT2
GH1	GHR	GHRH	GHRHR	GHRL	GHSR	GIGYF2	GIN51	GIPC1	GIPC3
GJA1	GJA3	GJA5	GJA8	GJB1	GJB2	GJB3	GJB4	GJB6	GJC2
GK	GLA	GLB1	GLCC1	GLDC	GLDN	GLE1	GLI1	GLI2	GLI3
GLIS2	GLIS3	GLMN	GLRA1	GLRB	GLRX5	GLS	GLUD1	GLUD2	GLUL
GLYCK	GM2A	GMNN	GMPPA	GMPPB	GNA11	GNAI2	GNAI3	GNAL	GNAO1
GNAQ	GNAS	GNAS-AS1	GNAT1	GNAT2	GNB1	GNB3	GNB4	GNB5	GNE
GNMT	GNPAT	GNPTAB	GNPTG	GNRH1	GNRHR	GNS	GORAB	GOSR2	GOT1
GOT2	GP1BA	GP1BB	GP6	GP9	GPA1	GPC3	GPC4	GPC6	GPD1
GPD1L	GPD2	GPHN	GPI	GPIHBP1	GPNMB	GPR101	GPR143	GPR179	GPR68
GPR88	GPRASP2	GPSM2	GPT2	GPX1	GPX4	GRAP	GREB1L	GREM2	GRHL2
GRHL3	GRHPR	GRIA2	GRIA3	GRIA4	GRID2	GRIK2	GRIN1	GRIN2A	GRIN2B
GRIN2D	GRIP1	GRK1	GRM1	GRM6	GRM7	GRN	GRXCR1	GRXCR2	GSC
GSDME	GSR	GSS	GSTZ1	GTX2	GTF2E2	GTF2H5	GTPBP2	GTPBP3	GTPBP3
GUCA1A	GUCA1B	GUCY1A1	GUCY2C	GUCY2D	GUF1	GUSB	GYG1	GYPA	GYPB
GYPC	GYSL	GYSL	GZF1	H1-4	H6PD	HAAO	HABP2	HACE1	HADH
HADHA	HADHB	HAGH	HAL	HAMP	HARS1	HARS2	HAVCR2	HAX1	HBA1
HBA2	HBB	HBD	HBEGF	HBG1	HBG2	HCCS	HCFC1	HCN1	HCN4
HCRT	HDAC6	HDAC8	HDC	HECW2	HELLS	HEPACAM	HEPHL1	HERC1	HERC2
HES7	HESX1	HEXA	HEXB	HFE	HFM1	HGD	HGF	HGSNAT	HHAT
HIBCH	HIKESHI	HINT1	HIVEP2	HJV	HK1	HLA-A	HLA-B	HLA-C	HLA-DPB1
HLA-DQA1	HLA-DQB1	HLA-DRB1	HLA-G	HLCS	HMB5	HMCN1	HMGA1	HMGA2	HMGCB3
HMGCL	HMGCR	HMGCS2	HMMR	HMOX1	HMX1	HNF1A	HNF1B	HNF4A	HNMT
HNRNPA1	HNRNPA2B1	HNRNPDL	HNRNPH2	HNRNPK	HNRNPU	HOGA1	HOMER2	HOXA1	HOXA11
HOXA13	HOXA2	HOXB1	HOXB13	HOXC13	HOXD10	HOXD13	HP	HPCA	HPD
HPDL	HPGD	HPRT1	HPS1	HPS3	HPS4	HPS5	HPS6	HPSE2	HR
HRAS	HRG	HS2ST1	HS6ST1	HS6ST2	HSD11B1	HSD11B2	HSD17B10	HSD17B3	HSD17B4
HSD3B2	HSD3B7	HSF4	HSPA9	HSPB1	HSPB3	HSPB8	HSPD1	HSPG2	HTR1A
HTR2A	HTRA1	HTRA2	HTT	HUWE1	HYAL1	HYLS1	HYOU1	IARS1	IARS2
IBAS7	ICAM1	ICAM4	ICOS	IDH1	IDH2	IDH3A	IDH3B	IDS	IDUA
IER3IP1	IFIH1	IFITM3	IFITM5	IFNA1	IFNAR2	IFNG	IFNGR1	IFNGR2	IFNL3
IFT122	IFT140	IFT172	IFT27	IFT43	IFT52	IFT57	IFT74	IFT80	IFT81
IGBP1	IGF1	IGF1R	IGF2	IGF2BP2	IGF2R	IGFALS	IGFBP7	IGHG2	IGHM
IGHMBP2	IGKC	IGLL1	IGSF1	IGSF3	IHH	IKBKB	IKBKG	IKZF1	IKZF5
IL10	IL10RA	IL10RB	IL11RA	IL12B	IL12RB1	IL13	IL17F	IL17RA	IL17RC
IL17RD	IL18BP	IL1B	IL1RAPL1	IL1RN	IL21	IL21R	IL23R	IL2RA	IL2RB
IL2RG	IL31RA	IL36RN	IL4R	IL6	IL6R	IL6ST	IL7	IL7R	ILDR1
IMPA1	IMPDH1	IMPDH2	IMP1	IMP2	INAVA	INF2	ING1	INPP5E	INPP5K

Clinical Exome Panel									
INPL1	INS	INS3	INSR	INTS1	INTS8	INTU	INVS	IQCB1	IQCE
