

# EPIXPANDED PANEL

## GENE LIST (~1500)

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AAAS	AARS	AARS2	AASS	ABAT	ABCA5	ABCA7	ABCB7
ABCC8	ABCC9	ABCD1	ABCD3	ACAD9	ACADM	ACADS	ACADSB
ACMSD	ACO2	ACOT7	ACOX1	ACSF3	ACSL4	ACTB	ACTG1
ACTL6B	ACVR1	ACVRL1	ACY1	ADAM22	ADAR	ADAT3	ADCK3
ADCK4	ADD3	ADGRG1	ADK	ADNP	ADPRHL2	ADRA2B	ADSL
AFF2	AFG3L2	AGA	AGGF1	AGK	AGTPBP1	AGTR2	AHDC1
AHI1	AHSG	AIFM1	AIMP1	AIMP2	AKT1	AKT2	AKT3
ALAD	ALDH18A1	ALDH1B1	ALDH3A2	ALDH4A1	ALDH5A1	ALDH7A1	ALDOA
ALDOB	ALG1	ALG11	ALG12	ALG13	ALG2	ALG3	ALG6
ALG8	ALG9	ALMS1	ALPL	ALX4	AMACR	AMER1	AMPD2
AMT	ANK2	ANK3	ANKH	ANKLE2	ANKRD11	ANO10	ANO3
AP1S2	AP2S1	AP3B2	AP3D1	AP4B1	AP4E1	AP4M1	AP4S1
APC2	APOA1BP	APOPT1	APTX	AQP2	ARCN1	ARFGEF2	ARG1
ARHGAP31	ARHGEF15	ARHGEF6	ARHGEF9	ARID1A	ARID1B	ARID2	ARID4A
ARL13B	ARMC9	ARNT2	ARSA	ARV1	ARVCF	ARX	ASAH1
ASCL1	ASL	ASNS	ASPA	ASPM	ASS1	ASTN1	ASTN2
ASXL1	ASXL2	ASXL3	ATAD1	ATAD3A	ATIC	ATN1	ATP13A2
ATP1A2	ATP1A3	ATP2A2	ATP2B3	ATP5A1	ATP5E	ATP6AP1	ATP6AP2
ATP6VOA2	ATP6VOC	ATP6V1A	ATP6V1B2	ATP7A	ATP8A2	ATPAF2	ATR
ATRIP	ATRX	ATXN10	AUH	AUTS2	AVPR2	B3GALNT2	B3GALTL
B4GALT1	B4GAT1	B9D1	BAZ1B	BCAP31	BCKDHA	BCKDHB	BCKDK
BCL11A	BCL11B	BCOR	BCS1L	BDNF	BMP2	BMP4	BOLA3
BPTF	BRAF	BRAT1	BRCC3	BRD4	BRPF1	BRWD3	BSCL2
BSN	BTD	BUB1B	BUB3	C10orf2	C12orf57	C12orf65	C5orf42
CA8	CACNA1A	CACNA1C	CACNA1D	CACNA1E	CACNA1G	CACNA1H	CACNA2D1
CACNA2D2	CACNB4	CACNG2	CAD	CALM1	CALM3	CAMK2A	CAMK2B
CAMKMT	CAMTA1	CARD9	CARS2	CASK	CBL	CBS	CC2D1A
CC2D2A	CCBE1	CCDC115	CCDC88A	CCDC88C	CCM2	CCND2	CCR1
CD96	CDC42	CDH11	CDH15	CDK10	CDK13	CDK5RAP2	CDK6
CDKL5	CDKN1C	CDON	CECR1	CELF4	CENPE	CENPJ	CEP104
CEP120	CEP135	CEP152	CEP164	CEP290	CEP41	CEP57	CEP63
CERS1	CHAT	CHD1L	CHD2	CHD4	CHD7	CHD8	CHKB
CHL1	CHRNA2	CHRNA4	CHRNA7	CHRN2	CIC	CIT	CKAP2L
CLCF1	CLCN2	CLCN4	CLCNKA	CLCNKB	CLDN16	CLEC7A	CLIC2
CLIP1	CLMP	CLN3	CLN5	CLN6	CLN8	CLP1	CLPB
CLPP	CLTC	CNKSR2	CNNM2	CNOT3	CNPY3	CNTN2	CNTN4
CNTNAP2	COA3	COA5	COA7	COG1	COG2	COG4	COG5
