

## Gene List for CENTOGENE's Carriership Findings

CENTOGENE's curated gene list of genes associated with recessive severe and early-onset Mendelian diseases used for the reporting of Carriership Findings for the patients undergoing exome and genome sequencing

Valid from April 6, 2023

Approved gene symbols according to HGNC, as of March 31, 2023

AAAS, AARS1, AARS2, AASS, ABAT, ABCA12, ABCA3, ABCA5, ABCB11, ABCB4, ABCB7, ABCC6, ABCC8, ABCD1, ABCD4, ABHD12, ABHD5, ACACA, ACAD8, ACAD9, ACADM, ACADS, ACADSB, ACADVL, ACAN, ACAT1, ACBD6, ACE, ACO2, ACOX1, ACP5, ACTA1, ACTL6B, ACY1, ADA, ADA2, ADAM17, ADAM22, ADAMTS10, ADAMTS17, ADAMTS18, ADAMTS19, ADAMTS2, ADAMTS3, ADAMTSL2, ADAR, ADARB1, ADAT3, ADCY1, ADCY6, ADD3, ADGRG1, ADGRG6, ADGRV1, ADK, ADPRS, ADSL, AEBP1, AFF2, AFG2A, AFG3L2, AGA, AGK, AGL, AGPAT2, AGPS, AGR2, AGRN, AGT, AGTPBP1, AGTR1, AGXT, AHCY, AHI1, AIFM1, AIMP1, AIPL1, AIRE, AK2, AKR1C2, AKR1D1, ALAD, ALAS2, ALDH18A1, ALDH1A3, ALDH3A2, ALDH4A1, ALDH5A1, ALDH6A1, ALDH7A1, ALDOA, ALDOB, ALG1, ALG11, ALG12, ALG13, ALG14, ALG2, ALG3, ALG6, ALG8, ALG9, ALKBH8, ALOX12B, ALOXE3, ALPL, ALS2, ALX1, ALX3, ALX4, AMACR, AMER1, AMFR, AMN, AMPD1, AMPD2, AMT, ANAPC1, ANK3, ANKLE2, ANKS6, ANO10, ANOS1, ANTXR1, ANTXR2, AP1B1, AP1S1, AP1S2, AP3B1, AP3B2, AP4B1, AP4E1, AP4M1, AP4S1, APC2, APTX, AR, ARFGEF2, ARG1, ARHGDI, ARHGEF9, ARL13B, ARL3, ARL6, ARL6IP1, ARMC9, ARNT2, ARSA, ARSB, ARSL, ARV1, ARX, ASAH1, ASCC1, ASL, ASNS, ASPA, ASPH, ASPM, ASS1, ATAD1, ATAD3A, ATCAY, ATIC, ATOH7, ATP13A2, ATP2B2, ATP2B3, ATP5F1A, ATP5F1D, ATP5F1E, ATP5MK, ATP6AP2, ATP6V0A2, ATP6V0A4, ATP6V1A, ATP6V1B1, ATP7A, ATP7B, ATP8A2, ATP8B1, ATPAF2, ATRX, AUH, AVPR2, B3GALNT2, B3GALT6, B3GAT3, B3GLCT, B4GALNT1, B4GALT1, B4GALT7, B4GAT1, B9D1, B9D2, BANF1, BBIP1, BBS1, BBS10, BBS12, BBS2, BBS4, BBS5, BBS7, BBS9, BCAP31, BCKDHA, BCKDHB, BCKDK, BCOR, BCORL1, BCS1L, BGN, BHLHA9, BIN1, BLM, BLNK, BLTP1, BMP1, BMP2, BMPER, BMPR1B, BOLA3, BPGM, BPNT2, BRAT1, BRF1, BRWD3, BSCL2, BSND, BTB, BTK, C12orf57, C19orf12, C1orf127, C1QBP, C2CD3, C2orf69, CA12, CA2, CA5A, CA8, CABP2, CABP4, CACNA1B, CACNA1D, CACNA1F, CACNA2D4, CAD, CAMK2A, CANT1, CARD11, CARMIL2, CARS2, CASK, CASR, CAST, CAV1, CAVIN1, CBLIF, CBS, CBY1, CC2D1A, CC2D2A, CCBE1, CCDC103, CCDC115, CCDC174, CCDC22, CCDC39, CCDC40, CCDC47, CCDC65, CCDC8, CCDC88A, CCDC88C, CCN6, CCNO, CCT5, CD19, CD247, CD3D, CD3E, CD3G, CD40, CD40LG, CD55, CD59, CD70, CD79A, CD79B, CD8A, CDAN1, CDC14A, CDC45, CDC6, CDCA7, CDH11, CDH23, CDH3, CDIN1, CDK10, CDK5RAP2, CDK6, CDKL5, CDSN, CDT1, CEBPE, CENPE, CENPF, CENPJ, CEP104, CEP120, CEP135, CEP152, CEP164, CEP19, CEP290, CEP41, CEP55, CEP57, CEP63, CEP83, CERS1, CERS3, CFAP298, CFAP300, CFAP410, CFAP418, CFAP53, CFL2, CFTR, CHAT, CHKB, CHMP1A, CHRDL1, CHRM3, CHRNA1, CHRNB1, CHRND, CHRNE, CHRNG, CHST14, CHST3, CHST8, CHSY1, CHUK, CIB2, CIITA, CILK1, CISD2, CIT, CKAP2L, CLCN1, CLCN2, CLCN4, CLCN5, CLCN7, CLCNKA, CLCNKB, CLDN1, CLDN14, CLDN16, CLDN19, CLEC7A, CLIC2, CLIC5, CLMP, CLN3, CLN5, CLN6, CLN8, CLP1, CLPB, CLPP, CLRN1, CNGB3, CNKSR2, CNNM4, CNPY3, CNTN1, CNTNAP1, CNTNAP2, COA6, COA8, COASY, COG1, COG2, COG4, COG5, COG6, COG7, COG8, COL11A1, COL11A2, COL13A1, COL17A1, COL1A2, COL25A1, COL27A1, COL3A1, COL4A3, COL4A4, COL6A1, COL6A2, COL6A3, COL7A1, COL9A2, COLEC10, COLEC11, COLQ, COPB2, COQ2, COQ4, COQ6, COQ8A, COQ8B, COQ9, CORO1A, COX10, COX15, COX20, COX4I2, COX6A1, COX6B1, COX7B, CPLANE1, CPLX1, CPS1, CPT1A, CPT2, CRADD, CRB1, CRB2, CRBN, CREB3L1, CRIPT, CRLF1, CRPPA, CRTAP, CRYAA, CSF1R, CSF2RB, CSF3R, CSPP1, CSTA, CTC1, CTDP1, CTNNA2, CTNS, CTPS1, CTSA, CTSC, CTSD, CTSK, CTU2, CUL4B, CUL7, CWC27, CWF19L1, CYB5A, CYB5R3, CYBA, CYBB, CYC1, CYP11A1, CYP11B1, CYP11B2, CYP17A1, CYP1B1, CYP24A1, CYP26C1, CYP27A1, CYP27B1, CYP2R1, CYP2U1,