IQSEC1	IQSEC2	IRAK3	IRAK4	IREB2	IRF1	IRF2BP2	IRF2BPL	IRF3	IRF4
IRF5	IRF6	IRF7	IRF8	IRF9	IRGM	IRS1	IRS2	IRS4	IRS5
ISCA1	ISCA2	ISCU	ISG15	ITCH	ITGA2B	ITGA3	ITGA6	ITGA7	ITGA8
ITGB2	ITGB3	ITGB4	ITGB6	ITK	ITM2B	ITPA	ITPR1	ITPR2	ITPR3
IVD	IVNS1ABP	IYD	JAG1	JAGN1	JAK1	JAK2	JAK3	JAM2	JAM3
JPH1	JPH2	JPH3	JUP	KANK1	KANK2	KANSL1	KARS1	KAT5	KAT6A
KAT6B	KAT8	KATNB1	KATNIP	KBTBD13	KCNA1	KCNA2	KCNA4	KCNA5	KCNB1
KCNC1	KCNC3	KCND3	KCNE1	KCNE2	KCNE3	KCNH1	KCNH2	KCNJ1	KCNJ10
KCNJ11	KCNJ13	KCNJ2	KCNJ5	KCNJ6	KCNK18	KCNK3	KCNK4	KCNK9	KCNMA1
KCNMB1	KCNN3	KCNN4	KCNQ1	KCNQ1OT1	KCNQ2	KCNQ3	KCNQ4	KCNQ5	KCNT1
KCNT2	KCNV2	KCTD1	KCTD17	KCTD7	KDEL2	KDF1	KDM1A	KDM3B	KDM5B
KDM5C	KDM6A	KDM6B	KDR	KDSR	KEL	KERA	KHDC3L	KHK	KIAA0586
KIAA0753	KIAA0825	KIAA1109	KIAA1549	KIDINS220	KIF11	KIF14	KIF1A	KIF1B	KIF1C
KIF21A	KIF22	KIF2A	KIF3B	KIF4A	KIF5A	KIF5C	KIF7	KIFBP	KIR3DL1
KISS1	KISS1R	KIT	KITLG	KIZ	KL	KLC2	KL1	KL11	KL16
KLHDC8B	KLHL10	KLHL15	KLHL24	KLHL3	KLHL40	KLHL41	KLHL7	KLK1	KLK4
KLKB1	LLN	KMT2A	KMT2B	KMT2C	KMT2D	KMT2E	KMT5B	KN1	KN11
KPTN	KRAS	KREMEN1	KRIT1	KRT1	KRT10	KRT12	KRT13	KRT14	KRT16
KRT17	KRT18	KRT2	KRT25	KRT3	KRT4	KRT5	KRT6A	KRT6B	KRT6C
KRT71	KRT74	KRT75	KRT8	KRT81	KRT83	KRT85	KRT86	KRT9	KY
KYNU	L1CAM	L2HGDH	LACC1	LAGE3	LAMA1	LAMA2	LAMA3	LAMA4	LAMB1
LAMB2	LAMB3	LAMC2	LAMC3	LAMP2	LAMTOR2	LARGE1	LARP7	LARS1	LARS2
LAS1L	LAT	LBR	LCA5	LCAT	LCK	LCT	LDB3	LDHA	LDHB
LDHD	LDLR	LDLRAP1	LEF1	LEMD2	LEMD3	LEP	LEPR	LFNG	LGALS2
LGI1	LGI4	LGR4	LHB	LHCGR	LHFPL5	LHX3	LHX4	LIAS	LIFR
LIG4	LIM2	LIMA1	LIMS2	LINGO1	LINS1	LIPA	LIPC	LIPF	LIPH
LIPN	LIPT1	LIPT2	LITAF	LMAN1	LMAN2L	LMBR1	LMBRD1	LMF1	LMNA
LMNB1	LMNB2	LMO1	LMO2	LMOD3	LMX1A	LMX1B	LNPK	LONP1	LORICRIN
LOX	LOXHD1	LOXL1	LPA	LPAR6	LPIN1	LPIN2	LPL	LPP	LRAT
LRBA	LRIG2	LRIT3	LRMDA	LRP1	LRP12	LRP2	LRP4	LRP5	LRP6
LRP8	LRPAP1	LRPPRC	LRRC32	LRRC56	LRRC8A	LRRK2	LRSAM1	LRTOMT	LSS
LTA	LTBP2	LTBP3	LTBP4	LTC4S	LYL1	LYRM4	LYRM7	LYST	LYZ
LZTR1	LZTR1	LZTS1	M1AP	MAB21L1	MAB21L2	MACF1	MAD1L1	MAD2L2	MADD
MAF	MAFA	MAFB	MAG	MAGED2	MAGEL2	MAGI2	MAGT1	MAK	MALT1
MAML2	MAML1D1	MAN1B1	MAN2B1	MANBA	MAOA	MAP1B	MAP2K1	MAP2K2	MAP3K1
MAP3K20	MAP3K7	MAP3K8	MAPK1	MAPK8IP1	MAPK8IP3	MAPKAPK3	MAPKBP1	MAPRE2	MAPT
MARCHF6	MARK3	MARS1	MARS2	MARVELD2	MASP1	MASP2	MAST1	MAT1A	MATN3
MATR3	MAX	MBD5	MBL2	MBOAT7	MBTPS1	MBTPS2	MC1R	MC2R	MC3R
MC4R	MCC	MCC1	MCC2	MCEE	MCFD2	MCDAS	MCM2	MCM3AP	MCM4
