

Appendix A

Lists of top *SIS* candidate genes

Top 7% of positively selected protein coding genes and their *SSI* values are given in the following pages.

| | |
|-----------|---------------------------|
| CHR | - chromosome |
| GENE NAME | - associated gene name |
| SIS | - Selection Support Index |

| CHR | GENE NAME | SSI | CHR | GENE NAME | SSI | CHR | GENE NAME | SSI | CHR | GENE NAME | SSI | CHR | GENE NAME | SSI | CHR | GENE NAME | SSI |
|-----|-----------|------|-----|-----------|------|-----|-----------|------|-----|------------|------|-----|-----------|------|-----|-----------|-----|
| 2 | EDAR | 0.76 | 14 | AP5M1 | 0.20 | 10 | ADK | 0.16 | 1 | CLSPN | 0.14 | 9 | C9orf156 | 0.12 | | | |
| 4 | SLC30A9 | 0.70 | 16 | CBFB | 0.20 | 3 | USP4 | 0.16 | 19 | CEACAM1 | 0.14 | 9 | HEMGN | 0.12 | | | |
| 4 | BEND4 | 0.55 | 16 | TPPP3 | 0.20 | 2 | RTKN | 0.16 | 18 | CD226 | 0.14 | 22 | CDC45 | 0.12 | | | |
| 15 | SLC24A5 | 0.49 | 10 | CFAP70 | 0.20 | 15 | CTXN2 | 0.16 | 1 | ST6GALNAC3 | 0.14 | 4 | SEC24B | 0.12 | | | |
| 15 | HERC1 | 0.49 | 16 | KCTD19 | 0.20 | 1 | TEKT2 | 0.16 | 2 | VSNL1 | 0.14 | 19 | ZBTB7A | 0.12 | | | |
| 2 | UBXN4 | 0.47 | 20 | SLC32A1 | 0.20 | 20 | PROCR | 0.16 | 20 | FAM83D | 0.14 | 2 | YWHAQ | 0.12 | | | |
| 2 | LCT | 0.46 | 13 | MPHOSPH8 | 0.20 | 10 | SEC24C | 0.16 | 15 | TRPM1 | 0.14 | 4 | KLB | 0.12 | | | |
| 4 | TMEM33 | 0.45 | 2 | PGCF1 | 0.20 | 19 | ZNF780B | 0.16 | 1 | HMCN1 | 0.14 | 9 | C8G | 0.12 | | | |
| 2 | MCM6 | 0.44 | 5 | APC | 0.20 | 5 | TRIM23 | 0.16 | 3 | CCDC36 | 0.14 | 7 | C7orf34 | 0.12 | | | |
| 15 | MYEF2 | 0.43 | 1 | TSTD1 | 0.20 | 21 | WDR4 | 0.16 | 15 | RORA | 0.14 | 2 | SUCLG1 | 0.12 | | | |
| 17 | BCAS3 | 0.42 | 10 | CCDC172 | 0.20 | 7 | IFRD1 | 0.16 | 6 | LAMA2 | 0.14 | 19 | CXL17 | 0.12 | | | |
| 2 | GCC2 | 0.40 | 3 | RPEP2 | 0.19 | 17 | SLC25A19 | 0.16 | 18 | RTTN | 0.14 | 7 | SLC26A5 | 0.12 | | | |
