

# AUTISM/ID XPANDED PANEL

## GENE LIST (~2500)

Note: Xpanded panel gene lists are regularly updated/improved. This list should be considered an approximation only as the gene list is subject to change at any time. The patient's test report includes a list of genes evaluated and includes a coverage parameter for each gene.

A2ML1	AAAS	AARS	AARS2	AASS	ABAT	ABCA13	ABCA2
ABCA5	ABCA7	ABCB5	ABCB7	ABCC12	ABCC8	ABCC9	ABCD1
ABCD3	ABCD4	ABHD5	ABL1	ACACB	ACAD9	ACADM	ACADS
ACADSB	ACAT1	ACAT2	ACBD6	ACD	ACE	ACMSD	ACO2
ACOT7	ACOX1	ACOX2	ACP5	ACSF3	ACSL4	ACTA1	ACTB
ACTG1	ACTL6A	ACTL6B	ACVR1	ACVRL1	ACY1	ADAM22	ADAMTS1
ADAMTS10	ADAR	ADAT3	ADCK3	ADCK4	ADCY5	ADD3	ADGRG1
ADIPOR1	ADK	ADNP	ADPRHL2	ADRA2B	ADSL	AFF2	AFF3
AFF4	AFG3L2	AGA	AGGF1	AGK	AGL	AGMO	AGO1
AGPAT2	AGTPBP1	AGTR2	AGXT2	AHCY	AHDC1	AHI1	AHRR
AHSG	AIFM1	AIMP1	AIMP2	AKAP13	AKR1C2	AKT1	AKT2
AKT3	ALAD	ALDH18A1	ALDH1B1	ALDH3A2	ALDH4A1	ALDH5A1	ALDH6A1
ALDH7A1	ALDOA	ALDOB	ALG1	ALG11	ALG12	ALG13	ALG2
ALG3	ALG6	ALG8	ALG9	ALMS1	ALPI	ALPL	ALX1
ALX3	ALX4	AMACR	AMER1	AMMECR1	AMPD1	AMPD2	AMT
ANK2	ANK3	ANKH	ANKLE2	ANKRD11	ANKS1A	ANKS1B	ANKS3
ANO10	ANO3	ANTXR1	ANXA1	AP1S1	AP1S2	AP2S1	AP3B1
AP3B2	AP3D1	AP4B1	AP4E1	AP4M1	AP4S1	AP5Z1	APAF1
APBA2	APC2	APOA1BP	APOL2	APOL4	APOPT1	APTX	AQP2
ARCN1	ARFGF2	ARG1	ARHGAP24	ARHGAP31	ARHGAP4	ARHGDA	ARHGEF15
ARHGEF2	ARHGEF4	ARHGEF6	ARHGEF9	ARID1A	ARID1B	ARID2	ARID4A
ARL13B	ARL14EP	ARL6	ARL6IP6	ARMC9	ARNT2	ARSA	ARSE
ARSF	ARSH	ARV1	ARVCF	ARX	ASAH1	ASB1	ASCC3
ASCL1	ASH1L	ASL	ASMT	ASNS	ASPA	ASPM	ASS1
ASTN1	ASTN2	ASXL1	ASXL2	ASXL3	ATAD1	ATAD3A	ATCAY
ATG5	ATIC	ATL1	ATN1	ATP10A	ATP13A2	ATP13A4	ATP1A2
ATP1A3	ATP1B4	ATP2A1	ATP2A2	ATP2B2	ATP2B3	ATP2B4	ATP2C2
ATP5A1	ATP5E	ATP6AP1	ATP6AP2	ATP6V0A2	ATP6V0C	ATP6V1A	ATP6V1B2
ATP7A	ATP7B	ATP8A2	ATPAF2	ATR	ATRIP	ATRX	ATXN10
AUH	AUTS2	AVP	AVPR2	B3GALNT2	B3GALT6	B3GALTL	B3GAT3
B4GALNT1	B4GALT1	B4GALT7	B4GAT1	B9D1	BAZ1A	BAZ1B	BBIP1
BBOX1	BBS1	BBS10	BBS12	BBS2	BBS4	BBS5	BBS7
BBS9	BCAP31	BCKDHA	BCKDHB	BCKDK	BCL11A	BCL11B	BCOR
BCORL1	BCS1L	BDNF	BEND2	BICD2	BIN1	BIRC6	BLM
BLNK	BMP2	BMP3	BMP4	BMPER	BOD1	BOLA3	BPTF
BRAF	BRAT1	BRCC3	BRD4	BRF1	BRPF1	BRSK2	BRWD1
BRWD3	BSCL2	BSN	BSND	BTA1F1	BTD	BTRC	BUB1B
BUB3	C10orf2	C11orf73	C12orf4	C12orf57	C12orf65	C19orf12	C19orf70
C2CD3	C2orf71	C5orf42	C8orf37	CA2	CA5A	CA8	CABIN1

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CACHD1	CACNA1A	CACNA1C	CACNA1D	CACNA1E	CACNA1G	CACNA1H	CACNA2D1
CACNA2D2	CACNA2D3	CACNB4	CACNG2	CAD	CADM1	CADPS2	CALM1
CALM3	CAMK2A	CAMK2B	CAMK2G	CAMK4	CAMKMT	CAMTA1	CANT1
CAPN10	CAPN12	CARD9	CARS2	CASK	CASP2	CAT	CAV1
CBL	CBS	CC2D1A	CC2D2A	CCAR2	CCBE1	CCDC115	CCDC174