MCM5	MCM6	MCM8	MCM9	MCOLN1	MCPH1	MDH1	MDH2	MDM2	MDM4
MECOM	MECP2	MECR	MED12	MED12L	MED13	MED13L	MED17	MED23	MED25
MEF2A	MEF2C	MEFV	MEGF10	MEGF8	MEI1	MEIOB	MEIS2	MEN1	MEOX1
MERTK	MESD	MESP2	MET	METTL23	METTL5	MFAP5	MFF	MFHAS1	MFN2
MFRP	MFS2A	MFS2B	MGAT2	MGME1	MGP	MIAT	MIB1	MICOS13	MICU1
MID1	MID2	MIEF2	MIF	MINPP1	MIP	MIPEP	MIR184	MIR204	MIR2861
MIR96	MITF	MKKS	MKRN3	MKS1	MLC1	MLH1	MLH3	MLL10	MLPH
MLYCD	MMAA	MMAB	MMACHC	MMADHC	MME	MMP1	MMP13	MMP14	MMP19
MMP2	MMP20	MMP21	MMP3	MMP9	MMUT	MN1	MNS1	MNX1	MOCOS
MOC51	MOC52	MOG	MOGS	MORC2	MPC1	MPDU1	MPDZ	MPI	MPIG6B
MPL	MPLKIP	MPO	MPV17	MPZ	MPZL2	MRAP	MRAP2	MRAS	MRE11
MRM2	MRPL12	MRPL3	MRPL44	MRPS14	MRPS16	MRPS2	MRPS22	MRPS23	MRPS25
MRPS28	MRPS34	MRPS7	MRTFA	MS4A1	MS4A2	MSH2	MSH3	MSH5	MSH6
MSL3	MSMB	MSMO1	MSN	MSR1	MSRB3	MST1R	MSTN	MSTO1	MSX1
MSX2	MTAP	MTFMT	MTHFD1	MTHFR	MTHFS	MTM1	MTMR14	MTMR2	MTNR1B
MTO1	MTOR	MTAP	MTR	MTRFR	MTRR	MTTP	MTX2	MUC1	MUC5B
MUC7	MUSK	MUTYH	MVD	MVK	MXI1	MYB	MYBPC1	MYBPC3	MYC
MYCN	MYD88	MYF5	MYH11	MYH14	MYH2	MYH3	MYH6	MYH7	MYH8
MYH9	MYL1	MYL2	MYL3	MYL4	MYLK	MYLK2	MYLPF	MYMK	MYO15A
MYO18B	MYO1E	MYO3A	MYO5A	MYO5B	MYO6	MYO7A	MYO9A	MYO9B	MYOC
MYOCD	MYO1	MYORG	MYOT	MYOZ2	MYPN	MYRF	MYSM1	MYT1L	NAA10
NAA15	NACC1	NADK2	NADSYN1	NAGA	NAGLU	NAGS	NALCN	NANOS1	NANS
NARS1	NARS2	NAT2	NAT8L	NAXD	NAXE	NBAS	NBEA	NBEAL2	NBN
NCAPD2	NCAPD3	NCAPG2	NCAPH	NCF1	NCF2	NCF4	NCKAP1L	NCR3	NCSTN
NDE1	NDN	NDNF	NDP	NDRG1	NDST1	NDUFA1	NDUFA10	NDUFA11	NDUFA12

Clinical Exome Panel									
NDUFA13	NDUFA2	NDUFA4	NDUFA6	NDUFA9	NDUFAF1	NDUFAF2	NDUFAF3	NDUFAF4	NDUFAF5
NDUFAF6	NDUFAF8	NDUFB10	NDUFB11	NDUFB3	NDUFB8	NDUFB9	NDUFC2	NDUFS1	NDUFS2
NDUFS3	NDUFS4	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NEB	NECAP1	NECTIN1
NECTIN4	NEDD4L	NEFH	NEFL	NEK1	NEK10	NEK2	NEK8	NEK9	NEMF
NEPRO	NEU1	NEUROD1	NEUROD2	NEUROG3	NEXMIF	NEXN	NF1	NF2	NFASC
NFE2L2	NFIA	NFIB	NFIX	NFKB1	NFKB2	NFKBIA	NFKBIL1	NFU1	NGF
NGLY1	NHEJ1	NHLRC1	NHLRC2	NHP2	NHS	NIN	NIPA1	NIPAL4	NIPBL
NKAP	NKX2-1	NKX2-5	NKX2-6	NKX3-2	NKX6-2	NLGN1	NLGN3	NLGN4X	NLRC4
NLRP1	NLRP12	NLRP3	NLRP7	NME8	NMNAT1	NNMT	NNT	NOBOX	NOD2
NODAL	NOG	NONO	NOP10	NOP56	NOS1AP	NOS2	NOS3	NOS3	NOTCH1
NOTCH2	NOTCH2NLC	NOTCH3	NOVA2	NPC1	NPC1L1	NPC2	NPHP1	NPHP3	NPHP4
NPHS1	NPHS2	NPM1	NPPA	NPR2	NPR3	NPRL2	NPRL3	NPSR1	NQO1
NQO2	NR0B1	NR0B2	NR1H4	NR2E3	NR2F1	NR2F2	NR3C1	NR3C2	NR4A3
