

eTable 1. Genes included in the neurodevelopmental, cardiovascular, and immunodeficiency targeted gene panels used in the NYCKidSeq study

Neurodevelopmental	Cardiovascular	Immunodeficiency
A2ML1* (HGNC:23336)	A2ML1* (HGNC:23336)	ACD (HGNC:25070)
ABAT (HGNC:23)	ABCC9 (HGNC:60)	ACP5 (HGNC:124)
ABCD1 (HGNC:61)	ACADVL (HGNC:92)	ADA (HGNC:186)
ACSL4 (HGNC:3571)	ACTA2 (HGNC:130)	ADA2 (HGNC:1839)
ACTB (HGNC:132)	ACTC1 (HGNC:143)	ADAM17 (HGNC:195)
ACTG1 (HGNC:144)	ACTN2 (HGNC:164)	ADAR (HGNC:225)
ACY1 (HGNC:177)	ACVR2B (HGNC:174)	AICDA (HGNC:13203)
ADGRG1 (HGNC:4512)	ACVRL1 (HGNC:175)	AIRE (HGNC:360)
ADGRV1 (HGNC:17416)	ADAMTS2 (HGNC:218)	AK2 (HGNC:362)
ADNP (HGNC:15766)	AGK (HGNC:21869)	AP3B1 (HGNC:566)
ADSL (HGNC:291)	AGL (HGNC:321)	B2M (HGNC:914)
AFF2 (HGNC:3776)	AKAP9 (HGNC:379)	BTK (HGNC:1133)
AGO1 (HGNC:3262)	ALG1 (HGNC:18294)	C1QA (HGNC:1241)
AHI1 (HGNC:21575)	ALG12 (HGNC:19358)	C1QB (HGNC:1242)
AIFM1 (HGNC:8768)	ALMS1 (HGNC:428)	C1QC (HGNC:1245)
ALDH5A1 (HGNC:408)	ALPK3 (HGNC:17574)	C1S (HGNC:1247)
ALDH7A1 (HGNC:877)	ANK2 (HGNC:493)	C2 (HGNC:1248)
ALG13 (HGNC:30881)	ANKRD1 (HGNC:15819)	C3 (HGNC:1318)
AMT (HGNC:473)	APOB (HGNC:603)	C4A (HGNC:1323)
ANK3 (HGNC:494)	ARSB (HGNC:714)	C4B (HGNC:1324)
ANKRD11 (HGNC:21316)	ATP7A (HGNC:869)	C5 (HGNC:1331)
AP1S2 (HGNC:560)	BAG3 (HGNC:939)	C6 (HGNC:1339)
AP4B1 (HGNC:572)	BCOR (HGNC:20893)	C7 (HGNC:1346)
AP4E1 (HGNC:573)	BMPR1B (HGNC:1077)	C8A (HGNC:1352)
AP4M1 (HGNC:574)	BMPR2 (HGNC:1078)	C8B (HGNC:1353)
AP4S1 (HGNC:575)	BRAF (HGNC:1097)	C9 (HGNC:1358)
ARFGEF2 (HGNC:15853)	CACNA1C (HGNC:1390)	CARD11 (HGNC:16393)
ARHGFEF9 (HGNC:14561)	CACNA2D1 (HGNC:1399)	CARD14 (HGNC:16446)
ARID1A (HGNC:11110)	CACNB2 (HGNC:1402)	CARD9 (HGNC:16391)
ARID1B (HGNC:18040)	CALM1 (HGNC:1442)	CASP10 (HGNC:1500)
ARX (HGNC:18060)	CALM2 (HGNC:1445)	CASP8 (HGNC:1509)
ASPM (HGNC:19048)	CALM3 (HGNC:1449)	CCDC39 (HGNC:25244)
ATP13A2 (HGNC:30213)	CASQ2 (HGNC:1513)	CCDC40 (HGNC:26090)
ATP1A2 (HGNC:800)	CAV1 (HGNC:1527)	CD19 (HGNC:1633)
ATP2A2 (HGNC:812)	CAV3 (HGNC:1529)	CD247 (HGNC:1677)
ATP6AP2 (HGNC:18305)	CAVIN4 (HGNC:33742)	CD27 (HGNC:11922)
ATP6V0A2 (HGNC:18481)	CBL (HGNC:1541)	CD3D (HGNC:1673)
ATP7A (HGNC:869)	CBS (HGNC:1550)	CD3E (HGNC:1674)
ATP8A2 (HGNC:13533)	CHD7 (HGNC:20626)	CD3G (HGNC:1675)
ATR (HGNC:882)	CHRM2 (HGNC:1951)	CD40 (HGNC:11919)
ATRIP (HGNC:33499)	CHST14 (HGNC:24464)	CD40LG (HGNC:11935)
ATRX (HGNC:886)	COL1A1 (HGNC:2197)	CD46 (HGNC:6953)
AUTS2 (HGNC:14262)	COL1A2 (HGNC:2198)	CD59 (HGNC:1689)
BCKDK (HGNC:16902)	COL3A1 (HGNC:2201)	CD79A (HGNC:1698)
BCL11A (HGNC:13221)	COL5A1 (HGNC:2209)	CD79B (HGNC:1699)
BCOR (HGNC:20893)	COL5A2 (HGNC:2210)	CD81 (HGNC:1701)
BRAF (HGNC:1097)	COX10 (HGNC:2260)	CD8A (HGNC:1706)
BRWD3 (HGNC:17342)	COX15 (HGNC:2263)	CEBPE (HGNC:1836)
C12orf57 (HGNC:29521)	CPT2 (HGNC:2330)	CFB (HGNC:1037)
CA8 (HGNC:1382)	CRELD1 (HGNC:14630)	CFD (HGNC:2771)
CACNA1A (HGNC:1388)	CRYAB (HGNC:2389)	CFH (HGNC:4883)
CACNA1C (HGNC:1390)	CSRP3 (HGNC:2472)	CFHR1 (HGNC:4888)
CACNA1H (HGNC:1395)	CTNNA3 (HGNC:2511)	CFHR3 (HGNC:16980)
CACNA2D2 (HGNC:1400)	DES (HGNC:2770)	CFI (HGNC:5394)
CACNB4 (HGNC:1404)	DMD (HGNC:2928)	CFP (HGNC:8864)
CASK (HGNC:1497)	DNAH5 (HGNC:2950)	CHD7 (HGNC:20626)
CASR (HGNC:1514)	DOLK (HGNC:23406)	CIITA (HGNC:7067)
CBL (HGNC:1541)	DSC2 (HGNC:3036)	CLPB (HGNC:30664)
CC2D1A (HGNC:30237)	DSG2 (HGNC:3049)	COPA (HGNC:2230)
CCDC22 (HGNC:28909)	DSP (HGNC:3052)	CORO1A (HGNC:2252)
CCDC88C (HGNC:19967)	DTNA (HGNC:3057)	CR2 (HGNC:2336)
CCM2 (HGNC:21708)	EFEMP2 (HGNC:3219)	CSF2RA (HGNC:2435)
CDK5RAP2 (HGNC:18672)	EIF2AK4 (HGNC:19687)	CSF3R (HGNC:2439)
CDKL5 (HGNC:11411)	ELAC2 (HGNC:14198)	CTC1 (HGNC:26169)
CDKN1C (HGNC:1786)	ELN (HGNC:3327)	CTLA4 (HGNC:2505)
CDON (HGNC:17104)	EMD (HGNC:3331)	CTPS1 (HGNC:2519)
CENPJ (HGNC:17272)	ENG (HGNC:3349)	CTSC (HGNC:2528)
CEP135 (HGNC:29086)	EYA4 (HGNC:3522)	CXCR4 (HGNC:2561)
CEP152 (HGNC:29298)	FBN1 (HGNC:3603)	CYBA (HGNC:2577)
CEP63 (HGNC:25815)	FBN2 (HGNC:3604)	CYBB (HGNC:2578)
CHD2 (HGNC:1917)	FHL1 (HGNC:3702)	DCLRE1B (HGNC:17641)
CHD7 (HGNC:20626)	FKBP14 (HGNC:18625)	DCLRE1C (HGNC:17642)
CHD8 (HGNC:20153)	FKRP (HGNC:17997)	DGKE (HGNC:2852)
CHRNA2 (HGNC:1956)	FKTN (HGNC:3622)	DKC1 (HGNC:2890)
CHRNA4 (HGNC:1958)	FLNA (HGNC:3754)	DNMT3B (HGNC:2979)
CHRNA7 (HGNC:1960)	FLNC (HGNC:3756)	DOCK2 (HGNC:2988)
CHRN2 (HGNC:1962)	FOXH1 (HGNC:3814)	DOCK8 (HGNC:19191)

the study until 8/12/2020, only CNVs were reported for SHANK2 and SHANK3. Starting on 8/13/2020, NGS technology was included for these genes.