CCDC22	CCDC82	CCDC88A	CCDC88C	CCM2	CCND2	CCR1	CD59
CD96	CDAN1	CDC42	CDC42BPB	CDC45	CDC6	CDCA7	CDH10
CDH11	CDH15	CDH8	CDK10	CDK13	CDK5	CDK5R1	CDK5RAP2
CDK6	CDKL5	CDKN1C	CDON	CECR1	CELF4	CELSR2	CELSR3
CENPE	CENPJ	CEP104	CEP120	CEP135	CEP152	CEP164	CEP19
CEP290	CEP41	CEP57	CEP63	CEP83	CEP89	CEP97	CERS1
CFHR2	CFL2	CHAF1B	CHAMP1	CHAT	CHD1	CHD1L	CHD2
CHD3	CHD4	CHD6	CHD7	CHD8	CHI3L1	CHKB	CHL1
CHMP1A	CHRM3	CHRNA2	CHRNA4	CHRNA7	CHRN2	CHRNA7	CHST14
CHST3	CHSY1	CIAO1	CIC	CIT	CKAP2L	CLASP2	CLCF1
CLCN2	CLCN4	CLCNKA	CLCNKB	CLDN16	CLEC7A	CLIC2	CLIP1
CLIP2	CLK2	CLMP	CLN3	CLN5	CLN6	CLN8	CLP1
CLPB	CLPP	CLPTM1L	CLTC	CLTCL1	CMIP	CNKSR1	CNKSR2
CNNM2	CNOT3	CNPY3	CNTN2	CNTN3	CNTN4	CNTN6	CNTNAP1
CNTNAP2	CNTNAP3	CNTNAP5	COA3	COA5	COA6	COA7	COASY
COG1	COG2	COG4	COG5	COG6	COG7	COG8	COL13A1
COL18A1	COL27A1	COL4A1	COL4A2	COL4A3BP	COL6A6	COLEC10	COLEC11
COMT	COPB2	COQ2	COQ4	COQ5	COQ6	COQ7	COQ9
CORO1A	COX10	COX14	COX15	COX20	COX4I2	COX6B1	COX7B
COX8A	CPA6	CPE	CPLX1	CPOX	CPQ	CPS1	CPT1A
CPT1B	CPT2	CRADD	CRB2	CRBN	CREB3L1	CREBBP	CRELD1
CRH	CRHR1	CRIP1	CRKL	CRLF1	CSDE1	CSF1R	CSMD1
CSNK2A1	CSNK2B	CSPP1	CSTB	CTBP1	CTC1	CTCF	CTDP1
CTLA4	CTNNA3	CTNNA1	CTNND1	CTNND2	CTR9	CTSA	CTSD
CTSF	CTSH	CUL3	CUL4B	CUL5	CUL7	CUX2	CWC27
CWF19L1	CXCR4	CXorf56	CY5R3	CYC1	CYFIP1	CYFIP2	CYP24A1
CYP26B1	CYP27A1	CYP27B1	CYP2C9	CYP2R1	CYP2U1	D2HGDH	DAG1
DAOA	DAPK1	DARS	DARS2	DBH	DBT	DBX2	DCAF17
DCC	DCHS1	DCPS	DCX	DDC	DDHD2	DDOST	DDR2
DDX10	DDX11	DDX24	DDX3X	DDX53	DDX59	DEAF1	DENND5A
DENR	DEPDC5	DGCR2	DGCR6	DGCR8	DGKD	DGUOK	DHCR24
DHCR7	DHDDS	DHFR	DHTKD1	DHX30	DIAPH1	DIP2B	DIS3L2
DISC1	DISP1	DKC1	DLAT	DLD	DLG1	DLG2	DLG3
DLG4	DLGAP2	DLL1	DLL3	DLL4	DLX3	DLX6	DMBX1

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DMD	DMXL1	DMXL2	DNA2	DNAH1	DNAH10	DNAH11	DNAH14
DNAH7	DNAJC12	DNAJC13	DNAJC19	DNAJC3	DNAJC5	DNAJC6	DNASE1L3
DNM1	DNM1L	DNMT3A	DNMT3B	DOCK3	DOCK6	DOCK7	DOLK
DONSON	DPAGT1	DPH1	DPM1	DPM2	DPM3	DPP6	DPYD
DPYS	DRD2	DRP2	DTNB	DUOX1	DUOX2	DUOXA2	DVL1
DVL3	DYM	DYNC1H1	DYNC2L1	DYRK1A	EARS2	EBF3	EBP
ECE1	ECHS1	ECM1	EDA2R	EDC3	EDNRB	EED	EEF1A2
EEF1B2	EFCAB5	EFHC1	EFHC2	EFNB1	EFR3A	EFTUD2	EGF
EHHADH	EHMT1	EIF2AK3	EIF2B1	EIF2B2	EIF2B3	EIF2B4	EIF2B5
EIF2S3	EIF4A3	EIF4E	EIF4ENIF1	ELAC2	ELK1	ELMO2	ELOVL4
ELP2	ELP4	EMC1	EMG1	EML1	EMX2	ENAH	ENG
ENPP1	ENTPD1	EOGT	EP300	EPB41L1	EPC2	EPG5	EPHA3
EPHA4	EPHA5	EPHA7	EPHB2	EPM2A	EPRS	EPT1	ERBB2IP
ERBB4	ERC1	ERCC1	ERCC2	ERCC3	ERCC4	ERCC5	ERCC6
ERCC8	ERF	ERLIN2	ERMARD	ESCO2	ESRRG	ETFA	ETFB
ETFDH	ETHE1	EVC	EVC2	EXOC4	EXOC6B	EXOSC2	EXOSC3
EXOSC8	EXT2	EXTL3	EYA1	EZH1	EZH2	EZR	FA2H
FAAH2	FABP3	FABP7	FADD	FAM111A	FAM120A	FAM126A	FAM134B
FAM151A	FAM177A1	FAM183A	FAM20C	FAM3C	FAM58A	FAM65B	FANCB