NR5A1	NRAS	NRG1	NRIP1	NRL	NRROS	NRXN1	NSD1	NSDHL	NSMCE2
NSMCE3	NSMF	NSUN2	NSUN3	NT5C2	NT5C3A	NT5E	NTF4	NTHL1	NTN1
NTNG2	NTRK1	NTRK2	NUBPL	NUDT15	NUMA1	NUP107	NUP133	NUP155	NUP160
NUP188	NUP205	NUP214	NUP37	NUP62	NUP85	NUP88	NUP93	NUS1	NXN
NYX	OAT	OBSL1	OCA2	OCLN	OCRL	ODAD1	ODAD2	ODAD3	ODAD4
ODAPH	ODC1	OFD1	OGDH	OGG1	OGT	OLR1	OPA1	OPA3	OPCML
OPHN1	OPLAH	OPN1LW	OPN1MW	OPN1SW	OPTN	OR2J3	ORAI1	ORC1	ORC4
ORC6	OSBPL2	OSGEP	OSMR	OSTM1	OTC	OTOA	OTOF	OTOG	OTOG1
OTUD5	OTUD6B	OTULIN	OTX2	OVOL2	OXCT1	OXR1	P2RX2	P2RY12	P3H1
P3H2	P4HA2	P4HB	P4HTM	PABPN1	PACS1	PACS2	PADI3	PADI4	PADI6
PAFAH1B1	PAH	PAK1	PAK3	PALB2	PALLD	PAM16	PANK2	PANX1	PAPSS2
PARK7	PARN	PARS2	PATL2	PAX1	PAX2	PAX3	PAX4	PAX5	PAX6
PAX7	PAX8	PAX9	PBX1	PC	PCARE	PCBD1	PCCA	PCCB	PCDH12
PCDH15	PCDH19	PCGF2	PCK1	PCK2	PCLO	PCNA	PCNT	PCSK1	PCSK9
PCYT1A	PCYT2	PDCD1	PDCD10	PDE10A	PDE11A	PDE1C	PDE2A	PDE3A	PDE4D
PDE6A	PDE6B	PDE6C	PDE6D	PDE6G	PDE6H	PDE8B	PDGFB	PDGFRA	PDGFRB
PDGFRL	PDHA1	PDHB	PDHX	PDK3	PDLIM4	PDP1	PDSS1	PDSS2	PDX1
PDXK	PDYN	POZD7	PEPD	PER2	PER3	PERCC1	PERP	PET100	PET117
PEX1	PEX10	PEX11B	PEX12	PEX13	PEX14	PEX16	PEX19	PEX2	PEX26
PEX3	PEX5	PEX6	PEX7	PFKL	PFKM	PFN1	PGAM2	PGAP1	PGAP2
PGAP3	PGK1	PGM1	PGM3	PGR	PHACTR1	PHB	PHC1	PHEX	PHF21A
PHF6	PHF8	PHGDH	PHIP	PHKA1	PHKA2	PHKB	PHKG2	PHOX2A	PHOX2B
PHYH	PHYKPL	PI4KA	PIBF1	PICALM	PIEZO1	PIEZO2	PIGA	PIGB	PIGC
PIGG	PIGH	PIGK	PIGL	PIGM	PIGN	PIGO	PIGP	PIGQ	PIGS
PIGT	PIGU	PIGV	PIGW	PIGY	PIK3C2A	PIK3CA	PIK3CD	PIK3R1	PIK3R2
PIK3R5	PIKFYVE	PINK1	PIPSK1C	PISD	PITPNM3	PITX1	PITX2	PITX3	PJVK
PKD1	PKD1L1	PKD2	PKDCC	PKHD1	PKLR	PKP1	PKP2	PLA2G2A	PLA2G4A
PLA2G5	PLA2G6	PLA2G7	PLAA	PLAG1	PLAT	PLAU	PLCB1	PLCB2	PLCB3
PLCB4	PLCD1	PLCE1	PLCG2	PLCZ1	PLD1	PLD3	PLEC	PLEKHG2	PLEKHG5
PLEKHM1	PLG	PLIN1	PLK4	PLN	PLOD1	PLOD2	PLOD3	PLP1	PLPBP
PLS1	PLS3	PLTP	PLVAP	PMFBP1	PML	PMM2	PMP2	PMP22	PMPCA
PMPCB	PMS2	PMVK	PNKD	PNKP	PNLIP	PNP	PNPLA1	PNPLA2	PNPLA6
PNPLA8	PNPO	PNPT1	POC1A	POC1B	POF1B	POFUT1	POGLUT1	POGZ	POLA1
POLD1	POLE	POLG	POLG2	POLH	POLR1A	POLR1B	POLR1C	POLR1D	POLR2A
POLR3A	POLR3B	POMC	POMGNT1	POMGNT2	POMK	POMP	POMT1	POMT2	PON1
PON2	POP1	POPDC3	POR	PORCN	POT1	POU1F1	POU3F3	POU3F4	POU4F3
POU6F2	PPA2	PPARA	PPARG	PPCS	PPIB	PPIP5K2	PPM1D	PPM1K	PPOX
PPP1C8	PPP1R12A	PPP1R15B	PPP1R17	PPP1R3A	PPP2CA	PPP2R1A	PPP2R1B	PPP2R2B	PPP2R3C
PPP2R5D	PPP3CA	PPT1	PQBP1	PRCC	PRCD	PRDM12	PRDM16	PRDM5	PRDM6