<i>CLCN2</i> (HGNC:2020)	<i>GAA</i> (HGNC:4065)	<i>DUOX2</i> (HGNC:13273)
<i>CLCN4</i> (HGNC:2022)	<i>GATA4</i> (HGNC:4173)	<i>ELANE</i> (HGNC:3309)
<i>CLN3</i> (HGNC:2074)	<i>GATA6</i> (HGNC:4174)	<i>EPCAM</i> (HGNC:11529)
<i>CLN5</i> (HGNC:2076)	<i>GATAD1</i> (HGNC:29941)	<i>EPG5</i> (HGNC:29331)
<i>CLN6</i> (HGNC:2077)	<i>GBA</i> (HGNC:4177)	<i>FADD</i> (HGNC:3573)
<i>CLN8</i> (HGNC:2079)	<i>GBE1</i> (HGNC:4180)	<i>FAS</i> (HGNC:11920)
<i>CNTNAP2</i> (HGNC:13830)	<i>GDF1</i> (HGNC:4214)	<i>FASLG</i> (HGNC:11936)
<i>COL18A1</i> (HGNC:2195)	<i>GDF2</i> (HGNC:4217)	<i>FCN1</i> (HGNC:3623)
<i>COL4A1</i> (HGNC:2202)	<i>GJA1</i> (HGNC:4274)	<i>FERMT1</i> (HGNC:15889)
<i>CPA6</i> (HGNC:17245)	<i>GJA5</i> (HGNC:4279)	<i>FERMT3</i> (HGNC:23151)
<i>CREBBP</i> (HGNC:2348)	<i>GLA</i> (HGNC:4296)	<i>FOXP1</i> (HGNC:12765)
<i>CSTB</i> (HGNC:2482)	<i>GLB1</i> (HGNC:4298)	<i>FOXP3</i> (HGNC:6106)
<i>CTCF</i> (HGNC:13723)	<i>GPC3</i> (HGNC:4451)	<i>G6PC3</i> (HGNC:24861)
<i>CTNNB1</i> (HGNC:2514)	<i>GPD1L</i> (HGNC:28956)	<i>G6PD</i> (HGNC:4057)
<i>CTSD</i> (HGNC:2529)	<i>GUSB</i> (HGNC:4696)	<i>GATA2</i> (HGNC:4171)
<i>CUL3</i> (HGNC:2553)	<i>HADHA</i> (HGNC:4801)	<i>GATA3</i> (HGNC:4172)
<i>CUL4B</i> (HGNC:2555)	<i>HAND1</i> (HGNC:4807)	<i>GFI1</i> (HGNC:4237)
<i>CYP27A1</i> (HGNC:2605)	<i>HCN4</i> (HGNC:16882)	<i>GUCY2C</i> (HGNC:4688)
<i>D2HGDH</i> (HGNC:28358)	<i>HEXB</i> (HGNC:4879)	<i>HAX1</i> (HGNC:16915)
<i>DCX</i> (HGNC:2714)	<i>HRAS</i> (HGNC:5173)	<i>HPS1</i> (HGNC:5163)
<i>DDHD2</i> (HGNC:29106)	<i>IDUA</i> (HGNC:5391)	<i>HPS4</i> (HGNC:15844)
<i>DDX3X</i> (HGNC:2745)	<i>ILK</i> (HGNC:6040)	<i>HPS6</i> (HGNC:18817)
<i>DEAF1</i> (HGNC:14677)	<i>JAG1</i> (HGNC:6188)	<i>ICOS</i> (HGNC:5351)
<i>DEPDC5</i> (HGNC:18423)	<i>JPH2</i> (HGNC:14202)	<i>IFIH1</i> (HGNC:18873)
<i>DHCR7</i> (HGNC:2860)	<i>JUP</i> (HGNC:6207)	<i>IFNGR1</i> (HGNC:5439)
<i>DIS3L2</i> (HGNC:28648)	<i>KCNA5</i> (HGNC:6224)	<i>IFNGR2</i> (HGNC:5440)
<i>DISP1</i> (HGNC:19711)	<i>KCND3</i> (HGNC:6239)	<i>IGHM</i> (HGNC:5541)
<i>DKC1</i> (HGNC:2890)	<i>KCNE1</i> (HGNC:6240)	<i>IGLL1</i> (HGNC:5870)
<i>DLG3</i> (HGNC:2902)	<i>KCNE2</i> (HGNC:6242)	<i>IKBKB</i> (HGNC:5960)
<i>DLL1</i> (HGNC:2908)	<i>KCNE3</i> (HGNC:6243)	<i>IKBKG</i> (HGNC:5961)
<i>DMD</i> (HGNC:2928)	<i>KCNE5</i> (HGNC:6241)	<i>IL10</i> (HGNC:5962)
<i>DNAJC5</i> (HGNC:16235)	<i>KCNH2</i> (HGNC:6251)	<i>IL10RA</i> (HGNC:5964)
<i>DNM1</i> (HGNC:2972)	<i>KCNJ2</i> (HGNC:6263)	<i>IL10RB</i> (HGNC:5965)
<i>DNMT3A</i> (HGNC:2978)	<i>KCNJ5</i> (HGNC:6266)	<i>IL12B</i> (HGNC:5970)
<i>DOCK7</i> (HGNC:19190)	<i>KCNJ8</i> (HGNC:6269)	<i>IL12RB1</i> (HGNC:5971)
<i>DPYD</i> (HGNC:3012)	<i>KCNK3</i> (HGNC:6278)	<i>IL17F</i> (HGNC:16404)
<i>DYNC1H1</i> (HGNC:2961)	<i>KCNQ1</i> (HGNC:6294)	<i>IL17RA</i> (HGNC:5985)
<i>DYRK1A</i> (HGNC:3091)	<i>KRAS</i> (HGNC:6407)	<i>IL17RC</i> (HGNC:18358)
<i>EBP</i> (HGNC:3133)	<i>LAMA4</i> (HGNC:6484)	<i>IL18</i> (HGNC:5986)
<i>EEF1A2</i> (HGNC:3192)	<i>LAMP2</i> (HGNC:6501)	<i>IL18RAP</i> (HGNC:5989)
<i>EFHC1</i> (HGNC:16406)	<i>LDB3</i> (HGNC:15710)	<i>IL1RN</i> (HGNC:6000)
<i>EHMT1</i> (HGNC:24650)	<i>LDLR</i> (HGNC:6547)	<i>IL21</i> (HGNC:6005)
<i>EIF2S3</i> (HGNC:3267)	<i>LDLRAP1</i> (HGNC:18640)	<i>IL21R</i> (HGNC:6006)
<i>ELP4</i> (HGNC:1171)	<i>LEFTY2</i> (HGNC:3122)	<i>IL23R</i> (HGNC:19100)
<i>EMX2</i> (HGNC:3341)	<i>LMNA</i> (HGNC:6636)	<i>IL2RA</i> (HGNC:6008)