FAR1	FARS2	FASN	FASTKD2	FAT1	FAT3	FAT4	FBLN1
FBP1	FBXL4	FBXO11	FBXO18	FBXO28	FBXO31	FDXR	FEZF2
FGD1	FGF12	FGF13	FGF14	FGF17	FGF23	FGF3	FGF8
FGFR1	FGFR2	FGFR3	FGFRL1	FH	FHL1	FIBP	FIG4
FKBP10	FKBPL	FKRP	FKTN	FLII	FLNA	FLNB	FLRT3
FLVCR1	FLVCR2	FMN1	FMN2	FMR1	FOLR1	FOS	FOXE1
FOXG1	FOXH1	FOXI1	FOXN1	FOXP1	FOXP2	FOXRED1	FRAS1
FREM2	FRMD4A	FRMPD4	FRRS1L	FRY	FTCD	FTL	FTO
FTSJ1	FUCA1	FXYD2	G6PC	G6PC3	GAA	GABBR2	GABRA1
GABRA3	GABRA5	GABRA6	GABRB1	GABRB2	GABRB3	GABRD	GABRE
GABRG2	GABRG3	GABRQ	GABRR1	GABRR3	GAD1	GAL	GALC
GALE	GALNT9	GALNTL5	GALT	GAMT	GAN	GAP43	GARS
GAS1	GATA2	GATA3	GATA5	GATA6	GATAD2B	GATM	GBA
GBA2	GCDH	GCH1	GCLC	GCM2	GCSH	GDF2	GDF5
GDI1	GDNF	GEMIN4	GFAP	GFER	GFM1	GFM2	GFPT1
GIGYF2	GIT1	GJA1	GJB1	GJC2	GK	GLB1	GLDC
GLI2	GLI3	GLRA1	GLRA2	GLRB	GLRX5	GLTSCR1	GLUD1
GLUL	GLYCTK	GM2A	GMNN	GMPPA	GMPPB	GNA11	GNAI1
GNAO1	GNAQ	GNAS	GNB1	GNB1L	GNB5	GNE	GNPAT
GNPTAB	GNPTG	GNRH1	GNS	GOLGA2	GON4L	GORAB	GOSR2

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GPA1	GPC3	GPC4	GPC6	GPD2	GPHN	GPI	GPKOW
GPR101	GPR112	GPR161	GPR37	GPR85	GPR88	GPRASP2	GPSM2
GPT2	GRB10	GRIA1	GRIA3	GRIA4	GRID2	GRIK2	GRIK3
GRIN1	GRIN2A	GRIN2B	GRIN2D	GRIP1	GRM1	GRM5	GRM7
GRM8	GRN	GRPR	GSPT2	GSS	GTF2E2	GTF2H5	GTF2IRD1
GTPBP2	GTPBP3	GUCY1A3	GUF1	GUSB	GYG2	GYS1	GYS2
H3F3A	H3F3B	HACE1	HADH	HAP1	HARS2	HAX1	HCCS
HCFC1	HCN1	HCN2	HCRT	HDAC1	HDAC4	HDAC6	HDAC8
HDLBP	HDX	HECW2	HELLS	HELZ	HEPACAM	HERC1	HERC2
HES7	HESX1	HEXA	HEXB	HFM1	HGSNAT	HHAT	HIBCH
HIC1	HIP1	HIRA	HIST1H1E	HIST1H4C	HIST3H3	HIVEP2	HK1
HLA-DPB1	HLA-DQB1	HLA-DRB1	HLCS	HMBS	HMGA2	HMGB1	HMGB3
HMGCL	HMGCS2	HMHA1	HNMT	HNRNPH2	HNRNPK	HNRNPL	HNRNPU
HOXA1	HOXA2	HPCA	HPD	HPRT1	HRAS	HSD17B10	HSD17B4
HSPA9	HSPD1	HSPG2	HTR1A	HTR2A	HTR3A	HTRA1	HTRA2
HUWE1	HYLS1	IARS	IARS2	IBA57	ICE2	ICK	IDH2
IDS	IDUA	IER3IP1	IFIH1	IFNAR2	IFT122	IFT140	IFT172
IFT27	IFT43	IGBP1	IGF1	IGF1R	IGF2	IGSF1	IL10
IL11RA	IL12A	IL12B	IL12RB2	IL17F	IL17RA	IL1RAPL1	IL23R
IL27RA	IMMP2L	IMPA1	IMPAD1	IMPDH2	INO80	INPP4A	INPP5E
INPP5K	INPL1	INS	INSR	INTS1	INTS8	INVS	IQCB1
IQGAP3	IQSEC1	IQSEC2	IRF2BPL	IRF9	IRX5	ISCA2	ISCU
ISPD	ITCH	ITGA3	ITGA4	ITGA7	ITGA9	ITGB6	ITK
ITPA	ITPR1	ITSN1	ITSN2	IVD	IYD	JAG1	JAM3
JARID2	JMJD1C	JRK	KANK1	KANSL1	KARS	KAT6A	KAT6B
KATNAL2	KATNB1	KCNA1	KCNA2	KCNA4	KCNAB1	KCNAB2	KCNB1
KCNC1	KCNC3	KCND2	KCND3	KCNG1	KCNH1	KCNH7	KCNJ1
KCNJ10	KCNJ11	KCNJ13	KCNJ2	KCNJ6	KCNJ8	KCNK9	KCNMA1
KCNN3	KCNQ2	KCNQ3	KCNQ4	KCNQ5	KCNT1	KCNT2	KCNV2
KCTD13	KCTD3	KCTD7	KDEL2	KDM1A	KDM2B	KDM3A	KDM5A
KDM5B	KDM5C	KDM6A	KDM6B	KIAA0196	KIAA0226	KIAA0556	KIAA0586
KIAA0753	KIAA1033	KIAA1109	KIAA1210	KIAA1279	KIAA1715	KIAA2022	KIDINS220
KIF11	KIF14	KIF17	KIF1A	KIF23	KIF2A	KIF4A	KIF5A