| 1 | ZMYM6 | 0.40 | 3 | AMT | 0.19 | 6 | PREP | 0.16 | 2 | SLC445 | 0.14 | 3 | LRIG1 | 0.12 | | | |
| 12 | PAWR | 0.39 | 11 | VPS37C | 0.19 | 16 | SLC9A5 | 0.16 | 10 | PPP3CB | 0.14 | 1 | NCDN | 0.12 | | | |
| 2 | DARS | 0.38 | 2 | ALMS1-T1 | 0.19 | 1 | AGO3 | 0.16 | 2 | HECW2 | 0.14 | 12 | OSBPPL8 | 0.12 | | | |
| 15 | HERC2 | 0.37 | 2 | INO80B | 0.19 | 13 | UFM1 | 0.16 | 12 | TMT3 | 0.14 | 11 | ORSAS1 | 0.12 | | | |
| 1 | ZMYM4 | 0.37 | 1 | BCAR3 | 0.19 | 7 | C7orf60 | 0.16 | 5 | C5orf34 | 0.14 | 14 | NRXN3 | 0.12 | | | |
| 1 | ZMYM1 | 0.37 | 10 | PIP4K2A | 0.19 | 5 | TMEM232 | 0.16 | 3 | CHMP2B | 0.14 | 20 | CNB2D2 | 0.12 | | | |
| 14 | ACTN1 | 0.37 | 3 | NICN1 | 0.19 | 2 | CCDC148 | 0.16 | 10 | SCD | 0.14 | 16 | LONP2 | 0.12 | | | |
| 7 | LSMEM1 | 0.36 | 16 | TMEM208 | 0.19 | 5 | CENPK | 0.16 | 2 | CENPO | 0.14 | 2 | ADCY3 | 0.12 | | | |
| 12 | SYT1 | 0.35 | 2 | GEN1 | 0.19 | 16 | VKORC1 | 0.16 | 15 | SENPB | 0.14 | 16 | THAP11 | 0.12 | | | |
| 19 | YIF1B | 0.34 | 4 | C4orf46 | 0.19 | 5 | REEPS | 0.16 | 10 | DNJC9 | 0.14 | 4 | WDR19 | 0.12 | | | |
| 2 | R3HDM1 | 0.34 | 16 | GABARAPL2 | 0.19 | 6 | TAAR2 | 0.16 | 22 | CDPF1 | 0.14 | 7 | KCNND2 | 0.12 | | | |
| 15 | SLC12A1 | 0.34 | 15 | FBXL22 | 0.19 | 19 | SPINT2 | 0.16 | 9 | SETX | 0.14 | 8 | TEX15 | 0.12 | | | |
| 4 | DCAF4L1 | 0.33 | 7 | DGKI | 0.19 | 3 | POU1F1 | 0.16 | 16 | N4BP1 | 0.14 | 16 | KAT8 | 0.12 | | | |
| 3 | EPHB1 | 0.33 | 5 | SLC25A46 | 0.19 | 22 | MRLP40 | 0.16 | 7 | SRPK2 | 0.14 | 16 | C16orf70 | 0.12 | | | |
| 3 | LPP | 0.32 | 6 | MRAP2 | 0.19 | 2 | WDR54 | 0.16 | 5 | PAIP1 | 0.14 | 5 | SLC27A6 | 0.12 | | | |
| 2 | LIMS1 | 0.32 | 11 | PGA5 | 0.19 | 8 | PINX1 | 0.16 | 20 | EDEM2 | 0.14 | 6 | PHACTR1 | 0.12 | | | |
| 10 | PCDH15 | 0.32 | 1 | OR2L13 | 0.18 | 16 | ATP6VOO1 | 0.16 | 6 | VNN1 | 0.14 | 7 | MYH16 | 0.12 | | | |
| 2 | RANBP2 | 0.32 | 3 | APEH | 0.18 | 14 | NAA30 | 0.16 | 8 | MTMR9 | 0.14 | 15 | TMEM87A | 0.12 | | | |
| 2 | CCDC138 | 0.30 | 2 | KCNH7 | 0.18 | 9 | PTGS1 | 0.16 | 12 | GOLT1B | 0.14 | 14 | PRKCH | 0.12 | | | |