<i>EP300</i> (HGNC:3373)	<i>LZTR1</i> (HGNC:6742)	<i>IL2RG</i> (HGNC:6010)
<i>EPM2A</i> (HGNC:3413)	<i>MAP2K1</i> (HGNC:6840)	<i>IL36RN</i> (HGNC:15561)
<i>ERCC6</i> (HGNC:3438)	<i>MAP2K2</i> (HGNC:6842)	<i>IL7R</i> (HGNC:6024)
<i>ERCC8</i> (HGNC:3439)	<i>MAT2A</i> (HGNC:6904)	<i>INO80</i> (HGNC:26956)
<i>EZH2</i> (HGNC:3527)	<i>MED12</i> (HGNC:11957)	<i>IRAK4</i> (HGNC:17967)
<i>FGD1</i> (HGNC:3663)	<i>MED13L</i> (HGNC:22962)	<i>IRF7</i> (HGNC:6122)
<i>FGF8</i> (HGNC:3686)	<i>MEIS2</i> (HGNC:7001)	<i>IRF8</i> (HGNC:5358)
<i>FGFR3</i> (HGNC:3690)	<i>MFAP5</i> (HGNC:29673)	<i>IRGM</i> (HGNC:29597)
<i>FKRP</i> (HGNC:17997)	<i>MIB1</i> (HGNC:21086)	<i>ISG15</i> (HGNC:4053)
<i>FKTN</i> (HGNC:3622)	<i>MLYCD</i> (HGNC:7150)	<i>ITGAM</i> (HGNC:6149)
<i>FLNA</i> (HGNC:3754)	<i>MTO1</i> (HGNC:19261)	<i>ITGB2</i> (HGNC:6155)
<i>FLVCR2</i> (HGNC:20105)	<i>MUT</i> (HGNC:7526)	<i>ITK</i> (HGNC:6171)
<i>FMR1</i> (HGNC:3775)	<i>MYBPC3</i> (HGNC:7551)	<i>JAGN1</i> (HGNC:26926)
<i>FOLR1</i> (HGNC:3791)	<i>MYH11</i> (HGNC:7569)	<i>JAK1</i> (HGNC:6190)
<i>FOXG1</i> (HGNC:3811)	<i>MYH6</i> (HGNC:7576)	<i>JAK3</i> (HGNC:6193)
<i>FOXH1</i> (HGNC:3814)	<i>MYH7</i> (HGNC:7577)	<i>LAMTOR2</i> (HGNC:29796)
<i>FOXP1</i> (HGNC:3823)	<i>MYL2</i> (HGNC:7583)	<i>LCK</i> (HGNC:6524)
<i>FOXP2</i> (HGNC:13875)	<i>MYL3</i> (HGNC:7584)	<i>LIG1</i> (HGNC:6598)
<i>FTSJ1</i> (HGNC:13254)	<i>MYLK</i> (HGNC:7590)	<i>LIG4</i> (HGNC:6601)
<i>GABRA1</i> (HGNC:4075)	<i>MYLK2</i> (HGNC:16243)	<i>LPIN2</i> (HGNC:14450)
<i>GABRB2</i> (HGNC:4082)	<i>MYOM1</i> (HGNC:7613)	<i>LRBA</i> (HGNC:1742)
<i>GABRB3</i> (HGNC:4083)	<i>MYOZ2</i> (HGNC:1330)	<i>LRRC8A</i> (HGNC:19027)
<i>GABRD</i> (HGNC:4084)	<i>MYPN</i> (HGNC:23246)	<i>LYST</i> (HGNC:1968)
<i>GABRG2</i> (HGNC:4087)	<i>NDUFA10</i> (HGNC:7684)	<i>MAGT1</i> (HGNC:28880)
<i>GAMT</i> (HGNC:4136)	<i>NDUFA12</i> (HGNC:23987)	<i>MALT1</i> (HGNC:6819)
<i>GAS1</i> (HGNC:4165)	<i>NDUFA2</i> (HGNC:7685)	<i>MAP3K14</i> (HGNC:6853)
<i>GATAD2B</i> (HGNC:30778)	<i>NDUFA9</i> (HGNC:7693)	<i>MASP2</i> (HGNC:6902)
<i>GATM</i> (HGNC:4175)	<i>NDUFAP2</i> (HGNC:28086)	<i>MEFV</i> (HGNC:6998)
<i>GCSH</i> (HGNC:4208)	<i>NDUFAP6</i> (HGNC:28625)	<i>MRE11</i> (HGNC:7230)
<i>GDI1</i> (HGNC:4226)	<i>NDUFS3</i> (HGNC:7710)	<i>MVK</i> (HGNC:7530)
<i>GK</i> (HGNC:4289)	<i>NDUFS4</i> (HGNC:7711)	<i>MYD88</i> (HGNC:7562)
<i>GLDC</i> (HGNC:4313)	<i>NDUFS7</i> (HGNC:7714)	<i>MYO5B</i> (HGNC:7603)
<i>GLI2</i> (HGNC:4318)	<i>NDUFS8</i> (HGNC:7715)	<i>NBN</i> (HGNC:7652)
<i>GLI3</i> (HGNC:4319)	<i>NEBL</i> (HGNC:16932)	<i>NCF1</i> (HGNC:7660)
<i>GNAO1</i> (HGNC:4389)	<i>NEXN</i> (HGNC:29557)	<i>NCF2</i> (HGNC:7661)
<i>GNB1</i> (HGNC:4396)	<i>NF1</i> (HGNC:7765)	<i>NCF4</i> (HGNC:7662)

GNS (HGNC:4422) NKX2-5 (HGNC:2488) NFAT5 (HGNC:7774)
 GOSR2 (HGNC:4431) NKX2-6 (HGNC:32940) NFKB1 (HGNC:7794)
 GPC3 (HGNC:4451) NODAL (HGNC:7865) NFKB2 (HGNC:7795)
 GPHN (HGNC:15465) NOTCH1 (HGNC:7881) NFKBIA (HGNC:7797)
 GRIA3 (HGNC:4573) NPPA (HGNC:7939) NHEJ1 (HGNC:25737)
 GRIK2 (HGNC:4580) NR2F2 (HGNC:7976) NHP2 (HGNC:14377)
 GRIN1 (HGNC:4584) NRAS (HGNC:7989) NLRC4 (HGNC:16412)
 GRIN2A (HGNC:4585) NSD1 (HGNC:14234) NLRP12 (HGNC:22938)
 GRIN2B (HGNC:4586) OBSCN (HGNC:15719) NLRP3 (HGNC:16400)
 GRIP1 (HGNC:18708) PCCA (HGNC:8653) NOD2 (HGNC:5331)
 HCCS (HGNC:4837) PCCB (HGNC:8654) NOP10 (HGNC:14378)