KIF5C	KIF7	KIRREL3	KISS1	KLB	KLC2	KLF13	KLF8
KLHL15	KLHL24	KLHL41	KLHL7	KLLN	KLRC4	KMT2A	KMT2B
KMT2C	KMT2D	KMT2E	KNL1	KPNA7	KPTN	KRAS	KRIT1
KRT25	KSR2	KYNU	L1CAM	L2HGDH	LAGE3	LAMA1	LAMA2
LAMB1	LAMB2	LAMC1	LAMC3	LAMP2	LARGE	LARP7	LARS
LARS2	LAS1L	LBR	LDHB	LEMD3	LEP	LETM1	LFNG

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LGI1	LGI4	LGR4	LHX1	LHX3	LIAS	LIG4	LIMK1
LIN7A	LIN7B	LINGO1	LINGO2	LINS	LIPT1	LLGL1	LMAN2L
LMBR1	LMBRD1	LMNB1	LMNB2	LONP1	LRFN2	LRP1	LRP2
LRP6	LRPPRC	LRRC4	LRRC7	LRRTM4	LTBP1	LTC4S	LYRM4
LYRM7	LYST	LZTFL1	MAB21L2	MACF1	MAD2L2	MADD	MAF
MAFB	MAG	MAGED2	MAGEL2	MAGI1	MAGI2	MAN1B1	MAN2B1
MANBA	MAOA	MAP2	MAP2K1	MAP2K2	MAP2K3	MAP3K15	MAP3K7
MAP4	MAPK1	MAPK10	MAPK3	MAPRE2	MARS2	MASP1	MAT1A
MATN4	MBD1	MBD5	MBD6	MBOAT7	MBTPS2	MC2R	MCCC1
MCCC2	MCEE	MCF2	MCM3AP	MCM4	MCOLN1	MCPH1	MCTP2
MDH2	MDN1	ME2	MECP2	MED12	MED13	MED13L	MED17
MED23	MED25	MED27	MEF2C	MEFV	MEGF10	MEGF8	MEIS2
MESP2	METTL23	METTL5	MFF	MFHAS1	MFRP	MFSD2A	MFSD8
MGAT2	MGAT4C	MGME1	MGP	MICAL1	MICU1	MID1	MID2
MIPEP	MKKS	MKS1	MKX	MLC1	MLL3	MLX	MLXIPL
MLYCD	MMAA	MMAB	MMACHC	MMADHC	MMP8	MN1	MNX1
MOCS1	MOCS2	MOGS	MORC2	MPC1	MPDU1	MPDZ	MPLKIP
MPP7	MPV17	MRAP	MRI1	MRPL10	MRPL3	MRPL44	MRPS16
MRPS2	MRPS22	MSL3	MSMO1	MSX2	MTFMT	MTHFS	MTMR8
MT01	MTOR	MTPAP	MTR	MTRR	MTSS1L	MUT	MVK
MXRA5	MXRA8	MYBPC1	MYCBP2	MYCN	MYEF2	MYH1	MYH10
MYH3	MYH8	MYO18B	MYO1C	MYO5A	MYO7B	MYO9A	MYOCD
MYOF	MYT1	MYT1L	NAA10	NAA15	NACC1	NADK2	NAGA
NAGLU	NAGPA	NAGS	NALCN	NANS	NARS2	NAT8L	NAV1
NAV2	NBAS	NBEA	NBN	NCAPD2	NCAPG2	NCKAP1	NCS1
NDE1	NDN	NDP	NDST1	NDUFA1	NDUFA10	NDUFA11	NDUFA12
NDUFA13	NDUFA2	NDUFA4	NDUFA9	NDUFAF1	NDUFAF2	NDUFAF3	NDUFAF4
NDUFAF5	NDUFAF6	NDUFB11	NDUFB3	NDUFB9	NDUFS1	NDUFS2	NDUFS3
NDUFS4	NDUFS6	NDUFS7	NDUFS8	NDUFV1	NDUFV2	NECAP1	NEDD4L
NEK9	NELFA	NEU1	NEUROD2	NF1	NFASC	NFAT5	NFE2L2
NFIA	NFIB	NFIX	NFU1	NGF	NGLY1	NHEJ1	NHLRC1
NHP2	NHS	NID1	NIN	NIPA1	NIPA2	NIPBL	NKAIN2
NKX2-1	NKX2-5	NKX6-2	NLGN1	NLGN2	NLGN3	NLGN4X	NLGN4Y
NLRP2	NLRP3	NME7	NME8	NMNAT1	NNT	NODAL	NOG
NOL3	NONO	NOP10	NOS1AP	NOTCH3	NPAP1	NPAS3	NPAS4
NPC1	NPC2	NPEPPS	NPHP1	NPHP3	NPRL2	NPRL3	NROB1
NR2F1	NR4A2	NRAS	NRD1	NRG1	NRGN	NRTN	NRXN1
NRXN2	NRXN3	NSD1	NSDHL	NSUN2	NSUN7	NT5C2	NTNG1
NTRK1	NTRK2	NTRK3	NUBPL	NUP107	NUP62	NUS1	NXF3

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<i>NXF5</i>	<i>NXPH3</i>	<i>OBSCN</i>	<i>OCLN</i>	<i>OCRL</i>	<i>OFD1</i>	<i>OGDH</i>	<i>OGT</i>
<i>OMG</i>	<i>OPA1</i>	<i>OPA3</i>	<i>OPCML</i>	<i>OPHN1</i>	<i>OPRL1</i>	<i>ORC1</i>	<i>ORC4</i>
<i>ORC6</i>	<i>OSGEP</i>	<i>OTC</i>	<i>OTOGL</i>	<i>OTUD6B</i>	<i>OTUD7A</i>	<i>OTX1</i>	<i>OTX2</i>
<i>OXTR</i>	<i>P2RY11</i>	<i>P4HA2</i>	<i>P4HB</i>	<i>PABPC4L</i>	<i>PACS1</i>	<i>PACS2</i>	<i>PAFAH1B1</i>