COG6	COG7	COG8	COL13A1	COL18A1	COL4A1	COL4A2	COL4A3BP
COMT	COPB2	COQ2	COQ4	COQ6	COQ9	COX10	COX14
COX15	COX20	COX6B1	COX7B	COX8A	CPA6	CPLX1	CPOX
CPS1	CPT1A	CPT2	CRADD	CRB2	CRBN	CREBBP	CRELD1

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CRH	CRHR1	CRKL	CRLF1	CSF1R	CSMD1	CSNK2A1	CSNK2B
CSPP1	CSTB	CTBP1	CTC1	CTCF	CTLA4	CTNNB1	CTNND2
CTR9	CTSA	CTSD	CTSF	CUL4B	CXCR4	CYC1	CYFIP2
CYP27A1	CYP27B1	CYP2C9	CYP2R1	CYP2U1	D2HGDH	DAG1	DARS2
DBH	DBT	DCC	DCHS1	DCX	DDC	DDOST	DDX3X
DEAF1	DENND5A	DEPDC5	DGKD	DGUOK	DHCR24	DHCR7	DHDDS
DHFR	DHX30	DIAPH1	DIP2B	DIS3L2	DISP1	DLAT	DLD
DLG1	DLG2	DLG3	DLG4	DLGAP2	DLL1	DLL4	DMBX1
DMD	DNA2	DNAJC12	DNAJC19	DNAJC5	DNAJC6	DNASE1L3	DNM1
DNM1L	DNMT3A	DOCK6	DOCK7	DOLK	DPAGT1	DPM1	DPM2
DPM3	DPYD	DPYS	DYNC1H1	DYRK1A	EARS2	EBF3	EBP
ECE1	ECHS1	ECM1	EDC3	EEF1A2	EFHC1	EFHC2	EFTUD2
EGF	EHHADH	EHMT1	EIF2AK3	EIF2B1	EIF2B2	EIF2B3	EIF2B4
EIF2B5	EIF2S3	ELMO2	ELOVL4	ELP4	EMC1	EMG1	EML1
EMX2	ENG	EOGT	EP300	EPB41L1	EPG5	EPM2A	EPT1
ERBB4	ERCC1	ERCC2	ERCC3	ERCC4	ERCC5	ERCC6	ERCC8
ERF	ERLIN2	ERMARD	ESCO2	ETFA	ETFB	ETFDH	ETHE1
EXOC6B	EXOSC3	EXOSC8	EXT2	EXTL3	EZH2	FA2H	FADD
FAM111A	FAM126A	FAM183A	FAM58A	FAR1	FARS2	FASN	FASTKD2
FAT4	FBP1	FBXL4	FBXO28	FBXO31	FDXR	FGD1	FGF12
FGF13	FGF17	FGF23	FGF8	FGFR1	FGFR2	FGFR3	FGFRL1
FH	FHL1	FIG4	FKRP	FKTN	FLII	FLNA	FLRT3
FLVCR1	FLVCR2	FMN2	FMR1	FOLR1	FOXG1	FOXH1	FOXP1
FOXRED1	FRMPD4	FRRS1L	FTO	FTSJ1	FUCA1	FXYD2	G6PC
GAA	GABBR2	GABRA1	GABRA3	GABRA5	GABRA6	GABRB1	GABRB2
GABRB3	GABRD	GABRE	GABRG2	GABRG3	GABRQ	GABRR1	GABRR3
GAD1	GAL	GALC	GAMT	GAS1	GATA3	GATA6	GATAD2B
GATM	GBA	GCDH	GCH1	GCM2	GCSH	GDF2	GDI1
GDNF	GFAP	GFER	GFM1	GFM2	GJA1	GJC2	GK
GLB1	GLDC	GLI2	GLI3	GLRA1	GLRB	GLRX5	GLTSCR1
GLUD1	GLUL	GLYCTK	GM2A	GMPPA	GMPPB	GNA11	GNAI1
GNAO1	GNAQ	GNAS	GNB1	GNB5	GNE	GNPTAB	GNPTG
GNRH1	GNS	GOLGA2	GOSR2	GPA1	GPC3	GPC4	GPHN
GPR161	GPSM2	GPT2	GRIA3	GRIA4	GRIK2	GRIN1	GRIN2A
GRIN2B	GRIN2D	GRIP1	GRM1	GRM7	GRM8	GRN	GSPT2