 HCN1 (HGNC:4845) PCSK9 (HGNC:20001) NRAS (HGNC:7989)
 HCN4 (HGNC:16882) PDLIM3 (HGNC:20767) ORA1 (HGNC:25896)
 HDAC8 (HGNC:13315) PET100 (HGNC:40038) PGM3 (HGNC:8907)
 HGSNAT (HGNC:26527) PGM1 (HGNC:8905) PIK3CD (HGNC:8977)
 HIP1 (HGNC:4913) PHYH (HGNC:8940) PIK3R1 (HGNC:8979)
 HNRNPU (HGNC:5048) PKP2 (HGNC:9024) PLCG2 (HGNC:9066)
 HPRT1 (HGNC:5157) PLEKHM2 (HGNC:29131) PMS2 (HGNC:9122)
 HRAS (HGNC:5173) PLN (HGNC:9080) PNP (HGNC:7892)
 HSD17B10 (HGNC:4800) PLOD1 (HGNC:9081) POLE (HGNC:9177)
 HTRA1 (HGNC:9476) PMM2 (HGNC:9115) PRF1 (HGNC:9360)
 HUWE1 (HGNC:30892) PPP1CB (HGNC:9282) PRKCD (HGNC:9399)
 IDS (HGNC:5389) PRDM16 (HGNC:14000) PRKDC (HGNC:9413)
 IL1RAPL1 (HGNC:5996) PRKAG2 (HGNC:9386) PTEN (HGNC:9588)
 IQSEC2 (HGNC:29059) PRKG1 (HGNC:9414) PTPRC (HGNC:9666)
 ITPA (HGNC:6176) PTPN11 (HGNC:9644) RAB27A (HGNC:9766)
 KANSL1 (HGNC:24565) RAF1 (HGNC:9829) RAC2 (HGNC:9802)
 KAT6A (HGNC:13013) RANGRF (HGNC:17679) RAG1 (HGNC:9831)
 KAT6B (HGNC:17582) RASA1 (HGNC:9871) RAG2 (HGNC:9832)
 KCNA1 (HGNC:6218) RASA2 (HGNC:9872) RBCK1 (HGNC:15864)
 KCNA2 (HGNC:6220) RBM20 (HGNC:27424) RET (HGNC:9967)
 KCNB1 (HGNC:6231) RIT1 (HGNC:10023) RFX5 (HGNC:9986)
 KCNJ1 (HGNC:6255) RYR2 (HGNC:10484) RFXANK (HGNC:9987)
 KCNJ10 (HGNC:6256) SCN10A (HGNC:10582) RFXAP (HGNC:9988)
 KCNJ11 (HGNC:6257) SCN1B (HGNC:10586) RHOH (HGNC:686)
 KCNMA1 (HGNC:6284) SCN2B (HGNC:10589) RMRP (HGNC:10031)
 KCNQ2 (HGNC:6296) SCN3B (HGNC:20665) RNASEH2A (HGNC:18518)
 KCNQ3 (HGNC:6297) SCN4B (HGNC:10592) RNASEH2B (HGNC:25671)
 KCNT1 (HGNC:18865) SCN5A (HGNC:10593) RNASEH2C (HGNC:24116)
 KCTD13 (HGNC:22234) SCO1 (HGNC:10603) RORC (HGNC:10260)
 KCTD7 (HGNC:21957) SDHA (HGNC:10680) RTEL1 (HGNC:15888)
 KDM5C (HGNC:11114) SDHAF1 (HGNC:33867) SAMHD1 (HGNC:15925)
 KDM6A (HGNC:12637) SGCD (HGNC:10807) SBDS (HGNC:19440)
 KIF11 (HGNC:6388) SGSH (HGNC:10818) SERPING1 (HGNC:1228)
 KIF1A (HGNC:888) SHOC2 (HGNC:15454) SH2D1A (HGNC:1082)
 KIF1BP (HGNC:23419) SKI (HGNC:10896) SKIV2L (HGNC:10898)
 KIF2A (HGNC:6318) SLC22A5 (HGNC:10969) SLC35C1 (HGNC:20197)
 KIRREL3 (HGNC:23204) SLC25A20 (HGNC:1421) SLC37A4 (HGNC:4061)
 KMT2A (HGNC:7132) SLC2A10 (HGNC:13444) SLC9A3 (HGNC:11073)
 KMT2D (HGNC:7133) SLC39A13 (HGNC:20859) SMARCAL1 (HGNC:11102)
 KNL1 (HGNC:24054) SLMAP (HGNC:16643) SP110 (HGNC:5401)
 KRAS (HGNC:6407) SMAD3 (HGNC:6769) SPINK5 (HGNC:15464)
 KRIT1 (HGNC:15730) SMAD4 (HGNC:6770) STAT1 (HGNC:11362)
 L1CAM (HGNC:6470) SMAD6 (HGNC:6772) STAT3 (HGNC:11364)
 L2HGDH (HGNC:20499) SMAD9 (HGNC:6774) STAT5B (HGNC:11367)
 LAMC3 (HGNC:6494) SNTA1 (HGNC:11167) STIM1 (HGNC:11386)
 LAMP2 (HGNC:6501) SOS1 (HGNC:11187) STK4 (HGNC:11408)
 LARGE1 (HGNC:6511) SOS2 (HGNC:11188) STX11 (HGNC:11429)
 LAS1L (HGNC:25726) SPRED1 (HGNC:20249) STXBP2 (HGNC:11445)
 LBR (HGNC:6518) SURF1 (HGNC:11474) TAP1 (HGNC:43)
 LGI1 (HGNC:6572) TAZ (HGNC:11577) TAP2 (HGNC:44)
 LIAS (HGNC:16429) TBX1 (HGNC:11592) TAPBP (HGNC:11566)
 LINS1 (HGNC:30922) TBX5 (HGNC:11604) TAZ (HGNC:11577)
 LRP2 (HGNC:6694) TCAP (HGNC:11610) TBX1 (HGNC:11592)
 LZTR1 (HGNC:6742) TGFB2 (HGNC:11768) TCN2 (HGNC:11653)
 MAGEL2 (HGNC:6814) TGFB3 (HGNC:11769) TERC (HGNC:11727)
 MAGI2 (HGNC:18957) TGFB1 (HGNC:11772) TERT (HGNC:11730)
 MAN1B1 (HGNC:6823) TGFB2 (HGNC:11773) TINF2 (HGNC:11824)
 MAOA (HGNC:6833) TMEM43 (HGNC:28472) TLR3 (HGNC:11849)
 MAP2K1 (HGNC:6840) TMEM70 (HGNC:26050) TMEM173 (HGNC:27962)