<i>PAFAH1B3</i>	<i>PAH</i>	<i>PAK3</i>	<i>PAM16</i>	<i>PANK2</i>	<i>PANX1</i>	<i>PARK2</i>	<i>PARN</i>
<i>PARP1</i>	<i>PARP10</i>	<i>PARS2</i>	<i>PAX1</i>	<i>PAX2</i>	<i>PAX3</i>	<i>PAX5</i>	<i>PAX6</i>
<i>PAX8</i>	<i>PAXBP1</i>	<i>PBX1</i>	<i>PC</i>	<i>PCBD1</i>	<i>PCCA</i>	<i>PCCB</i>	<i>PCDH11X</i>
<i>PCDH12</i>	<i>PCDH19</i>	<i>PCDH7</i>	<i>PCDHB16</i>	<i>PCDHB4</i>	<i>PCK1</i>	<i>PCL0</i>	<i>PCM1</i>
<i>PCNA</i>	<i>PCNT</i>	<i>PDCD10</i>	<i>PDE10A</i>	<i>PDE4B</i>	<i>PDE4D</i>	<i>PDE6D</i>	<i>PDGFB</i>
<i>PDGFRB</i>	<i>PDHA1</i>	<i>PDHB</i>	<i>PDHX</i>	<i>PDK3</i>	<i>PDP1</i>	<i>PDSS1</i>	<i>PDSS2</i>
<i>PDYN</i>	<i>PDZD2</i>	<i>PECR</i>	<i>PEPD</i>	<i>PER1</i>	<i>PER2</i>	<i>PET100</i>	<i>PEX1</i>
<i>PEX10</i>	<i>PEX11B</i>	<i>PEX12</i>	<i>PEX13</i>	<i>PEX14</i>	<i>PEX16</i>	<i>PEX19</i>	<i>PEX2</i>
<i>PEX26</i>	<i>PEX3</i>	<i>PEX5</i>	<i>PEX6</i>	<i>PEX7</i>	<i>PFKFB1</i>	<i>PGAP1</i>	<i>PGAP2</i>
<i>PGAP3</i>	<i>PGK1</i>	<i>PGM1</i>	<i>PGM3</i>	<i>PGRMC1</i>	<i>PHC1</i>	<i>PHF2</i>	<i>PHF21A</i>
<i>PHF3</i>	<i>PHF6</i>	<i>PHF8</i>	<i>PHGDH</i>	<i>PHIP</i>	<i>PHKA2</i>	<i>PHKG2</i>	<i>PI4KA</i>
<i>PIBF1</i>	<i>PIEZO2</i>	<i>PIGA</i>	<i>PIGC</i>	<i>PIGG</i>	<i>PIGL</i>	<i>PIGM</i>	<i>PIGN</i>
<i>PIGO</i>	<i>PIGP</i>	<i>PIGQ</i>	<i>PIGS</i>	<i>PIGT</i>	<i>PIGV</i>	<i>PIGW</i>	<i>PIGY</i>
<i>PIK3AP1</i>	<i>PIK3CA</i>	<i>PIK3R2</i>	<i>PIK3R5</i>	<i>PITRM1</i>	<i>PLA2G6</i>	<i>PLAA</i>	<i>PLAGL1</i>
<i>PLAT</i>	<i>PLCB1</i>	<i>PLCB4</i>	<i>PLCG2</i>	<i>PLEKHG2</i>	<i>PLK4</i>	<i>PLOD3</i>	<i>PLP1</i>
<i>PLS3</i>	<i>PLXNA3</i>	<i>PLXNB3</i>	<i>PLXND1</i>	<i>PMM2</i>	<i>PMPCA</i>	<i>PNKD</i>	<i>PNKP</i>
<i>PNP</i>	<i>PNPLA6</i>	<i>PNPLA8</i>	<i>PNPO</i>	<i>PNPT1</i>	<i>POC1A</i>	<i>POC1B</i>	<i>PODXL</i>
<i>POFUT1</i>	<i>POGZ</i>	<i>POLA1</i>	<i>POLG</i>	<i>POLG2</i>	<i>POLR1C</i>	<i>POLR1D</i>	<i>POLR2A</i>
<i>POLR3A</i>	<i>POLR3B</i>	<i>POMGNT1</i>	<i>POMGNT2</i>	<i>POMK</i>	<i>POMT1</i>	<i>POMT2</i>	<i>POP1</i>
<i>POR</i>	<i>PORCN</i>	<i>POU1F1</i>	<i>POU3F2</i>	<i>PPARG</i>	<i>PPARGC1A</i>	<i>PPIB</i>	<i>PPM1B</i>
<i>PPM1D</i>	<i>PPM1K</i>	<i>PPOX</i>	<i>PPP1CB</i>	<i>PPP1R15B</i>	<i>PPP1R3C</i>	<i>PPP2R1A</i>	<i>PPP2R2B</i>
<i>PPP2R2C</i>	<i>PPP2R5D</i>	<i>PPP3CA</i>	<i>PPT1</i>	<i>PQBP1</i>	<i>PRCP</i>	<i>PRDM12</i>	<i>PRDM8</i>
<i>PRDX1</i>	<i>PREPL</i>	<i>PRF1</i>	<i>PRICKLE1</i>	<i>PRICKLE2</i>	<i>PRICKLE3</i>	<i>PRIMA1</i>	<i>PRKAR1A</i>
<i>PRKAR1B</i>	<i>PRKCA</i>	<i>PRKD1</i>	<i>PRKDC</i>	<i>PRKG1</i>	<i>PRKG2</i>	<i>PRKRA</i>	<i>PRMT7</i>