| 15 | APBA2 | 0.30 | 1 | DLCAP3 | 0.18 | 1 | ROR1 | 0.16 | 12 | STRAP | 0.14 | 10 | GPR158 | 0.12 | | | |
| 12 | TMEM117 | 0.30 | 10 | FUT11 | 0.18 | 7 | PRKAG2 | 0.16 | 15 | MYO5C | 0.14 | 12 | DDX55 | 0.12 | | | |
| 12 | PPPIR12A | 0.30 | 3 | CCDC71 | 0.18 | 16 | CHST5 | 0.16 | 14 | SNAPC1 | 0.14 | 16 | PARN | 0.12 | | | |
| 22 | APOL2 | 0.29 | 2 | CXR4 | 0.18 | 3 | RHOA | 0.16 | 17 | SHMT1 | 0.14 | 5 | SKP2 | 0.12 | | | |
| 1 | SFPQ | 0.29 | 19 | CATSPERG | 0.18 | 3 | ZBTB20 | 0.16 | 3 | PTPLB | 0.14 | 22 | PPARA | 0.12 | | | |
| 7 | TRPV6 | 0.29 | 1 | F5 | 0.18 | 8 | CSDM1 | 0.15 | 1 | BLZF1 | 0.14 | 12 | C12orf29 | 0.12 | | | |
| 2 | SULT1C2 | 0.29 | 1 | ZBTB41 | 0.18 | 1 | PTPN22 | 0.15 | 2 | HADHB | 0.14 | 14 | KHL28 | 0.12 | | | |
| 3 | OXSM | 0.28 | 6 | RPL32P1 | 0.18 | 7 | PTCD1 | 0.15 | 12 | ERC1 | 0.13 | 6 | LMBR1D1 | 0.12 | | | |
| 7 | TRPV5 | 0.28 | 3 | DAG1 | 0.18 | 1 | F13B | 0.15 | 20 | BMP7 | 0.13 | 6 | UTRN | 0.12 | | | |
| 15 | DAPK2 | 0.28 | 16 | ELMO3 | 0.18 | 19 | CNFN | 0.15 | 2 | IFIH1 | 0.13 | 3 | SPTSSB | 0.12 | | | |
| 2 | EXOC6B | 0.28 | 2 | MRLP53 | 0.18 | 22 | CLDN5 | 0.15 | 7 | KEL | 0.13 | 4 | TMEM156 | 0.12 | | | |
| 3 | SLC447 | 0.28 | 6 | TAAR1 | 0.18 | 1 | PHLD43 | 0.15 | 5 | C5orf28 | 0.13 | 15 | KLF13 | 0.12 | | | |
| 10 | MRP516 | 0.28 | 19 | ZNF546 | 0.18 | 6 | HLA-DPA2 | 0.15 | 6 | NKA1N2 | 0.13 | 4 | HMGB1P28 | 0.12 | | | |
| 15 | DUT | 0.27 | 16 | ABC11 | 0.18 | 1 | RPS6KA1 | 0.15 | 15 | DUOX2 | 0.13 | 20 | STK35 | 0.12 | | | |
| 10 | PNL1PPR3 | 0.27 | 6 | CBY5RA | 0.18 | 1 | EV15 | 0.15 | 10 | P4HA1 | 0.13 | 16 | ITGAM | 0.12 | | | |
| 2 | SULT1C4 | 0.27 | 7 | BUD31 | 0.18 | 3 | MYLK | 0.15 | 7 | SDK1 | 0.13 | 22 | APOL3 | 0.12 | | | |
| 22 | MYH9 | 0.26 | 10 | SYNPO2L | 0.18 | 22 | PKDREJ | 0.15 | 22 | APOL4 | 0.13 | 12 | GYS2 | 0.12 | | | |
| 17 | APPBP2 | 0.26 | 3 | KLHDCCB | 0.18 | 10 | NUDT13 | 0.15 | 22 | GTSE1 | 0.13 | 9 | FKTN | 0.12 | | | |