 MAP2K2 (HGNC:6842) TMPO (HGNC:11875) TNFAIP3 (HGNC:11896)
 MAPK10 (HGNC:6872) TNNC1 (HGNC:11943) TNFRSF13B (HGNC:18153)
 MBD5 (HGNC:20444) TNNI3 (HGNC:11947) TNFRSF13C (HGNC:17755)
 MBTPS2 (HGNC:15455) TNNT2 (HGNC:11949) TNFRSF1A (HGNC:11916)
 MCPH1 (HGNC:6954) TPM1 (HGNC:12010) TNFSF12 (HGNC:11927)
 MECP2 (HGNC:6990) TRDN (HGNC:12261) TREX1 (HGNC:12269)
 MED12 (HGNC:11957) TRPM4 (HGNC:17993) TRIM22 (HGNC:16379)
 MED13L (HGNC:22962) TTN (HGNC:12403) TRNT1 (HGNC:17341)
 MED17 (HGNC:2375) TTR (HGNC:12405) TTC37 (HGNC:23639)
 MED23 (HGNC:2372) TXNRD2 (HGNC:18155) TTC7A (HGNC:19750)
 MEF2C (HGNC:6996) VCL (HGNC:12665) TYK2 (HGNC:12440)

MFSD8 (HGNC:28486) ZFPM2 (HGNC:16700) UNC13D (HGNC:23147)
MID1 (HGNC:7095) ZIC3 (HGNC:12874) UNG (HGNC:12572)
MRE11 (HGNC:7230) USB1 (HGNC:25792)
MTHFR (HGNC:7436) VPS13B (HGNC:2183)
MTOR (HGNC:3942) VPS45 (HGNC:14579)
MYT1L (HGNC:7623) WAS (HGNC:12731)
NAA10 (HGNC:18704) WIPF1 (HGNC:12736)
NAGLU (HGNC:7632) WRAP53 (HGNC:25522)
NBN (HGNC:7652) XIAP (HGNC:592)
NDE1 (HGNC:17619) ZAP70 (HGNC:12858)
NDP (HGNC:7678) ZBTB24 (ZNF450)
NDUFA1 (HGNC:7683)
NECAP1 (HGNC:24539)
NEXMIF (HGNC:29433)
NF1 (HGNC:7765)
NFIX (HGNC:7788)
NHEJ1 (HGNC:25737)
NHLRC1 (HGNC:21576)
NHS (HGNC:7820)
NIN (HGNC:14906)
NIPBL (HGNC:28862)
NLGN4X (HGNC:14287)
NODAL (HGNC:7865)
NOTCH3 (HGNC:7883)
NPRL2 (HGNC:24969)
NPRL3 (HGNC:14124)
NRAS (HGNC:7989)
NRXN1 (HGNC:8008)
NRXN3 (HGNC:8010)
NSD1 (HGNC:14234)
NSDHL (HGNC:13398)
NSUN2 (HGNC:25994)
OCRL (HGNC:8108)
OFD1 (HGNC:2567)
OPHN1 (HGNC:8148)
OTC (HGNC:8512)
PACS1 (HGNC:30032)
PAFAH1B1 (HGNC:8574)
PAK3 (HGNC:8592)
PANK2 (HGNC:15894)
PAX6 (HGNC:8620)
PCDH19 (HGNC:14270)
PCNT (HGNC:16068)
PDCD10 (HGNC:8761)
PDHA1 (HGNC:8806)
PGK1 (HGNC:8896)
PHF6 (HGNC:18145)
PHF8 (HGNC:20672)
PHGDH (HGNC:8923)
PIGA (HGNC:8957)
PIGN (HGNC:8967)
PIGO (HGNC:23215)
PIGV (HGNC:26031)
PLA2G6 (HGNC:9039)
PLCB1 (HGNC:15917)
PLP1 (HGNC:9086)
PNKP (HGNC:9154)
PNPO (HGNC:30260)
POGZ (HGNC:18801)
POLG (HGNC:9179)
POMGNT1 (HGNC:19139)
POMT1 (HGNC:9202)
POMT2 (HGNC:19743)
PORCN (HGNC:17652)
PPP1CB (HGNC:9282)
PPT1 (HGNC:9325)
PQBP1 (HGNC:9330)
PRICKLE1 (HGNC:17019)
PRICKLE2 (HGNC:20340)
PRPS1 (HGNC:9462)
PRRT2 (HGNC:30500)
PTCH1 (HGNC:9585)
PTCHD1 (HGNC:26392)
PTEN (HGNC:9588)
PTPN11 (HGNC:9644)
PURA (HGNC:9701)
RAB18 (HGNC:14244)
RAB39B (HGNC:16499)
RAB3GAP1 (HGNC:17063)
RAB3GAP2 (HGNC:17168)
RAD21 (HGNC:9811)

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RAF1 (HGNC:9829)
RAI1 (HGNC:9834)
RARS2 (HGNC:21406)
RASA2 (HGNC:9872)
RBBP8 (HGNC:9891)
RBM10 (HGNC:9896)
RELN (HGNC:9957)
RIT1 (HGNC:10023)
RNASEH2A (HGNC:18518)
RNASEH2B (HGNC:25671)
RNASEH2C (HGNC:24116)
RNU4ATAC (HGNC:34016)
ROGDI (HGNC:29478)
RPL10 (HGNC:10298)
RPS6KA3 (HGNC:10432)
SAMHD1 (HGNC:15925)
SATB2 (HGNC:21637)
SCARB2 (HGNC:1665)
SCN1A (HGNC:10585)
SCN1B (HGNC:10586)
SCN2A (HGNC:10588)
SCN3A (HGNC:10590)
SCN5A (HGNC:10593)
SCN8A (HGNC:10596)
SCN9A (HGNC:10597)
SERPINI1 (HGNC:8943)
SETBP1 (HGNC:15573)
SETD2 (HGNC:18420)
SETD5 (HGNC:25566)
SGSH (HGNC:10818)
SHANK2* (HGNC:14295)
SHANK3* (HGNC:14294)
SHH (HGNC:10848)
SHOC2 (HGNC:15454)
SIK1 (HGNC:11142)
SIX3 (HGNC:10889)
SLC12A5 (HGNC:13818)
SLC13A5 (HGNC:23089)
SLC16A2 (HGNC:10923)
SLC19A3 (HGNC:16266)
SLC1A2 (HGNC:10940)
SLC25A1 (HGNC:10979)
SLC25A19 (HGNC:14409)
SLC25A22 (HGNC:19954)
SLC2A1 (HGNC:11005)
SLC35A2 (HGNC:11022)
SLC4A10 (HGNC:13811)
SLC6A1 (HGNC:11042)
SLC6A4 (HGNC:11050)