<i>PRMT9</i>	<i>PRODH</i>	<i>PROP1</i>	<i>PROSC</i>	<i>PRPF8</i>	<i>PRPS1</i>	<i>PRR12</i>	<i>PRRT2</i>
<i>PRSS12</i>	<i>PRTN3</i>	<i>PRUNE</i>	<i>PSAP</i>	<i>PSAT1</i>	<i>PSMD12</i>	<i>PSPH</i>	<i>PTCH1</i>
<i>PTCHD1</i>	<i>PTDSS1</i>	<i>PTEN</i>	<i>PTF1A</i>	<i>PTH</i>	<i>PTPN11</i>	<i>PTPN22</i>	<i>PTPN23</i>
<i>PTPN4</i>	<i>PTPRD</i>	<i>PTPRK</i>	<i>PTRH2</i>	<i>PTS</i>	<i>PUF60</i>	<i>PUM1</i>	<i>PURA</i>
<i>PUS1</i>	<i>PUS3</i>	<i>PVRL1</i>	<i>PXDN</i>	<i>PYCR1</i>	<i>PYCR2</i>	<i>QARS</i>	<i>QDPR</i>
<i>QRICH1</i>	<i>RAB11A</i>	<i>RAB11B</i>	<i>RAB11FIP5</i>	<i>RAB18</i>	<i>RAB23</i>	<i>RAB27A</i>	<i>RAB33B</i>
<i>RAB39B</i>	<i>RAB3GAP1</i>	<i>RAB3GAP2</i>	<i>RAC1</i>	<i>RAD21</i>	<i>RAD50</i>	<i>RAF1</i>	<i>RAI1</i>
<i>RALGAPA1</i>	<i>RALGDS</i>	<i>RANBP2</i>	<i>RAP1A</i>	<i>RAP1B</i>	<i>RARB</i>	<i>RARS</i>	<i>RARS2</i>
<i>RASA2</i>	<i>RBBP8</i>	<i>RBFOX1</i>	<i>RBFOX3</i>	<i>RBM10</i>	<i>RBM28</i>	<i>RBM8A</i>	<i>RBPJ</i>
<i>RDH11</i>	<i>RECQL4</i>	<i>REEP1</i>	<i>RELN</i>	<i>REPS2</i>	<i>RERE</i>	<i>REV3L</i>	<i>RFC2</i>
<i>RFT1</i>	<i>RFWD2</i>	<i>RGMA</i>	<i>RGR</i>	<i>RGS7</i>	<i>RHEB</i>	<i>RHOBTB2</i>	<i>RILP</i>

# AUTISM/ID XPANDED PANEL

## GENE LIST (~2500)

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<i>RIMS1</i>	<i>RIMS3</i>	<i>RIN2</i>	<i>RIPK1</i>	<i>RIPPLY1</i>	<i>RIPPLY2</i>	<i>RIT1</i>	<i>RLBP1</i>
<i>RLIM</i>	<i>RMND1</i>	<i>RNASEH2A</i>	<i>RNASEH2B</i>	<i>RNASEH2C</i>	<i>RNASET2</i>	<i>RNF113A</i>	<i>RNF125</i>
<i>RNF128</i>	<i>RNF135</i>	<i>RNF168</i>	<i>RNF216</i>	<i>ROBO1</i>	<i>ROBO2</i>	<i>ROBO3</i>	<i>ROGDI</i>
<i>ROR2</i>	<i>RORA</i>	<i>RORB</i>	<i>ROS1</i>	<i>RPGRIP1L</i>	<i>RPIA</i>	<i>RPL10</i>	<i>RPL11</i>
<i>RPL15</i>	<i>RPL26</i>	<i>RPL35A</i>	<i>RPS19</i>	<i>RPS23</i>	<i>RPS28</i>	<i>RPS6KA3</i>	<i>RPS6KC1</i>
<i>RPS7</i>	<i>RREB1</i>	<i>RRM2B</i>	<i>RSPRY1</i>	<i>RSRC1</i>	<i>RTEL1</i>	<i>RTN4IP1</i>	<i>RTN4R</i>
<i>RTTN</i>	<i>RUNX1T1</i>	<i>RUSC2</i>	<i>RYR2</i>	<i>RYR3</i>	<i>SACS</i>	<i>SALL1</i>	<i>SAMD11</i>
<i>SAMD9</i>	<i>SAMHD1</i>	<i>SAR1B</i>	<i>SARS</i>	<i>SARS2</i>	<i>SASS6</i>	<i>SATB2</i>	<i>SATL1</i>
<i>SBDS</i>	<i>SBF1</i>	<i>SC5D</i>	<i>SCAPER</i>	<i>SCARB2</i>	<i>SCN10A</i>	<i>SCN1A</i>	<i>SCN1B</i>
<i>SCN2A</i>	<i>SCN3A</i>	<i>SCN7A</i>	<i>SCN8A</i>	<i>SCNM1</i>	<i>SCO1</i>	<i>SCO2</i>	<i>SCP2</i>
<i>SCRIB</i>	<i>SCUBE2</i>	<i>SCYL1</i>	<i>SDCCAG8</i>	<i>SDHA</i>	<i>SDHAF1</i>	<i>SEC24C</i>	<i>SEC24D</i>
<i>SEMA3C</i>	<i>SEMA3D</i>	<i>SEMA3E</i>	<i>SEMA4G</i>	<i>SEMA5A</i>	<i>SEMA6D</i>	<i>SEPSECS</i>	<i>SERAC1</i>
<i>SERPINB4</i>	<i>SERPIN1</i>	<i>SESN2</i>	<i>SET</i>	<i>SETBP1</i>	<i>SETD1A</i>	<i>SETD1B</i>	<i>SETD2</i>