| 9 | BNC2 | 0.26 | 8 | SNTG1 | 0.18 | 8 | SLC35G5 | 0.15 | 20 | DOK5 | 0.13 | 17 | RNF135 | 0.12 | | | |
| 2 | GALNT5 | 0.26 | 13 | PSPC1 | 0.18 | 3 | FOXP1 | 0.15 | 4 | KIAA1109 | 0.13 | 4 | ADH1B | 0.12 | | | |
| 3 | BAI3 | 0.26 | 19 | PSMC4 | 0.18 | 2 | MPLH | 0.15 | 17 | MED13 | 0.13 | 17 | EV12A | 0.12 | | | |
| 16 | PLEKHG4 | 0.26 | 5 | SLC45A2 | 0.18 | 1 | F11R | 0.15 | 16 | TFAP4 | 0.13 | 15 | SIN3A | 0.12 | | | |
| 5 | MCC | 0.25 | 8 | XKR6 | 0.18 | 10 | FAM149B1 | 0.15 | 16 | BCL7C | 0.13 | 3 | HMGB3P12 | 0.12 | | | |
| 1 | PSMB2 | 0.25 | 2 | CCDC142 | 0.18 | 14 | ADAM21 | 0.15 | 21 | TMPRSS3 | 0.13 | 3 | TAF9BP1 | 0.12 | | | |
| 2 | WBPI | 0.25 | 2 | TTC31 | 0.18 | 15 | CSNK1G1 | 0.15 | 15 | MYO9A | 0.13 | 17 | DDX5 | 0.12 | | | |
| 3 | RPB2 | 0.25 | 1 | ASPM | 0.18 | 18 | DTNA | 0.15 | 7 | ATP5J2 | 0.13 | 1 | CDC42BPA | 0.12 | | | |
| 3 | NGLY1 | 0.25 | 10 | AGAP5 | 0.18 | 16 | FBXL8 | 0.15 | 16 | E2F4 | 0.13 | 15 | VPS39 | 0.12 | | | |
| 5 | ARHGAP26 | 0.25 | 2 | LBX2 | 0.18 | 18 | CCDC102B | 0.15 | 16 | TRADD | 0.13 | 16 | ZCCHC14 | 0.12 | | | |
| 7 | TMEM168 | 0.24 | 2 | ASAP2 | 0.17 | 20 | EIF4E2P1 | 0.15 | 1 | CSR1 | 0.13 | 15 | GNB5 | 0.12 | | | |
| 2 | ALMS1 | 0.24 | 2 | CYP26B1 | 0.17 | 20 | LLPHP1 | 0.15 | 8 | PTP4A3 | 0.13 | 5 | ADAMTS6 | 0.12 | | | |
| 3 | TBC1D5 | 0.24 | 11 | NAV2 | 0.17 | 1 | RPL5P4 | 0.15 | 2 | DCTN1 | 0.13 | 1 | ADPRHL2 | 0.12 | | | |
| 1 | OR2L2 | 0.24 | 3 | EPHA6 | 0.17 | 7 | PDAP1 | 0.15 | 7 | CPSF4 | 0.13 | 22 | C22orf39 | 0.12 | | | |
| 2 | SMC6 | 0.24 | 1 | PVRL4 | 0.17 | 10 | PKD2L1 | 0.15 | 1 | TNNI1 | 0.13 | 4 | KLHL5 | 0.12 | | | |
| 7 | CNTNAP2 | 0.24 | 1 | USF1 | 0.17 | 9 | DOCK8 | 0.15 | 16 | FAM65A | 0.13 | 19 | LIPE | 0.12 | | | |
| 14 | EXOC5 | 0.24 | 1 | CRB1 | 0.17 | 3 | C3orf84 | 0.15 | 12 | ATXN2 | 0.13 | 17 | PCTP | 0.12 | | | |
| 1 | KIAA0319L | 0.24 | 8 | BLK | 0.17 | 15 | PKM | 0.15 | 12 | RECQL | 0.13 | 12 | C2CD5 | 0.12 | | | |