SLC6A8 (HGNC:11055)
SLC9A6 (HGNC:11079)
SMARCA2 (HGNC:11098)
SMARCA4 (HGNC:11100)
SMARCB1 (HGNC:11103)
SMARCE1 (HGNC:11109)
SMC1A (HGNC:11111)
SMC3 (HGNC:2468)
SMS (HGNC:11123)
SNAP25 (HGNC:11132)
SNAP29 (HGNC:11133)
SOS1 (HGNC:11187)
SOS2 (HGNC:11188)
SOX11 (HGNC:11191)
SOX5 (HGNC:11201)
SPRED1 (HGNC:20249)
SPTAN1 (HGNC:11273)
ST3GAL3 (HGNC:10866)
ST3GAL5 (HGNC:10872)
STAMBIP (HGNC:16950)
STIL (HGNC:10879)
STX1B (HGNC:18539)
STXBP1 (HGNC:11444)
SYN1 (HGNC:11494)
SYNGAP1 (HGNC:11497)
SYP (HGNC:11506)
SZT2 (HGNC:29040)
TAF1 (HGNC:11535)
TBC1D24 (HGNC:29203)
TBL1XR1 (HGNC:29529)
TBR1 (HGNC:11590)
TBX1 (HGNC:11592)

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TCF12 (HGNC:11623)
TCF20 (HGNC:11631)
TCF4 (HGNC:11634)
TDGF1 (HGNC:11701)
TGIF1 (HGNC:11776)
THOC2 (HGNC:19073)
TIMM8A (HGNC:11817)
TMEM231 (HGNC:37234)
TMLHE (HGNC:18308)
TPP1 (HGNC:2073)
TRAPPC9 (HGNC:30832)
TREX1 (HGNC:12269)
TRIO (HGNC:12303)
TRPM6 (HGNC:17995)
TSC1 (HGNC:12362)
TSC2 (HGNC:12363)
TSPAN7 (HGNC:11854)
TUBA1A (HGNC:20766)
TUBA8 (HGNC:12410)
TUBB (HGNC:20778)
TUBB2A (HGNC:12412)
TUBB2B (HGNC:30829)
TUBB3 (HGNC:20772)
TUBG1 (HGNC:12417)
TUSC3 (HGNC:30242)
UBE2A (HGNC:12472)
UBE3A (HGNC:12496)
UNC80 (HGNC:26582)
UPF3B (HGNC:20439)
USP9X (HGNC:12632)
VANGL1 (HGNC:15512)
VLDLR (HGNC:12698)
VPS13A (HGNC:1908)
VPS13B (HGNC:2183)
WAC (HGNC:17327)
WDR45 (HGNC:28912)
WDR62 (HGNC:24502)
WDR81 (HGNC:26600)
WWOX (HGNC:12799)
YWHAE (HGNC:12851)
ZC4H2 (HGNC:24931)
ZDHHC9 (HGNC:18475)
ZEB2 (HGNC:14881)
ZIC2 (HGNC:12873)
ZMYND11 (HGNC:16966)
ZNF407 (HGNC:19904)
ZNF711 (HGNC:13128)

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eTable 8. Genes included on commercial gene panel tests used for *in silico* analysis of diagnostic yield

Neurologic		Cardiac				Immunologic
Ambry NDD Next (202 genes)	Ambry Epilepsy Next (124 genes)	Ambry Rhythm Next (42 genes)	Ambry HCM Next (30 genes)	Ambry TAAD Next (35 genes)	Invitae CHD (55 genes)	Invitae Primary Immunodeficiency (429 genes)
<i>ABCD1</i> (HGNC:61)	<i>ALDH7A1</i> (HGNC:877)	<i>AKAP9</i> (HGNC:379)	<i>ACTC1</i> (HGNC:143)	<i>ACTA2</i> (HGNC:130)	<i>ACTC1</i> (HGNC:143)	<i>ACD</i> (HGNC:25070)
<i>ACTB</i> (HGNC:132)	<i>AMT</i> (HGNC:473)	<i>ANK2</i> (HGNC:493)	<i>ACTN2</i> (HGNC:164)	<i>BGN</i> (HGNC:1044)	<i>ACVR2B</i> (HGNC:174)	<i>ACP5</i> (HGNC:124)
<i>ACTG1</i> (HGNC:144)	<i>ANKRD11</i> (HGNC:213)	<i>CACNA1C</i> (HGNC:1390)	<i>ALPK3</i> (HGNC:17574)	<i>CBS</i> (HGNC:1550)	<i>ALMS1</i> (HGNC:428)	<i>ACTB</i> (HGNC:132)
<i>ADNP</i> (HGNC:15766)	<i>ARHGEF9</i> (HGNC:145)	<i>CACNA2D1</i> (HGNC:1399)	<i>ANKRD1</i> (HGNC:15819)	<i>CHST14</i> (HGNC:24464)	<i>BCOR</i> (HGNC:20893)	<i>ADA</i> (HGNC:186)
<i>AHCY</i> (HGNC:343)	<i>ARX</i> (HGNC:18060)	<i>CACNB2</i> (HGNC:1402)	<i>CSRP3</i> (HGNC:2472)	<i>COL1A1</i> (HGNC:2197)	<i>BRAF</i> (HGNC:1097)	<i>ADA2</i> (HGNC:1839)
<i>AHDC1</i> (HGNC:25230)	<i>ASNS</i> (HGNC:753)	<i>CALM1</i> (HGNC:1442)	<i>FHL1</i> (HGNC:3702)	<i>COL1A2</i> (HGNC:2198)	<i>CASZ1</i> (HGNC:26002)	<i>ADAM17</i> (HGNC:195)
<i>ANK2</i> (HGNC:493)	<i>ATP13A2</i> (HGNC:3021)	<i>CALM2</i> (HGNC:1445)	<i>FLNC</i> (HGNC:3756)	<i>COL3A1</i> (HGNC:2201)	<i>CBL</i> (HGNC:1541)	<i>ADAR</i> (HGNC:225)
<i>ANKRD11</i> (HGNC:21316)	<i>ATP1A2</i> (HGNC:800)	<i>CALM3</i> (HGNC:1449)	<i>GLA</i> (HGNC:4296)	<i>COL5A1</i> (HGNC:2209)	<i>CHD7</i> (HGNC:20626)	<i>ADGRE2</i> (HGNC:3337)