GSS	GTF2IRD1	GTPBP3	GUCY1A3	GUF1	GUSB	GYS1	GYS2
H3F3A	H3F3B	HACE1	HADH	HARS2	HAX1	HCCS	HCFC1
HCN1	HCN2	HDAC1	HDAC4	HDAC8	HECW2	HEPACAM	HERC1
HERC2	HESX1	HEXA	HEXB	HGSNAT	HIBCH	HIC1	HIP1
HIRA	HIVEP2	HK1	HLA-DPB1	HLCS	HMBS	HMGCL	HMGCS2
HNRNPH2	HNRNPL	HNRNPU	HOXA1	HPD	HRAS	HSD17B10	HSD17B4

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HSPD1	HTR1A	HTRA1	HUWE1	HYLS1	IARS	IBA57	ICK
IDH2	IDS	IDUA	IER3IP1	IFIH1	IFT122	IFT140	IL10
IL12A	IL12B	IL12RB2	IL17F	IL17RA	IL1RAPL1	IL23R	IL27RA
IMPAD1	INO80	INPP4A	INPP5E	INPP5K	INS	INSR	INVS
IQCB1	IQSEC1	IQSEC2	IRF2BPL	ISCU	ISPD	ITGB6	ITPA
ITPR1	IVD	JAM3	JMJD1C	JRK	KANK1	KANSL1	KARS
KAT6A	KAT6B	KATNB1	KCNA1	KCNA2	KCNAB1	KCNAB2	KCNB1
KCNC1	KCNC3	KCND2	KCND3	KCNH1	KCNJ1	KCNJ10	KCNJ11
KCNJ13	KCNJ2	KCNJ6	KCNMA1	KCNQ2	KCNQ3	KCNQ5	KCNT1
KCNT2	KCNV2	KCTD3	KCTD7	KDM2B	KDM5B	KDM5C	KDM6A
KIAA0226	KIAA0556	KIAA0586	KIAA0753	KIAA1033	KIAA1279	KIAA1715	KIAA2022
KIF11	KIF1A	KIF2A	KIF4A	KIF5A	KIF5C	KIF7	KIRREL3
KISS1	KLF13	KLHL15	KLHL7	KLLN	KLRC4	KMT2A	KMT2D
KPNA7	KPTN	KRAS	KRIT1	L1CAM	L2HGDH	LAGE3	LAMA2
LAMB1	LAMC3	LARGE	LARS	LARS2	LAS1L	LBR	LETM1
LGI1	LGI4	LHX1	LIAS	LIG4	LIMK1	LIPT1	LMAN2L
LMBRD1	LMNB2	LONP1	LRFN2	LRP2	LRPPRC	LYRM7	LYST
MAF	MAFB	MAGEL2	MAGI2	MAN1B1	MANBA	MAOA	MAP2K1
MAP2K2	MAPK1	MAPK10	MAPK3	MAPRE2	MARS2	MAT1A	MATN4
MBD5	MBOAT7	MBTPS2	MC2R	MCCC1	MCCC2	MCEE	MCM4
MCOLN1	MCPH1	MCTP2	MDH2	ME2	MECP2	MED12	MED13
MED13L	MED17	MED23	MED25	MED27	MEF2C	MEFV	MEGF10
MEIS2	METTL23	MFF	MFHAS1	MFSD2A	MFSD8	MGAT2	MGME1
MGP	MICAL1	MID1	MID2	MIPEP	MKS1	MLC1	MLL3
MLX	MLYCD	MMAA	MMACHC	MMADHC	MN1	MOCS1	MOCS2
MOGS	MPC1	MPDU1	MPDZ	MPP7	MPV17	MRAP	MRI1
MRPL44	MRPS16	MRPS22	MSL3	MSX2	MTFMT	MTO1	MTOR
MTPAP	MTR	MTRR	MUT	MVK	MYH1	MYH3	MYO5A
MYO7B	MYO9A	MYOCD	MYT1L	NAA10	NAA15	NACC1	NADK2
NAGA	NAGLU	NAGS	NALCN	NANS	NARS2	NAT8L	NBAS
NBEA	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	NFIA	NFIB
NFIX	NFU1	NGLY1	NHEJ1	NHLRC1	NID1	NIN	NIPA1
NIPA2	NIPBL	NLGN1	NLGN4X	NMNAT1	NNT	NODAL	NOL3
