Identification of potential pathogenic genes causing occipitalization of the atlas

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**Supplementary Material**

This supplemental file was intended for publication as a data supplement. The file includes 1 tables cited in the manuscript.

The contents include the following:

**Table S1. List of candidate genes associated with vertebral segmentation defects as well as related diseases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gene** |  |  |  |  |
| A2ML1 | DNAAF1 | INA | NPHP3 | SMAD6 |
| ABHD14A-ACY1 | DNMT3A | ITPR2 | NSD1 | SMARCA2 |
| AGAP1 | DOCK8 | JMJD1C | NT5E | SMARCAD1 |
| ALDH2 | EBP | KAT6B | NTNG1 | SMC2 |
| ALMS1 | EDNRA | KCNQ1 | OTOA | SMG7 |
| ALPL | EFTUD2 | KIF14 | PABPC1 | SMOC1 |
| AMER1 | EHMT1 | KIF22 | PAPPA | SOHLH1 |
| ANKH | EIF4G1 | KIFBP | PARD3B | SON |
| ANLN | ELN | KLHDC10 | PCSK5 | SOS2 |
| ARID3B | ELP1 | KMT2A | PCYT1A | SRC |
| ARVCF | ENG | KMT2C | PDE11A | STAT5A |
| ASPM | ENPP1 | LAMA2 | PEX5 | STIL |
| ATP7B | EPHB2 | LAMA5 | PHGDH | SZT2 |
| ATP8B3 | EXT2 | LAMC3 | PLOD3 | TBX2 |
| ATPAF2 | EZH2 | LETM1 | PMFBP1 | TBXAS1 |
| ATR | F12 | LIMCH1 | POLG | TCF12 |
| BBS9 | FAN1 | LPO | POR | TCIRG1 |
| BDNF | FANCA | LRP5 | PRKRA | TCTN2 |
| BMP2 | FANCB | LRRK1 | PRSS12 | TEX14 |
| BMS1 | FANCD2 | LZTR1 | PSAT1 | TG |
| BRAF | FANCE | MAF | PTCH1 | TGFBR1 |
| BRAT1 | FANCF | MAP1A | PTCH2 | TGM1 |
| BRCA2 | FANCG | MAP2K2 | PTH2R | TMEM231 |
| BRIP1 | FANCI | MAPK1 | RAB18 | TMEM94 |
| BSCL2 | FANCM | MASP1 | RAB23 | TNFRSF11A |
| CACNA1A | FBN1 | MDH1 | RAD51 | TNFSF11 |
| CACNA1B | FGFR2 | MEGF8 | RAD54B | TNS1 |
| CACNA2D3 | FGFR3 | MEOX1 | RAD54L | TONSL |
| CC2D2A | FGFR4 | MET | RASA2 | TRIP11 |
| CCDC91 | FGFRL1 | MICALL2 | REPS1 | TRPM4 |
| CD36 | FLNA | MIPEP | REV1 | TSC1 |
| CDC45 | FLNB | MN1 | RNASEH2A | TSC2 |
| CDKAL1 | FLNC | MOCS2 | ROGDI | TTK |
| CDKN1C | FREM1 | MPZL2 | RREB1 | TTN |
| CENPJ | FRMD4A | MTHFR | RYR1 | USH2A |
| CEP135 | FUZ | MTR | SALL1 | USP45 |
| CEP290 | GABBR2 | MUTYH | SALL4 | VANGL1 |
| CEP57 | GATA4 | MYCBP2 | SCN5A | WDPCP |
| CEP63 | GDF5 | MYH3 | SDHB | WDR26 |
| CERKL | GFM1 | MYH7 | SEC24C | WDR35 |
| CERS1 | GH1 | MYH8 | SEC24D | ZIC1 |
| CFAP69 | GLB1 | MYO18B | SENP3 | ZNF341 |
| CHAT | GNA11 | MYO1A | SGCG | ZNF446 |
| CHD2 | GNAS | MYO9A | SHANK1 |  |
| CHKA | GP1BB | MYT1 | SHANK3 |  |
| CHRNE | GPX4 | NANS | SHROOM |  |
| CLIP2 | GTF2IRD1 | NEBL | SHROOM3 |  |
| CLPP | GYS1 | NELFA | SIK3 |  |
| COMT | HAAO | NELL1 | SLC29A1 |  |
| CREBBP | HLCS | NEO1 | SLC30A2 |  |
| CTNND2 | HPSE2 | NF2 | SLC34A2 |  |
| CTSA | IFNG | NID2 | SLC46A1 |  |
| CXXC1 | IFT122 | NIN | SLC7A7 |  |
| DGKD | IL1RN | NOTCH2 | SLMAP |  |
| DMGDH | IMPG1 | NOTCH3 | SLX4 |  |
| CD36 | DNAAF1 | INA | NPHP3 |  |