<i>ARHGEF9</i> (HGNC:14561)	<i>ATP1A3</i> (HGNC:801)	<i>CASQ2</i> (HGNC:1513)	<i>JPH2</i> (HGNC:14202)	<i>COL5A2</i> (HGNC:2210)	<i>CRELD1</i> (HGNC:14630)	<i>AICDA</i> (HGNC:13203)
<i>ARID1A</i> (HGNC:11110)	<i>BRAT1</i> (HGNC:21701)	<i>CAV3</i> (HGNC:1529)	<i>LAMP2</i> (HGNC:6501)	<i>EFEMP2</i> (HGNC:3219)	<i>ELN</i> (HGNC:3327)	<i>AIRE</i> (HGNC:360)
<i>ARID1B</i> (HGNC:18040)	<i>CACNA1A</i> (HGNC:138)	<i>DES</i> (HGNC:2770)	<i>MYBPC3</i> (HGNC:7551)	<i>FBN1</i> (HGNC:3603)	<i>FOXH1</i> (HGNC:3814)	<i>AK2</i> (HGNC:362)
<i>ARID2</i> (HGNC:18037)	<i>CACNA1E</i> (HGNC:139)	<i>DSC2</i> (HGNC:3036)	<i>MYH6</i> (HGNC:7576)	<i>FBN2</i> (HGNC:3604)	<i>GATA4</i> (HGNC:4173)	<i>ALG6</i> (HGNC:23157)
<i>ARX</i> (HGNC:18060)	<i>CASK</i> (HGNC:1497)	<i>DSG2</i> (HGNC:3049)	<i>MYH7</i> (HGNC:7577)	<i>FKBP14</i> (HGNC:18625)	<i>GATA5</i> (HGNC:15802)	<i>ALPK1</i> (HGNC:20917)
<i>ASPM</i> (HGNC:19048)	<i>CDKL5</i> (HGNC:11411)	<i>DSP</i> (HGNC:3052)	<i>MYL2</i> (HGNC:7583)	<i>FLNA</i> (HGNC:3754)	<i>GATA6</i> (HGNC:4174)	<i>ANGPT1</i> (HGNC:484)
<i>ASXL1</i> (HGNC:18318)	<i>CHD2</i> (HGNC:1917)	<i>GPD1L</i> (HGNC:28956)	<i>MYL3</i> (HGNC:7584)	<i>FOXE3</i> (HGNC:3808)	<i>GDF1</i> (HGNC:4214)	<i>ANKZF1</i> (HGNC:25527)
<i>ASXL3</i> (HGNC:29357)	<i>CHRNA2</i> (HGNC:1956)	<i>HCN4</i> (HGNC:16882)	<i>MYPN</i> (HGNC:23246)	<i>LOX</i> (HGNC:6664)	<i>GJA1</i> (HGNC:4274)	<i>AP3B1</i> (HGNC:566)
<i>ATP13A2</i> (HGNC:30213)	<i>CHRNA4</i> (HGNC:1958)	<i>JUP</i> (HGNC:6207)	<i>NEXN</i> (HGNC:29557)	<i>MAT2A</i> (HGNC:6904)	<i>GPC3</i> (HGNC:4451)	<i>AP3D1</i> (HGNC:568)
<i>ATP1A3</i> (HGNC:801)	<i>CHRN2</i> (HGNC:1962)	<i>KCND3</i> (HGNC:6239)	<i>PLN</i> (HGNC:9080)	<i>MED12</i> (HGNC:11957)	<i>HAND1</i> (HGNC:4807)	<i>ARHGEF1</i> (HGNC:681)
<i>ATP7A</i> (HGNC:869)	<i>CLN3</i> (HGNC:2074)	<i>KCNE1</i> (HGNC:6240)	<i>PRKAG2</i> (HGNC:9386)	<i>MFAP5</i> (HGNC:29673)	<i>HAND2</i> (HGNC:4808)	<i>ARPC1B</i> (HGNC:704)
<i>ATRX</i> (HGNC:886)	<i>CLN5</i> (HGNC:2076)	<i>KCNE2</i> (HGNC:6242)	<i>PTPN11</i> (HGNC:9644)	<i>MYH11</i> (HGNC:7569)	<i>HRAS</i> (HGNC:5173)	<i>ASAH1</i> (HGNC:735)
<i>AUTS2</i> (HGNC:14262)	<i>CLN6</i> (HGNC:2077)	<i>KCNE3</i> (HGNC:6243)	<i>RAF1</i> (HGNC:9829)	<i>MYLK</i> (HGNC:7590)	<i>JAG1</i> (HGNC:6188)	<i>ATM</i> (HGNC:795)
<i>BCL11A</i> (HGNC:13221)	<i>CLN8</i> (HGNC:2079)	<i>KCNH2</i> (HGNC:6251)	<i>RIT1</i> (HGNC:10023)	<i>NOTCH1</i> (HGNC:7881)	<i>KDM6A</i> (HGNC:12637)	<i>ATP6AP1</i> (HGNC:868)
<i>BCL11B</i> (HGNC:13222)	<i>CNTNAP2</i> (HGNC:138)	<i>KCNJ2</i> (HGNC:6263)	<i>SOS1</i> (HGNC:11187)	<i>PLOD1</i> (HGNC:9081)	<i>KMT2D</i> (HGNC:7133)	<i>B2M</i> (HGNC:914)
<i>BRAF</i> (HGNC:1097)	<i>COL4A1</i> (HGNC:2202)	<i>KCNJ5</i> (HGNC:6266)	<i>TCAP</i> (HGNC:11610)	<i>PRDM5</i> (HGNC:9349)	<i>KRAS</i> (HGNC:6407)	<i>BACH2</i> (HGNC:14078)
<i>BRAT1</i> (HGNC:21701)	<i>CSTB</i> (HGNC:2482)	<i>KCNJ8</i> (HGNC:6269)	<i>TNNC1</i> (HGNC:11943)	<i>PRKG1</i> (HGNC:9414)	<i>LEFTY2</i> (HGNC:3122)	<i>BCL10</i> (HGNC:989)
<i>BRPF1</i> (HGNC:14255)	<i>CTSD</i> (HGNC:2529)	<i>KCNQ1</i> (HGNC:6294)	<i>TNN3</i> (HGNC:11947)	<i>SKI</i> (HGNC:10896)	<i>MAP2K1</i> (HGNC:6840)	<i>BCL11B</i> (HGNC:13222)
<i>CACNA1A</i> (HGNC:1388)	<i>CTSF</i> (HGNC:2531)	<i>LMNA</i> (HGNC:6636)	<i>TNNT2</i> (HGNC:11949)	<i>SLC2A10</i> (HGNC:13444)	<i>MAP2K2</i> (HGNC:6842)	<i>BLM</i> (HGNC:1058)