PRDM8	PRDX1	PREPL	PRF1	PRG4	PRICKLE1	PRICKLE3	PRIMPOL	PRKACA	PRKACB
PRKACG	PRKAG2	PRKAG3	PRKAR1A	PRKCA	PRKCD	PRKCG	PRKCH	PRKCSH	PRKD1
PRKDC	PRKG1	PRKN	PRKRA	PRLR	PRMT7	PRNP	PROC	PRODH	PROK2
PROKR2	PROM1	PROP1	PROS1	PROZ	PRPF3	PRPF31	PRPF4	PRPF6	PRPF8
PRPH	PRPH2	PRPS1	PRRT2	PRRX1	PRSS1	PRSS12	PRSS2	PRSS56	PRUNE1
PRX	PSAP	PSAT1	PSEN1	PSEN2	PSENEN	PSMA6	PSMB10	PSMB4	PSMB8
PSMB9	PSMC3IP	PSMD12	PSMG2	PSPH	PSTPIP1	PTCD3	PTCH1	PTCH2	PTCHD1
PTDSS1	PTEN	PTF1A	PTGDR	PTGER2	PTGIS	PTH	PTH1R	PTHLH	PTPN1
PTPN11	PTPN12	PTPN14	PTPN22	PTPN23	PTPRC	PTPRF	PTPRJ	PTPRO	PTPRQ
PTRH2	PTS	PUF60	PUM1	PURA	PUS1	PUS3	PUS7	PXDN	PYCR1
PYCR2	PYGL	PYGM	PYROXD1	QARS1	QDPR	QRICH1	QRICH2	QRSL1	RAB11B
RAB18	RAB23	RAB27A	RAB28	RAB33B	RAB39B	RAB3GAP1	RAB3GAP2	RAB7A	RABL3
RAC1	RAC2	RAC3	RAD21	RAD50	RAD51	RAD51C	RAD51D	RAD54B	RAD54L

Clinical Exome Panel									
RAF1	RAG1	RAG2	RAI1	RALGAP1	RANBP2	RAP1GDS1	RAPGEF2	RAPSN	RARA
RARB	RARS1	RARS2	RASA1	RASGRP1	RASGRP2	RAX	RAX2	RB1	RB1CC1
RBBP8	RBCK1	RBM10	RBM12	RBM15	RBM20	RBM28	RBM8A	RBMX	RBP3
RBP4	RBPJ	RC3H1	RCBTB1	RD3	RDH11	RDH12	RDH5	RDX	REC114
RECQL4	REEP1	REEP2	REEP6	RELA	RELB	RELN	RELT	REN	REPS1
RERE	REST	RET	RETN	RETREG1	RFC1	RFT1	RFWD3	RFX5	RFX6
RFKANK	RFKAP	RGR	RGS5	RGS9	RGS9BP	RHAG	RHBDP2	RHCE	RHD
RHO	RHOA	RHOBTB2	RHOH	RIC1	RIMS1	RIMS2	RIN2	RINT1	RIPK1
RIPK4	RIPOR2	RIPPLY2	RT1	RLBP1	RLIM	RMND1	RMRP	RNASEH1	RNASEH2A
RNASEH2B	RNASEH2C	RNASEL	RNASET2	RNF113A	RNF125	RNF13	RNF139	RNF168	RNF170
RNF212	RNF213	RNF216	RNF43	RNF6	RNPC3	RNU4ATAC	ROBO2	ROBO3	ROBO4
ROGDI	ROM1	ROR1	ROR2	RORA	RORB	RORC	RP1	RP1L1	RP2
RP9	RPE65	RPGR	RPGRIP1	RPGRIP1L	RPIA	RPL10	RPL11	RPL13	RPL15
RPL18	RPL21	RPL26	RPL27	RPL35	RPL35A	RPL5	RPS10	RPS14	RPS15A
RPS19	RPS23	RPS24	RPS26	RPS27	RPS28	RPS29	RPS6KA3	RPS7	RRAS2
RRM2B	RS1	RSPH1	RSPH3	RSPH4A	RSPH9	RSPO1	RSPO2	RSPO4	RSPRY1
RSRC1	RTLL1	RTN2	RTN4IP1	RTN4R	RTTN	RUBCN	RUNX1	RUNX2	RUSC2
RXYLT1	RYR1	RYR2	S1PR2	SACS	SAG	SALL1	SALL2	SALL4	SAMD12
SAMD9	SAMD9L	SAMHD1	SAR1B	SARDH	SARS1	SARS2	SASH1	SASS6	SATB2
SBD5	SBF1	SBF2	SC5D	SCAPER	SCARB1	SCARB2	SCARF2	SCD5	SCGB3A2
SCN10A	SCN11A	SCN1A	SCN1B	SCN2A	SCN2B	SCN3A	SCN3B	SCN4A	SCN4B
SCN5A	SCN8A	SCN9A	SCNN1A	SCNN1B	SCNN1G	SCO1	SCO2	SCP2	SCUBE3
SCYL1	SCYL2	SDC3	SDCCAG8	SDHA	SDHAF1	SDHAF2	SDHB	SDHC	SDHD