<i>SETD5</i>	<i>SETDB2</i>	<i>SF3B4</i>	<i>SFXN4</i>	<i>SGCE</i>	<i>SGSH</i>	<i>SH2B1</i>	<i>SH3PXD2B</i>
<i>SHANK1</i>	<i>SHANK2</i>	<i>SHANK3</i>	<i>SHH</i>	<i>SHOC2</i>	<i>SHOX2</i>	<i>SHROOM4</i>	<i>SIK1</i>
<i>SIL1</i>	<i>SIM1</i>	<i>SIN3A</i>	<i>SIPA1L1</i>	<i>SIX3</i>	<i>SKI</i>	<i>SLC12A1</i>	<i>SLC12A2</i>
<i>SLC12A3</i>	<i>SLC12A5</i>	<i>SLC12A6</i>	<i>SLC13A5</i>	<i>SLC16A1</i>	<i>SLC16A2</i>	<i>SLC16A3</i>	<i>SLC17A3</i>
<i>SLC17A5</i>	<i>SLC17A9</i>	<i>SLC18A2</i>	<i>SLC19A2</i>	<i>SLC19A3</i>	<i>SLC1A1</i>	<i>SLC1A2</i>	<i>SLC1A3</i>
<i>SLC1A4</i>	<i>SLC20A2</i>	<i>SLC22A25</i>	<i>SLC25A1</i>	<i>SLC25A10</i>	<i>SLC25A12</i>	<i>SLC25A15</i>	<i>SLC25A19</i>
<i>SLC25A20</i>	<i>SLC25A22</i>	<i>SLC25A24</i>	<i>SLC25A26</i>	<i>SLC25A3</i>	<i>SLC25A4</i>	<i>SLC25A43</i>	<i>SLC25A46</i>
<i>SLC25A5</i>	<i>SLC26A1</i>	<i>SLC29A4</i>	<i>SLC2A1</i>	<i>SLC2A10</i>	<i>SLC2A2</i>	<i>SLC2A3</i>	<i>SLC30A9</i>
<i>SLC31A1</i>	<i>SLC33A1</i>	<i>SLC35A1</i>	<i>SLC35A2</i>	<i>SLC35A3</i>	<i>SLC35C1</i>	<i>SLC37A4</i>	<i>SLC39A14</i>
<i>SLC39A8</i>	<i>SLC45A1</i>	<i>SLC46A1</i>	<i>SLC4A10</i>	<i>SLC4A4</i>	<i>SLC5A5</i>	<i>SLC5A6</i>	<i>SLC5A7</i>
<i>SLC6A1</i>	<i>SLC6A13</i>	<i>SLC6A17</i>	<i>SLC6A19</i>	<i>SLC6A3</i>	<i>SLC6A5</i>	<i>SLC6A8</i>	<i>SLC6A9</i>
<i>SLC7A3</i>	<i>SLC7A5</i>	<i>SLC7A7</i>	<i>SLC9A1</i>	<i>SLC9A6</i>	<i>SLC9A9</i>	<i>SLC01B3</i>	<i>SLC01C1</i>
<i>SLIT2</i>	<i>SLIT3</i>	<i>SLITRK1</i>	<i>SLITRK5</i>	<i>SMAD2</i>	<i>SMAD4</i>	<i>SMAD6</i>	<i>SMARCA2</i>
<i>SMARCA4</i>	<i>SMARCAL1</i>	<i>SMARCB1</i>	<i>SMARCC2</i>	<i>SMARCE1</i>	<i>SMC1A</i>	<i>SMC3</i>	<i>SMCHD1</i>
<i>SMG9</i>	<i>SMO</i>	<i>SMOC1</i>	<i>SMPD1</i>	<i>SMS</i>	<i>SNAP25</i>	<i>SNAP29</i>	<i>SNIP1</i>
<i>SNRPB</i>	<i>SNRPN</i>	<i>SNTG2</i>	<i>SNX10</i>	<i>SNX14</i>	<i>SNX27</i>	<i>SOBP</i>	<i>SOGA3</i>
<i>SON</i>	<i>SORCS1</i>	<i>SOS1</i>	<i>SOS2</i>	<i>SOST</i>	<i>SOX10</i>	<i>SOX11</i>	<i>SOX2</i>
<i>SOX3</i>	<i>SOX5</i>	<i>SOX6</i>	<i>SOX9</i>	<i>SP7</i>	<i>SPARC</i>	<i>SPAST</i>	<i>SPATA5</i>
<i>SPECC1L</i>	<i>SPG11</i>	<i>SPG20</i>	<i>SPG21</i>	<i>SPG7</i>	<i>SPINK5</i>	<i>SPN</i>	<i>SPOCK1</i>
<i>SPP2</i>	<i>SPR</i>	<i>SPRED1</i>	<i>SPTAN1</i>	<i>SPTBN2</i>	<i>SPTBN4</i>	<i>SPTBN5</i>	<i>SQSTM1</i>
<i>SRCAP</i>	<i>SRD5A3</i>	<i>SRP54</i>	<i>SRPK2</i>	<i>SRPK3</i>	<i>SRPX2</i>	<i>SSR4</i>	<i>SSTR5</i>
<i>SSX1</i>	<i>ST3GAL3</i>	<i>ST3GAL5</i>	<i>ST5</i>	<i>ST7</i>	<i>ST8SIA2</i>	<i>STAC3</i>	<i>STAG1</i>
<i>STAG2</i>	<i>STAMBIP</i>	<i>STAR</i>	<i>STARD9</i>	<i>STAT1</i>	<i>STAT2</i>	<i>STAT4</i>	<i>STIL</i>