<i>CAMK2B</i> (HGNC:1461)	<i>DCX</i> (HGNC:2714)	<i>NKX2-5</i> (HGNC:2488)	<i>TPM1</i> (HGNC:12010)	<i>SMAD3</i> (HGNC:6769)	<i>MED13L</i> (HGNC:22962)	<i>BLNK</i> (HGNC:14211)
<i>CASK</i> (HGNC:1497)	<i>DDC</i> (HGNC:2719)	<i>PKP2</i> (HGNC:9024)	<i>TTR</i> (HGNC:12405)	<i>SMAD4</i> (HGNC:6770)	<i>MEIS2</i> (HGNC:7001)	<i>BLOC1S3</i> (HGNC:20914)
<i>CBL</i> (HGNC:1541)	<i>DEPDC5</i> (HGNC:1842)	<i>PLN</i> (HGNC:9080)	<i>VCL</i> (HGNC:12665)	<i>TGFB2</i> (HGNC:11768)	<i>MESP1</i> (HGNC:29658)	<i>BLOC1S6</i> (HGNC:8549)
<i>CC2D1A</i> (HGNC:30237)	<i>DNAJC5</i> (HGNC:1623)	<i>RYR2</i> (HGNC:10484)		<i>TGFB3</i> (HGNC:11769)	<i>MYH6</i> (HGNC:7576)	<i>BTK</i> (HGNC:1133)
<i>CC2D2A</i> (HGNC:29253)	<i>DNM1</i> (HGNC:2972)	<i>SCN10A</i> (HGNC:10582)		<i>TGFBR1</i> (HGNC:11772)	<i>NFATC1</i> (HGNC:7775)	<i>C17orf62</i> (HGNC:28672)
<i>CDK13</i> (HGNC:1733)	<i>DYNC1H1</i> (HGNC:296)	<i>SCN1B</i> (HGNC:10586)		<i>TGFBR2</i> (HGNC:11773)	<i>NKX2-5</i> (HGNC:2488)	<i>C1QA</i> (HGNC:1241)
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SAMHD1 (HGNC:15925)

SAR1B (HGNC:10535)
SCO2 (HGNC:10604)
SEC61A1 (HGNC:18276)
SEMA3E (HGNC:10727)
SERPING1 (HGNC:1228)
SGPL1 (HGNC:10817)
SH2D1A (HGNC:1082)
SH3BP2 (HGNC:10825)
SH3KBP1 (HGNC:13867)
SI (HGNC:10856)
SIAE (HGNC:18187)
SKIV2L (HGNC:10898)
SLC10A2 (HGNC:10906)
SLC26A3 (HGNC:3018)
SLC29A3 (HGNC:23096)
SLC35C1 (HGNC:20197)
SLC37A4 (HGNC:4061)
SLC39A7 (HGNC:4927)
SLC46A1 (HGNC:30521)
SLC51B (HGNC:29956)
SLC5A1 (HGNC:11036)
SLC7A7 (HGNC:11065)
SLC9A3 (HGNC:11073)
SLX4 (HGNC:23845)
SMARCA1 (HGNC:11102)
SMARCD2 (HGNC:11107)
SNX10 (HGNC:14974)
SP110 (HGNC:5401)
SPINK5 (HGNC:15464)
SPINT2 (HGNC:11247)
SPPL2A (HGNC:30227)
SRP54 (HGNC:11301)
SRP72 (HGNC:11303)
STAT1 (HGNC:11362)
STAT2 (HGNC:11363)
STAT3 (HGNC:11364)
STAT4 (HGNC:11365)
STAT5B (HGNC:11367)
STIM1 (HGNC:11386)
STK4 (HGNC:11408)
STN1 (HGNC:26200)
STX11 (HGNC:11429)
STX3 (HGNC:11438)
STXBP2 (HGNC:11445)
TAOK2 (HGNC:16835)
TAP1 (HGNC:43)
TAP2 (HGNC:44)
TAPBP (HGNC:11566)
TAZ (HGNC:11577)
TBX1 (HGNC:11592)
TCF3 (HGNC:11633)
TCIRG1 (HGNC:11647)
TCN2 (HGNC:11653)
TERC (HGNC:11727)
TERT (HGNC:11730)
TFRC (HGNC:11763)
TGFB1 (HGNC:11766)
TGFB1 (HGNC:11772)
TGFB2 (HGNC:11773)
THBD (HGNC:11784)
TICAM1 (HGNC:18348)
TIMM50 (HGNC:23656)
TINF2 (HGNC:11824)
TLR3 (HGNC:11849)
TLR7 (HGNC:15631)
TMC6 (HGNC:18021)
TMC8 (HGNC:20474)
TMEM173 (HGNC:27962)
TMPRSS15 (HGNC:9490)
TNFAIP3 (HGNC:11896)
TNFRSF11A (HGNC:11908)
TNFRSF13B (HGNC:18153)
TNFRSF13C (HGNC:17755)
TNFRSF1A (HGNC:11916)
TNFRSF4 (HGNC:11918)
TNFRSF6B (HGNC:11921)
TNFRSF9 (HGNC:11924)
TNFSF11 (HGNC:11926)
TNFSF12 (HGNC:11927)
TONSL (HGNC:7801)
TOP2B (HGNC:11990)
TP63 (HGNC:15979)



					<i>TPP2</i> (HGNC:12016) <i>TRAF3</i> (HGNC:12033) <i>TRAF3IP2</i> (HGNC:1343) <i>TREX1</i> (HGNC:12269) <i>TRNT1</i> (HGNC:17341) <i>TTC37</i> (HGNC:23639) <i>TTC7A</i> (HGNC:19750) <i>TYK2</i> (HGNC:12440) <i>UNC13D</i> (HGNC:23147) <i>UNC45A</i> (HGNC:30594) <i>UNC93B1</i> (HGNC:13481) <i>UNG</i> (HGNC:12572) <i>USB1</i> (HGNC:25792) <i>VAV1</i> (HGNC:12657) <i>VPS13B</i> (HGNC:2183) <i>VPS45</i> (HGNC:14579) <i>WAS</i> (HGNC:12731) <i>WDR1</i> (HGNC:12754) <i>WIPF1</i> (HGNC:12736) <i>WNT2B</i> (HGNC:12781) <i>WRAP53</i> (HGNC:25522) <i>XIAP</i> (HGNC:592) <i>ZAP70</i> (HGNC:12858) <i>ZBTB24</i> (ZNF450) <i>ZCCHC8</i> (HGNC:25265) <i>ZNF341</i> (HGNC:15992)
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