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MMUT, MOCS1, MOCS2, MOGS, MPC1, MPDU1, MPDZ, MPI, MPLKIP, MPV17, MPZL2, MRAP, MRE11, MRPL3, MRPL44, MRPS16, MRPS2, MRPS22, MRPS34, MRPS7, MSH3, MSMO1, MSRB3, MTFMT, MTHFR, MTM1, MTMR2, MTO1, MTPAP, MTR, MTRFR, MTRR, MTTP, MUSK, MVK, MYBPC1, MYBPC3, MYD88, MYH3, MYH7, MYL1, MYMK, MYO15A, MYO18B, MYO3A, MYO5A, MYO5B, MYO7A, MYO9A, MYOD1, MYPN, NAA10, NADK2, NADSYN1, NAGA, NAGLU, NAGS, NALCN, NANS, NARS1, NARS2, NAXD, NAXE, NBAS, NBEAL2, NBN, NCAPD3, NCKAP1L, NDE1, NDP, NDST1, NDUFA1, NDUFA10, NDUFA11, NDUFA12, NDUFA13, NDUFA2, NDUFA4, NDUFA6, NDUFA9, NDUFAF1, NDUFAF2, NDUFAF3, NDUFAF4, NDUFAF5, NDUFAF6, NDUFAF8, NDUFB3, NDUFB8, NDUFS1, NDUFS2, NDUFS3, NDUFS4, NDUFS6, NDUFS7, NDUFS8, NDUFV1, NDUFV2, NEB, NECAP1, NECTIN1, NECTIN4, NEK10, NEK8, NEK9, NEMF, NEPRO, NEU1, NEUROG3, NEXMIF, NFASC, NFU1, NGF, NGLY1, NHEJ1, NHLRC1, NHP2, NHS, NIPAL4, NKX3-2, NKX6-2, NME8, NMNAT1, NNT, NONO, NPC1, NPC2, NPHP1, NPHP3, NPHP4, NPHS1, NPHS2, NPR2, NR0B1, NR1H4, NRAP, NRXN1, NSDHL, NSMCE2, NSUN2, NT5C2, NT5C3A, NTNG2, NTRK1, NUBPL, NUDT2, NUP107, NUP133, NUP188, NUP62, NUP88, NXN, NYX, OAT, OBSL1, OCA2, OCLN, OCRL, ODAD1, ODAD2, ODAD3, ODAFH, OFD1, OGDH, OPA1, OPA3, OPHN1, ORC1, ORC4, ORC6, OSGEP, OSTM1, OTC, OTOF, OTOG, OTOGL, OTUD5, OTUD6B, OTULIN, OXCT1, OXR1, P2RY12, P3H1, PADI3, PAH, PAK3, PAM16, PAN2, PANK2, PAPSS2, PARN, PARS2, PAX1, PAX3, PC, PCARE, PCBD1, PCCA, PCCB, PCDH15, PCDH19, PCDHGC4, PCK1, PCK2, PCLO, PCNA, PCNT, PCSK1, PCYT1A, PCYT2, PDE10A, PDE2A, PDE6D, PDE6G, PDHA1, PDHB, PDHX, PDP1, PDSS1, PDSS2, PDX1, PEPD, PET100, PEX1, PEX10, PEX11B, PEX12, PEX13, PEX14, PEX16, PEX19, PEX2, PEX26, PEX3, PEX5, PEX6, PEX7, PGAP1, PGAP2, PGAP3, PGK1, PGM1, PGM3, PHC1, PHEX, PHF6, PHF8, PHGDH, PHKA2, PHKB, PHKG2, PHOX2A, PIBF1, PIEZO1, PIEZO2, PIGA, PIGC, PIGG, PIGK, PIGL, PIGM, PIGN, PIGO, PIGP, PIGQ, PIGS, PIGT, PIGV, PIGW, PIGY, PIK3CD, PIK3R1, PIP5K1C, PISD, PJVK, PKD1L1, PKHD1, PKLR, PKP1, PLA2G6, PLAA, PLCB1, PLCB4, PLCE1, PLEC, PLEKHG5, PLG, PLK4, PLOD1, PLOD2, PLOD3, PLP1, PLPBP, PLVAP, PMM2, PMPCB, PNKP, PNP, PNPLA1, PNPLA6, PNPLA8, PNPO, PNPT1, POC1A, POC1B, POLA1, POLG, POLG2, POLR1C, POLR1D, POLR3A, POLR3B, POMGNT1, POMGNT2, POMK, POMP, POMT1, POMT2, POP1, POR, PORCN, POU1F1, POU3F4, PPA2, PPFIBP1, PPIB, PPIP5K2, PPP1R13L, PPP1R15B, PPP1R21, PPT1, PQBP1, PRDM12, PRDM5, PRDM8, PREPL, PRF1, PRG4, PRKACG, PRKCD, PRKRA, PRMT7, PROC, PRODH, PROP1, PROS1, PRPS1, PRRX1, PRSS12, PRSS56, PRUNE1, PRX, PSAP, PSAT1, PSMB8, PSPH, PTCHD1, PTF1A, PTH1R, PTPN14, PTPN23, PTPRC, PTRH2, PTS, PUS1, PUS3, PUS7, PXDN, PYCR1, PYCR2, PYGL, PYGM, PYROXD1, QARS1, QDPR, QRSL1, RAB18, RAB23, RAB27A, RAB33B, RAB39B, RAB3GAP1, RAB3GAP2, RAD21, RAD50, RAD51C, RAG1, RAG2, RALGAPA1, RAPSN, RARB, RARS1, RARS2, RASGRP2, RAX, RBBP8, RBCK1, RBM10, RD3, RDH11, RELN, REN, RETREG1, RFT1, RFWD3, RFX5, RFX6, RFXANK, RFXAP, RHOH, RIC1, RIMS2, RIN2, RINT1, RIPK4, RIPOR2, RIPPLY2, RLIM, RMND1, RNASEH2A, RNASEH2B, RNASEH2C, RNASET2, RNF113A, RNF168, RNPC3, ROBO3, ROGDI, ROR1, ROR2, RORC, RPE65, RPGR, RPGRIP1, RPGRIP1L, RPIA, RPL10, RPS6KA3, RRM2B, RS1, RSPH1, RSPH3, RSP01, RSP02, RSP04, RSPRY1, RSRC1, RTEL1, RTN4IP1, RTTN, RUBCN, RXYLT1, RYR1, S1PR2, SACS, SAMD9, SAMHD1, SAR1B, SARS1, SARS2, SASS6, SBDS, SBF1, SBF2, SC5D, SCAPER, SCARF2, SCN1B, SCN4A, SCN9A, SCNN1A, SCO1, SCO2, SCYL1, SCYL2, SDCCAG8, SDHA, SDHAF1, SDR9C7, SEC23A, SEC23B, SEC24D, SELENOI, SELENON, SEPSECS, SERAC1, SERPINB6, SERPINB7, SERPINB8, SERPINF1, SERPINF2, SERPINH1, SFRP4, SFTPB, SFXN4, SGCA, SGCG, SGPL1, SGSH, SH2D1A, SH3PXD2B, SHPK, SIGMAR1, SIL1, SIPA1L3, SIX6, SKIC3, SKIV2L, SLC10A7, SLC11A2, SLC12A1, SLC12A3, SLC12A5, SLC12A6, SLC13A5, SLC16A1, SLC16A2, SLC17A5, SLC18A2, SLC18A3, SLC19A2, SLC19A3, SLC1A4, SLC22A5, SLC24A1, SLC24A5, SLC25A1, SLC25A12, SLC25A15, SLC25A19, SLC25A20, SLC25A22, SLC25A26, SLC25A3, SLC25A38, SLC25A4, SLC25A42, SLC25A46, SLC26A2, SLC26A3, SLC26A4, SLC26A5, SLC26A7, SLC27A4, SLC29A3, SLC2A10, SLC2A2, SLC30A10, SLC30A9, SLC33A1, SLC34A3, SLC35A1, SLC35A3, SLC35C1, SLC35D1, SLC38A8, SLC39A13, SLC39A4, SLC39A8, SLC45A1, SLC45A2, SLC4A1, SLC4A11, SLC4A4, SLC52A2, SLC52A3, SLC5A1, SLC5A5, SLC5A6, SLC5A7, SLC6A3, SLC6A5, SLC6A8, SLC6A9, SLC7A7, SLC9A1, SLC9A6, SLC9A7, SLITRK6, SLURP1, SLX4, SMARCAL1, SMARCD2, SMC1A, SMO, SMOC1, SMPD1, SMPD4, SMS, SNAP29, SNX10, SNX14, SOBP, SOX3, SP110, SP7, SPAG1, SPARC, SPART, SPEF2, SPEG, SPINK5, SPINT2, SPR, SPTBN2,

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