NONO	NOTCH3	NPAP1	NPC1	NPC2	NPHP1	NPHP3	NPRL2
NPRL3	NR2F1	NRAS	NRXN1	NRXN3	NSD1	NSDHL	NSUN2
NTNG1	NTRK2	NUBPL	NUP107	NUS1	OCLN	OCRL	OFD1
OGT	OPA1	OPA3	OPHN1	OSGEP	OTC	OTUD6B	OTX2

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PACS1	PACS2	PAFAH1B1	PAH	PAK3	PANK2	PARK2	PARS2
PAX2	PAX6	PBX1	PC	PCCA	PCCB	PCDH12	PCDH19
PCDH7	PCDHB4	PCK1	PCL0	PCNT	PDCD10	PDE10A	PDE4D
PDE6D	PDGFB	PDGFRB	PDHA1	PDHB	PDHX	PDP1	PDSS1
PDSS2	PDYN	PET100	PEX1	PEX10	PEX11B	PEX12	PEX13
PEX14	PEX16	PEX19	PEX2	PEX26	PEX3	PEX5	PEX6
PEX7	PGAP1	PGAP2	PGAP3	PGK1	PGM1	PHC1	PHF21A
PHF3	PHF6	PHGDH	PI4KA	PIBF1	PIEZO2	PIGA	PIGC
PIGG	PIGL	PIGM	PIGN	PIGO	PIGP	PIGQ	PIGS
PIGT	PIGV	PIGW	PIGY	PIK3AP1	PIK3CA	PIK3R2	PLA2G6
PLAA	PLAGL1	PLCB1	PLEKHG2	PLK4	PLP1	PLXND1	PMM2
PMPCA	PNKD	PNKP	PNPLA8	PNPO	PNPT1	PODXL	POGZ
POLA1	POLG	POLG2	POLR3A	POLR3B	POMGNT1	POMGNT2	POMK
POMT1	POMT2	POU1F1	PPM1B	PPM1D	PPM1K	PPOX	PPP1R15B
PPP1R3C	PPP2R1A	PPP2R5D	PPP3CA	PPT1	PQBP1	PRDM8	PRDX1
PREPL	PRF1	PRICKLE1	PRICKLE2	PRIMA1	PRKAR1A	PRKDC	PRKG2
PRMT7	PRODH	PROP1	PROSC	PRPS1	PRRT2	PRSS12	PRTN3
PRUNE	PSAP	PSAT1	PSPH	PTCH1	PTCHD1	PTEN	PTF1A
PTH	PTPN11	PTPN22	PTPN23	PTPN4	PTPRD	PTS	PUM1
PURA	PUS1	PVRL1	PYCR2	QARS	QDPR	QRICH1	RAB11A
RAB11B	RAB18	RAB27A	RAB39B	RAB3GAP1	RAB3GAP2	RAC1	RAD21
RAF1	RAI1	RANBP2	RAP1A	RAP1B	RARS2	RBBP8	RBFOX1
RBFOX3	RBM10	RBM8A	RBPJ	RECQL4	REEP1	RELN	RERE
RFT1	RGR	RHOBTB2	RILP	RIT1	RLBP1	RMND1	RNASEH2A
RNASEH2B	RNASEH2C	RNASET2	RNF125	RNF168	ROBO1	ROBO3	ROGDI
RORA	RORB	RPGRIP1L	RPIA	RPL10	RPS6KA3	RREB1	RRM2B
RTN4IP1	RTTN	RYR2	RYR3	SACS	SAMD9	SAMHD1	SARS2
SASS6	SATB2	SC5D	SCARB2	SCN10A	SCN1A	SCN1B	SCN2A
SCN3A	SCN7A	SCN8A	SCNM1	SCO1	SCO2	SDCCAG8	SDHA
SDHAF1	SEC24C	SEC24D	SEPSECS	SERAC1	SERPINI1	SETBP1	SETD1A
SETD1B	SETD2	SETD5	SGCE	SGSH	SH2B1	SHANK1	SHANK3
SHH	SHOC2	SHROOM4	SIK1	SIN3A	SIX3	SKI	SLC12A1
SLC12A2	SLC12A3	SLC12A5	SLC12A6	SLC13A5	SLC16A1	SLC16A2	SLC17A5
SLC18A2	SLC19A2	SLC19A3	SLC1A1	SLC1A2	SLC1A3	SLC1A4	SLC20A2