| 19 | C19orf33 | 0.23 | 6 | SAMD3 | 0.17 | 11 | VWCE | 0.15 | 15 | PTPN9 | 0.13 | 16 | SDR42E1 | 0.12 | | | |
| 4 | ATP1B1P1 | 0.23 | 23 | GRB44 | 0.17 | 1 | LEPR | 0.15 | 2 | GLU2 | 0.13 | 6 | IL20RA | 0.12 | | | |
| 6 | HLA-DPB1 | 0.23 | 8 | UNCSD | 0.17 | 17 | SLC5A10 | 0.15 | 14 | IGHG1 | 0.13 | 20 | TGM3 | 0.12 | | | |
| 9 | TYRP1 | 0.23 | 2 | NEUROD1 | 0.17 | 3 | CD47 | 0.15 | 1 | ADAM15 | 0.13 | 20 | CPNE1 | 0.12 | | | |
| 16 | ADAT1 | 0.23 | 12 | CACNA1C | 0.17 | 7 | GALNT11 | 0.15 | 2 | THADA | 0.13 | 18 | RIT2 | 0.12 | | | |
| 17 | GRB2 | 0.23 | 16 | FHOD1 | 0.17 | 16 | EXOC3L1 | 0.15 | 8 | EIF3H | 0.13 | 10 | COMM3D | 0.12 | | | |
| 7 | EPHB6 | 0.23 | 6 | HLA-DPA1 | 0.17 | 16 | NOL3 | 0.15 | 4 | TLR1 | 0.13 | 12 | TBC1D30 | 0.12 | | | |
| 15 | HEXA | 0.23 | 6 | HLA-DPB2 | 0.17 | 2 | PDE11A | 0.15 | 22 | UFD1L | 0.13 | 3 | FSTL1 | 0.12 | | | |
| 22 | LARGE | 0.22 | 10 | ZSWIM8 | 0.17 | 1 | SLC445 | 0.15 | 2 | SPR | 0.13 | 22 | MKL1 | 0.12 | | | |
| 10 | USP54 | 0.22 | 14 | PP2RSE | 0.17 | 14 | SYNJ2BP | 0.15 | 2 | DNAH6 | 0.13 | 19 | GGN | 0.12 | | | |
| 3 | TCTA | 0.22 | 10 | NRG3 | 0.17 | 10 | SPAG6 | 0.15 | 9 | CNTLN | 0.13 | 1 | COL8A2 | 0.12 | | | |
| 12 | TEAD4 | 0.22 | 3 | COPB2 | 0.17 | 15 | GRAMD2 | 0.15 | 2 | NCOA1 | 0.13 | 17 | PRPSAP2 | 0.12 | | </td | |

| CHR | GENE NAME | SSI | CHR | GENE NAME | SSI | CHR | GENE NAME | SSI | CHR | GENE NAME | SSI | CHR | GENE NAME | SSI |
|-----|------------------|------|-----|------------------|------|--------|-----------------|------|-----|-----------------|------|-----|---------------------|------|
| 6 | <i>GRIK2</i> | 0.11 | 2 | <i>ERBB4</i> | 0.10 | 1 | <i>SCAMP3</i> | 0.09 | 12 | <i>CD63</i> | 0.08 | 15 | <i>DUOXAI</i> | 0.08 |
| 7 | <i>VWC2</i> | 0.11 | 2 | <i>PKP4</i> | 0.10 | 15 | <i>TRIP4</i> | 0.09 | 8 | <i>FABP4</i> | 0.08 | 16 | <i>RLTPR</i> | 0.08 |