SDR9C7	SEC23A	SEC23B	SEC24D	SEC31A	SEC61A1	SEC63	SECISBP2	SELENBP1	SELENOI
SELENON	SEMA3A	SEMA3E	SEMA4A	SEMA6B	SEMA7A	SEPSECS	SEPTIN12	SEPTIN9	SERAC1
SERPINA1	SERPINA3	SERPINA6	SERPINA7	SERPINB6	SERPINB7	SERPINB8	SERPINC1	SERPIND1	SERPINE1
SERPINF1	SERPINF2	SERPING1	SERPINH1	SERPINI1	SET	SETBP1	SETD1A	SETD1B	SETD2
SETD5	SETX	SF3B1	SF3B4	SFRP4	SFTPA2	SFTPB	SFTPC	SFXN4	SGCA
SGCB	SGCD	SGCE	SGCG	SGMS2	SGO1	SGPL1	SGSH	SH2B3	SH2D1A
SH3BP2	SH3GL1	SH3KBP1	SH3PXD2B	SH3TC2	SHANK2	SHANK3	SHH	SHMT2	SHOC2
SHOX	SHPK	SHROOM4	SI	SIAE	SIGMAR1	SIK1	SIK3	SIL1	SIN3A
SIPA1L3	SIX1	SIX3	SIX5	SIX6	SKI	SKIV2L	SLC10A2	SLC10A7	SLC11A1
SLC11A2	SLC12A1	SLC12A2	SLC12A3	SLC12A5	SLC12A6	SLC13A3	SLC13A5	SLC14A1	SLC16A1
SLC16A12	SLC16A2	SLC17A3	SLC17A5	SLC17A8	SLC17A9	SLC18A2	SLC18A3	SLC19A2	SLC19A3
SLC1A1	SLC1A2	SLC1A3	SLC1A4	SLC20A2	SLC22A12	SLC22A18	SLC22A4	SLC22A5	SLC24A1
SLC24A4	SLC24A5	SLC25A1	SLC25A10	SLC25A11	SLC25A12	SLC25A13	SLC25A15	SLC25A19	SLC25A20
SLC25A21	SLC25A22	SLC25A24	SLC25A26	SLC25A3	SLC25A32	SLC25A38	SLC25A4	SLC25A42	SLC25A46
SLC26A1	SLC26A2	SLC26A3	SLC26A4	SLC26A5	SLC26A8	SLC27A4	SLC28A1	SLC29A3	SLC2A1
SLC2A10	SLC2A2	SLC2A9	SLC30A10	SLC30A2	SLC30A8	SLC30A9	SLC33A1	SLC34A1	SLC34A2
SLC34A3	SLC35A1	SLC35A2	SLC35A3	SLC35C1	SLC35D1	SLC36A2	SLC37A4	SLC38A8	SLC39A13
SLC39A14	SLC39A4	SLC39A5	SLC39A8	SLC3A1	SLC40A1	SLC44A1	SLC44A4	SLC45A1	SLC45A2
SLC46A1	SLC4A1	SLC4A11	SLC4A4	SLC52A1	SLC52A2	SLC52A3	SLC5A1	SLC5A2	SLC5A5
SLC5A6	SLC5A7	SLC6A1	SLC6A17	SLC6A19	SLC6A2	SLC6A20	SLC6A3	SLC6A4	SLC6A5
SLC6A8	SLC6A9	SLC7A14	SLC7A60S	SLC7A7	SLC7A9	SLC9A1	SLC9A3	SLC9A3R1	SLC9A6
SLC9A7	SLC9A9	SLCO1B1	SLCO1B3	SLCO2A1	SLFN14	SLITRK1	SLITRK6	SLURP1	SLX4
SMAD3	SMAD4	SMAD6	SMAD7	SMAD9	SMARCA2	SMARCA4	SMARCAD1	SMARCAL1	SMARCB1
SMARCC2	SMARCD1	SMARCD2	SMARCE1	SMC1A	SMC3	SMCHD1	SMG9	SMIM1	SMN1
SMN2	SMO	SMOC1	SMOC2	SMPD1	SMPD4	SMPX	SMS	SNAI2	SNAP25
SNAP29	SNCA	SNCB	SNIP1	SNORD118	SNRNP200	SNRPB	SNRPE	SNRPN	SNTA1
SNX10	SNX14	SOBP	SOD1	SOD2	SOD3	SOHLH1	SON	SORD	SORT1
SOX1	SOX2	SOST	SOX10	SOX11	SOX17	SOX18	SOX2	SOX3	SOX4
SOX5	SOX6	SOX9	SP110	SP7	SPAG1	SPARC	SPART	SPAST	SPATA16
SPATA5	SPATA7	SPECC1L	SPEF2	SPEG	SPG11	SPG21	SPG7	SPINK1	SPINK2
SPINK5	SPINT2	SPNS2	SPOP	SPR	SPRED1	SPRTN	SPRY2	SPRY4	SPTA1
SPTAN1	SPTB	SPTBN2	SPTBN4	SPTLC1	SPTLC2	SQSTM1	SRC	SRCAP	SRD5A2
SRD5A3	SREBF1	SRGAP1	SRP54	SRP72	SRPX2	SRY	SS18	SSBP1	SSR4