SLC25A1	SLC25A10	SLC25A12	SLC25A15	SLC25A19	SLC25A20	SLC25A22	SLC25A3
SLC25A4	SLC26A1	SLC2A1	SLC33A1	SLC35A1	SLC35A2	SLC35A3	SLC35C1
SLC37A4	SLC39A8	SLC45A1	SLC46A1	SLC4A10	SLC5A7	SLC6A1	SLC6A17
SLC6A19	SLC6A5	SLC6A8	SLC7A5	SLC7A7	SLC9A1	SLC9A6	SLC9A9
SMAD2	SMAD4	SMAD6	SMARCA2	SMARCA4	SMARCB1	SMARCE1	SMC1A
SMC3	SMCHD1	SMG9	SMPD1	SMS	SNAP25	SNAP29	SNIP1
SNRPN	SNX10	SNX14	SNX27	SON	SOS1	SOX10	SOX11

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SOX2	SOX3	SOX5	SPAST	SPATA5	SPG11	SPG20	SPG7
SPINK5	SPR	SPRED1	SPTAN1	SQSTM1	SRCAP	SRD5A3	SRPX2
SSR4	SSTR5	ST3GAL3	ST3GAL5	ST5	ST7	ST8SIA2	STAG2
STAMPB	STAR	STARD9	STAT1	STAT4	STIL	STOX1	STRA6
STRADA	STT3A	STT3B	STUB1	STX11	STX16	STX1B	STXBP1
STXBP2	STYXL1	SUCLA2	SUCLG1	SUCO	SUMF1	SUOX	SURF1
SUV420H1	SV2A	SYN1	SYN2	SYNGAP1	SYNJ1	SYP	SYT14
SYT2	SZT2	TAC3	TACO1	TAF1	TANGO2	TAOK2	TAT
TAZ	TBC1D20	TBC1D24	TBCD	TBCE	TBCK	TBL1XR1	TBR1
TBX1	TBX18	TBX19	TCF4	TCIRG1	TCTN1	TCTN2	TCTN3
TDFG1	TDP2	TECPR2	TECR	TFAP2A	TGDS	TGIF1	TH
THAP11	THOC2	TIMM50	TIMM8A	TIMMDC1	TK2	TKT	TLK2
TMEM106B	TMEM126B	TMEM138	TMEM165	TMEM216	TMEM231	TMEM237	TMEM240
TMEM5	TMEM67	TMEM70	TMLHE	TMTC3	TNKS	TOE1	TP53RK
TPK1	TPP1	TPRKB	TRAF3IP1	TRAF3IP2	TRAPPC11	TRAPPC6B	TRAPPC9
TREM2	TREX1	TRIM8	TRIO	TRIP13	TRIT1	TRMT10A	TRNT1
TRPM6	TRPS1	TSC1	TSC2	TSEN15	TSEN2	TSEN34	TSEN54
TSFM	TSHZ3	TSPAN7	TTC19	TUBA1A	TUBA3E	TUBA8	TUBB2A
TUBB2B	TUBB3	TUBB4A	TUBG1	TUBGCP4	TUBGCP6	TUFM	TUSC3
TWIST1	TXN2	TYMP	TYROBP	UBA5	UBAC2	UBB	UBE2A
UBE3A	UBR5	UBTF	UFD1L	UGDH	UMPS	UNC13D	UNC80
UPB1	UPF3B	UQCC2	UQCC3	UQCRB	UQCRC2	UQCRQ	USP18
USP7	USP9X	VAMP2	VANGL1	VARS	VARS2	VCP	VDR
VLDLR	VPS11	VPS13A	VPS13B	VPS53	VRK1	WAC	WARS2
WDR19	WDR26	WDR45	WDR45B	WDR62	WDR73	WDR81	WFS1
WHSC1	WWOX	XK	XPA	XPC	XPNPEP3	XPR1	XRCC1
YAP1	YWHAE	YWHAG	ZBTB18	ZBTB20	ZC3H14	ZC4H2	ZDHHC15
ZDHHC9	ZEB2	ZFP57	ZFYVE26	ZIC2	ZMYND11	ZMYND12	ZNF335
ZNF41	ZNF423	ZNF592	ZNF674	ZNF711	ZNF81	ZNHIT3	ZSWIM6