| 18 | <i>CCDC178</i> | 0.11 | 1 | <i>FDPS</i> | 0.10 | 10 | <i>MYOZ1</i> | 0.09 | 12 | <i>IGFBP6</i> | 0.08 | 16 | <i>FTO</i> | 0.08 |
| 3 | <i>LMLN</i> | 0.11 | 3 | <i>GPX1</i> | 0.10 | 18 | <i>ZNF407</i> | 0.09 | 1 | <i>SLC25A34</i> | 0.08 | 17 | <i>HDAC5</i> | 0.08 |
| 3 | <i>MKRN2</i> | 0.11 | 20 | <i>ROMO1</i> | 0.10 | 16 | <i>SETD1A</i> | 0.09 | 13 | <i>TBC1D4</i> | 0.08 | 1 | <i>SMYD3</i> | 0.08 |
| 4 | <i>STK32B</i> | 0.11 | 1 | <i>PRKARIAP</i> | 0.10 | 12 | <i>C12orf50</i> | 0.09 | 7 | <i>BBS9</i> | 0.08 | 1 | <i>FAM69A</i> | 0.08 |
| 20 | <i>SPAG4</i> | 0.11 | 2 | <i>ADAM17</i> | 0.10 | 12 | <i>CDK2AP1</i> | 0.09 | 20 | <i>SRMS</i> | 0.08 | 14 | <i>FANCM</i> | 0.08 |
| 7 | <i>EGFR</i> | 0.11 | 16 | <i>HSD17B2</i> | 0.10 | 14 | <i>RAD51B</i> | 0.09 | 2 | <i>KCN3S</i> | 0.08 | 22 | <i>PRR34</i> | 0.08 |
| 12 | <i>GTF2H3</i> | 0.11 | 12 | <i>KITLG</i> | 0.10 | 1 | <i>OR2LS</i> | 0.09 | 7 | <i>ZNRF2</i> | 0.08 | 2 | <i>DUXAP1</i> | 0.08 |
| 16 | <i>XYLT1</i> | 0.11 | 1 | <i>PDE4B</i> | 0.10 | 14 | <i>EFS</i> | 0.09 | 1 | <i>ACAP3</i> | 0.08 | 7 | <i>OR9A2</i> | 0.08 |
| 7 | <i>CTTNBP2</i> | 0.11 | 4 | <i>ADH7</i> | 0.10 | 11 | <i>DLG2</i> | 0.09 | 2 | <i>CNNM3</i> | 0.08 | 8 | <i>PTTG3P</i> | 0.08 |
| 2 | <i>ZRNBP3</i> | 0.11 | 20 | <i>RALGAPB</i> | 0.10 | 10 | <i>TCF7L2</i> | 0.09 | 17 | <i>SHPK</i> | 0.08 | 13 | <i>ST6GALNAC4P1</i> | 0.08 |
| 12 | <i>GUCY2C</i> | 0.11 | 1 | <i>HCN3</i> | 0.10 | 12 | <i>SH2B3</i> | 0.09 | 3 | <i>SERPIN1</i> | 0.08 | 16 | <i>UBA52P8</i> | 0.08 |
| 7 | <i>TPK1</i> | 0.11 | 12 | <i>MPHOSPH9</i> | 0.10 | 11 | <i>CKAP5</i> | 0.09 | 12 | <i>ST8SIA1</i> | 0.08 | 6 | <i>PBX2</i> | 0.08 |
| 15 | <i>SV2B</i> | 0.11 | 4 | <i>TTCS9CP1</i> | 0.10 | 14 | <i>RPL36AL</i> | 0.09 | 9 | <i>SH3GL2</i> | 0.08 | | | |
| 22 | <i>ZBED4</i> | 0.11 | 22 | <i>SGSM3</i> | 0.10 | 2 | <i>ANTXR1</i> | 0.09 | 2 | <i>IQCA1</i> | 0.08 | | | |
| 13 | <i>RB1</i> | 0.11 | 2 | <i>EMX1</i> | 0.10 | 8 | <i>VPS13B</i> | 0.09 | 1 | <i>OR2AK2</i> | 0.08 | | | |