SSX1	SSX2	ST14	ST3GAL3	ST3GAL5	STAC3	STAG1	STAG2	STAG3	STAMBP
STAR	STARD7	STAT1	STAT2	STAT3	STAT4	STAT5B	STEAP3	STEEP1	STIL
STIM1	STING1	STK11	STK4	STN1	STOX1	STRA6	STRADA	STRC	STS
STT3A	STT3B	STUB1	STX11	STX16	STX1B	STXBP1	STXBP2	SUCLA2	SUCLG1
SUFU	SUGCT	SULT2B1	SUMF1	SUMO1	SUMO4	SUN5	SUOX	SURF1	SUZ12
SVBP	SVIL	SYCE1	SYCP2	SYCP3	SYN1	SYN2	SYNE1	SYNE2	SYNE4
SYNGAP1	SYNJ1	SYN	SYT1	SYT14	SYT2	SZT2	TAB2	TAC3	TACO1
TACR3	TACSTD2	TAF1	TAF13	TAF15	TAF2	TAF4B	TAF6	TAL1	TAL2
TALDO1	TANC2	TANGO2	TAP1	TAP2	TAPBP	TAPT1	TARDBP	TARS1	TARS2

Clinical Exome Panel									
TAS2R16	TAS2R38	TASP1	TAT	TAZ	TBC1D20	TBC1D23	TBC1D24	TBC1D4	TBC1D7
TBC1D8B	TBCD	TBCE	TBCK	TBK1	TBL1X	TBL1XR1	TBL1Y	TBP	TBR1
TBX1	TBX15	TBX18	TBX19	TBX2	TBX20	TBX21	TBX22	TBX3	TBX4
TBX5	TBX6	TBXA2R	TBXA51	TBXT	TCAP	TCF12	TCF20	TCF3	TCF4
TCF7L2	TCHH	TCIRG1	TCL1A	TCL1B	TCN2	TCOF1	TCTN1	TCTN2	TCTN3
TDOGF1	TDO2	TDP1	TDP2	TDRD7	TDRD9	TEAD1	TECPR2	TECR	TECRL
TECTA	TEK	TELO2	TENM3	TENM4	TENT5A	TERC	TERT	TET2	TET3
TEX11	TEX14	TEX15	TF	TFAM	TFAP2A	TFAP2B	TFE3	TFG	TFR2
TFRC	TG	TGDS	TGFB1	TGFB2	TGFB3	TGFB1	TGFBR1	TGFBR2	TGIF1
TGM1	TGM3	TGM5	TGM6	TH	THAP1	THBD	THBS2	THG1L	THOC2
THOC6	THPO	THRA	THRB	THSD1	TIA1	TICAM1	TIMM22	TIMM50	TIMM8A
TIMMDC1	TIMP3	TINF2	TIRAP	TJP2	TK2	TKFC	TKT	TL6E	TLK2
TL1	TLR1	TLR2	TLR3	TLR5	TLR7	TM4SF20	TMC1	TMC6	TMC8
TMCO1	TMEM106B	TMEM107	TMEM126A	TMEM126B	TMEM127	TMEM132E	TMEM138	TMEM165	TMEM199
TMEM216	TMEM231	TMEM237	TMEM240	TMEM260	TMEM38B	TMEM43	TMEM63A	TMEM67	TMEM70
TMEM94	TMEM98	TMIE	TMLHE	TMPRSS15	TMPRSS3	TMPRSS6	TMTC3	TMX2	TNC
TNF	TNFAIP3	TNFRSF10B	TNFRSF11A	TNFRSF11B	TNFRSF13B	TNFRSF13C	TNFRSF1A	TNFRSF4	TNFSF11
TNFSF4	TNIK	TNNC1	TNNI2	TNNI3	TNNI3K	TNNT1	TNNT2	TNNT3	TNPO3
TNRC6A	TNXB	TOE1	TOGARAM1	TONSL	TOP1	TOP2A	TOP3A	TOPORS	TOR1A
TOR1AIP1	TP53	TP53RK	TP63	TPCN2	TPH2	TP1	TPK1	TPM1	TPM2
TPM3	TPMT	TPO	TPP1	TPRKB	TPRN	TRAC	TRAF3	TRAF3IP1	TRAF3IP2
TRAF7	TRAIP	TRAK1	TRAPPC11	TRAPPC12	TRAPPC14	TRAPPC2	TRAPPC2L	TRAPPC4	TRAPPC6B
TRAPPC9	TRDN	TREH	TREM2	TREX1	TRH	TRHR	TRIM2	TRIM32	TRIM36
TRIM37	TRIM44	TRIM71	TRIO	TRIOBP	TRIP11	TRIP12	TRIP13	TRIP4	TRIT1
TRMT1	TRMT10A	TRMT10C	TRMT5	TRMU	TRNT1	TRPA1	TRPC3	TRPC6	TRPM1
TRPM4	TRPM6	TRPM7	TRPS1	TRPV3	TRPV4	TRPV6	TRRAP	TSC1	TSC2
TSEN15	TSEN2	TSEN34	TSEN54	TSFM	TSGA10	TSHB	TSHR	TSH21	TSPAN12