<i>STIM1</i>	<i>STOX1</i>	<i>STRA6</i>	<i>STRADA</i>	<i>STT3A</i>	<i>STT3B</i>	<i>STUB1</i>	<i>STX11</i>
<i>STX16</i>	<i>STX1A</i>	<i>STX1B</i>	<i>STX3</i>	<i>STXBP1</i>	<i>STXBP2</i>	<i>STXBP5L</i>	<i>STYXL1</i>
<i>SUCLA2</i>	<i>SUCLG1</i>	<i>SUCO</i>	<i>SUMF1</i>	<i>SUOX</i>	<i>SUPT16H</i>	<i>SURF1</i>	<i>SUV420H1</i>

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SUZ12	SV2A	SV2B	SVIL	SYN1	SYN2	SYNCRIP	SYNE1
SYNGAP1	SYNJ1	SYNPO	SYP	SYT1	SYT14	SYT2	SZT2
TAB2	TAC3	TAC01	TAF1	TAF13	TAF2	TAF6	TALDO1
TANC2	TANGO2	TAOK2	TARS2	TAT	TAZ	TBC1D20	TBC1D23
TBC1D24	TBC1D30	TBC1D7	TBCD	TBCE	TBCK	TBL1XR1	TBL2
TBR1	TBX1	TBX18	TBX19	TBX2	TBX4	TBX6	TCF12
TCF20	TCF3	TCF4	TCF7L1	TCF7L2	TCIRG1	TCN2	TCTN1
TCTN2	TCTN3	TDGF1	TDP2	TECPR2	TECR	TEL02	TENM1
TENM4	TERT	TEX15	TFAP2A	TFAP2B	TG	TGDS	TGIF1
TGM2	TH	THAP11	THBS1	THG1L	THOC2	THOC6	THRA
THRB	TIMM50	TIMM8A	TIMMDC1	TINF2	TK2	TKT	TLK2
TM4SF20	TMCO1	TMEM106B	TMEM107	TMEM114	TMEM126B	TMEM135	TMEM138
TMEM165	TMEM199	TMEM216	TMEM231	TMEM237	TMEM240	TMEM38B	TMEM5
TMEM67	TMEM70	TMEM8C	TMEM92	TMLHE	TMTC3	TNC	TNFRSF11A
TNFRSF11B	TNFSF4	TNIK	TNKS	TNPO3	TNR	TNS3	TOE1
TONSL	TOP2B	TOP3B	TOR1A	TOR1AIP1	TP53RK	TP63	TPI1
TPK1	TPM3	TPO	TPP1	TPP2	TPRKB	TRAF3IP1	TRAF3IP2
TRAF7	TRAIP	TRAK1	TRAPPC11	TRAPPC6A	TRAPPC6B	TRAPPC9	TREM2
TREX1	TRH	TRHR	TRIM17	TRIM32	TRIM8	TRIO	TRIP12
TRIP13	TRIP4	TRIT1	TRMT1	TRMT10A	TRMT5	TRNT1	TRPC5
TRPC6	TRPM3	TRPM6	TRPM7	TRPS1	TRRAP	TSC1	TSC2
TSEN15	TSEN2	TSEN34	TSEN54	TSEFM	TSHB	TSHR	TSHZ3
TSPAN7	TTC19	TTC21B	TTC8	TTI2	TUBA1A	TUBA3E	TUBA8
TUBB	TUBB2A	TUBB2B	TUBB3	TUBB4A	TUBG1	TUBGCP4	TUBGCP5
TUBGCP6	TUFM	TUSC3	TWIST1	TWIST2	TXN2	TYK2	TYMP
TYROBP	UBA5	UBA7	UBAC2	UBB	UBE2A	UBE2T	UBE3A
UBE3B	UBR1	UBR3	UBR5	UBR7	UBTF	UFD1L	UGDH
ULK4	UMPS	UNC13A	UNC13B	UNC13C	UNC13D	UNC80	UPB1
UPF3B	UQCC2	UQCC3	UQCRB	UQCRC2	UQCRQ	UROC1	USB1
USP18	USP27X	USP30	USP34	USP44	USP45	USP7	USP9X
VAC14	VAMP2	VANGL1	VARS	VARS2	VAX1	VCP	VCX3A
VDR	VIPAS39	VIPR2	VLDLR	VPS11	VPS13A	VPS13B	VPS13C
VPS33A	VPS33B	VPS37A	VPS45	VPS4A	VPS53	VRK1	VSIG1
VSX2	VWA3B	WAC	WARS2	WDFY3	WDPCP	WDR1	WDR13
WDR19	WDR26	WDR35	WDR4	WDR45	WDR45B	WDR60	WDR62
WDR73	WDR81	WDR93	WFS1	WHSC1	WNK1	WNT1	WNT5A
WNT7A	WRAP53	WVOX	XIRP1	XK	XPA	XPC	XPNPEP3
XPO5	XPR1	XRCC1	XRCC4	XYLT1	XYLT2	YAP1	YARS
YWHAE	YWHAG	YY1	YY1AP1	ZBTB16	ZBTB18	ZBTB20	ZBTB24



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ZBTB33	ZBTB40	ZC3H14	ZC4H2	ZCCHC12	ZCCHC8	ZDHHC15	ZDHHC9
ZEB2	ZFHX4	ZFP57	ZFPM2	ZFR	ZFYVE26	ZIC1	ZIC2
ZMIZ1	ZMYM2	ZMYM3	ZMYND11	ZMYND12	ZNF107	ZNF148	ZNF277
ZNF292	ZNF335	ZNF365	ZNF385B	ZNF407	ZNF41	ZNF423	ZNF462
ZNF526	ZNF589	ZNF592	ZNF638	ZNF668	ZNF674	ZNF711	ZNF778
ZNF804A	ZNF81	ZNHIT3	ZSCAN29	ZSWIM6			