TSPAN7	TSPEAR	TSPLY1	TSR2	TTBK2	TTC12	TTC19	TTC21A	TTC21B	TTC29
TTC37	TTC7A	TTC8	TTI2	TTLL5	TTN	TTPA	TTR	TUB	TUBA1A
TUBA3D	TUBA4A	TUBA8	TUBB	TUBB1	TUBB2A	TUBB2B	TUBB3	TUBB4A	TUBB4B
TUBB6	TUBB8	TUBG1	TUBGCP2	TUBGCP4	TUBGCP6	TUFM	TULP1	TUSC3	TWIST1
TWIST2	TWNK	TXN2	TXNL4A	TXNRD2	TYK2	TYMP	TYR	TYROBP	TYRP1
UBA1	UBA5	UBAP1	UBE2A	UBE2T	UBE3A	UBE3B	UBIAD1	UBQLN2	UBR1
UBR7	UBTF	UCHL1	UCP2	UCP3	UFC1	UFM1	UFSP2	UGDH	UGP2
UGT1A1	UGT2B17	UMOD	UMPS	UNC119	UNC13D	UNC45B	UNC80	UNC93B1	UNG
UOX	UPB1	UPF3B	UQCC2	UQCC3	UQCRB	UQCRC2	UQCRCF51	UQCRQ	UROC1
UROD	UROS	USB1	USF1	USH1C	USH1G	USH2A	USP18	USP27X	USP45
USP7	USP8	USP9X	USP9Y	UVSSA	VAC14	VAMP1	VAMP2	VANGL1	VANGL2
VAPB	VARS1	VARS2	VAX1	VCAN	VCL	VCP	VDR	VEGFA	VEGFC
VHL	VIM	VIPAS39	VKORC1	VLDLR	VMA21	VNN1	VPS11	VPS13A	VPS13B
VPS13C	VPS13D	VPS33A	VPS33B	VPS35	VPS35L	VPS37A	VPS45	VPS51	VPS53
VRK1	VX1	VX2	VWA3B	VWF	WAC	WARS1	WARS2	WAS	WASF1
WASHC4	WASHC5	WBP2	WDFY3	WDPCP	WDR1	WDR11	WDR19	WDR26	WDR35
WDR36	WDR37	WDR4	WDR45	WDR45B	WDR62	WDR72	WDR73	WDR81	WEE2
WFS1	WHRN	WIPF1	WIPI2	WNK1	WNK4	WNT1	WNT10A	WNT10B	WNT2B
WNT3	WNT4	WNT5A	WNT7A	WRAP53	WRN	WT1	WWC1	WVOX	XBP1
XDH	XG	XIAP	XIST	XK	XPA	XPC	XPNPEP2	XPNPEP3	XPR1
XRCC1	XRCC2	XRCC3	XRCC4	XYLT1	XYLT2	YAP1	YARS1	YARS2	YEATS2
YIF1B	YME1L1	YWHAG	YY1	YY1AP1	ZAP70	ZBTB11	ZBTB16	ZBTB18	ZBTB20
ZBTB24	ZBTB42	ZC3H14	ZC4H2	ZCCHC8	ZDHHHC9	ZEB1	ZEB2	ZFAT	ZFH2
ZFH3	ZFH4	ZFP57	ZFPM2	ZFYVE26	ZFYVE27	ZIC1	ZIC2	ZIC3	ZMIZ1
ZMPSTE24	ZMYND10	ZMYND11	ZMYND15	ZNF141	ZNF142	ZNF148	ZNF292	ZNF335	ZNF341
ZNF365	ZNF408	ZNF423	ZNF462	ZNF469	ZNF513	ZNF644	ZNF687	ZNF711	ZNF750
ZNHIT3	ZP1	ZP2	ZP3	ZSWIM6					

Low coverage region (excluded)			
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chr1_26128506-26128608	chr5_146414731-146414741	chr10_43318565-43318713	chr17_431029-431101
chr1_31381295-31381433	chr5_161529559-161529679	chr10_43319056-43319232	chr17_432860-432936
chr1_93301746-93301949	chr5_167880972-167881105	chr10_71052013-71052106	chr17_442445-442453
chr1_93303012-93303190	chr5_170814952-170815010	chr10_71583876-71583883	chr17_447418-447499
chr1_93306107-93306196	chr5_170817054-170817134	chr10_73582410-73582416	chr17_448148-448220
chr1_93307322-93307422	chr5_170818308-170818428	chr10_73862607-73862725	chr17_451019-451091
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