| 1 | <i>KCNN3</i> | 0.11 | 4 | <i>BMP3</i> | 0.10 | 2 | <i>ACMSD</i> | 0.09 | 6 | <i>RNF5</i> | 0.08 | | | |
| 20 | <i>ID1</i> | 0.11 | 3 | <i>CLEC3B</i> | 0.10 | 16 | <i>EEF2K</i> | 0.09 | 1 | <i>TRAPPC3</i> | 0.08 | | | |
| 16 | <i>KCTD5</i> | 0.11 | 20 | <i>ACSS1</i> | 0.10 | 18 | <i>KLHL14</i> | 0.09 | 10 | <i>HPSE2</i> | 0.08 | | | |
| 1 | <i>OR2L8</i> | 0.11 | 2 | <i>FAP</i> | 0.10 | 16 | <i>CEMP1</i> | 0.09 | 17 | <i>NFI</i> | 0.08 | | | |
| 17 | <i>POLG2</i> | 0.11 | 16 | <i>ZNF668</i> | 0.10 | 16 | <i>RBF0X1</i> | 0.09 | 12 | <i>KCNH3</i> | 0.08 | | | |
| 3 | <i>FAM208A</i> | 0.11 | 14 | <i>DCAF5</i> | 0.10 | 11 | <i>TMEM138</i> | 0.09 | 11 | <i>OAF</i> | 0.08 | | | |
| 20 | <i>CEP250</i> | 0.11 | 1 | <i>SLC9C2</i> | 0.10 | 11 | <i>TMEM216</i> | 0.09 | 3 | <i>CAMKV</i> | 0.08 | | | |
| 8 | <i>RNF170</i> | 0.11 | 1 | <i>EFNA4</i> | 0.10 | 7 | <i>ZNF394</i> | 0.09 | 2 | <i>NEB</i> | 0.08 | | | |
| 9 | <i>INV5</i> | 0.11 | 20 | <i>SCAND1</i> | 0.10 | 11 | <i>MYRF</i> | 0.09 | 15 | <i>MTMR10</i> | 0.08 | | | |
| 16 | <i>CES4A</i> | 0.11 | 12 | <i>CEP290</i> | 0.10 | 3 | <i>GOLM4</i> | 0.09 | 16 | <i>SHCBP1</i> | 0.08 | | | |
| 2 | <i>MAP3K19</i> | 0.11 | 1 | <i>RPAP2</i> | 0.10 | 4 | <i>PPID</i> | 0.09 | 1 | <i>KIAA1107</i> | 0.08 | | | |
| 3 | <i>SEMASB</i> | 0.11 | 1 | <i>GFI1</i> | 0.09 | 8 | <i>NRG1</i> | 0.09 | 17 | <i>MPP2</i> | 0.08 | | | |
| 2 | <i>ABC412</i> | 0.11 | 9 | <i>KANK1</i> | 0.09 | 17 | <i>SMURF2</i> | 0.09 | 7 | <i>CYP3A5</i> | 0.08 | | | |
| 8 | <i>SGK3</i> | 0.11 | 7 | <i>PRSS1</i> | 0.09 | 4 | <i>C4orf22</i> | 0.09 | 12 | <i>EPS8</i> | 0.08 | | | |
| 10 | <i>BM11</i> | 0.11 | 20 | <i>COX4I2</i> | 0.09 | 9 | <i>TTLL11</i> | 0.09 | 12 | <i>NAA25</i> | 0.08 | | | |
| 15 | <i>ARNT2</i> | 0.11 | 22 | <i>TNRC6B</i> | 0.09 | 12 | <i>HMG2</i> | 0.09 | 19 | <i>PGS3</i> | 0.08 | | | |
| 5 | <i>KCNIP1</i> | 0.11 | 8 | <i>PPPI1R42</i> | 0.09 | 7 | <i>ZSCAN25</i> | 0.09 | 4 | <i>RAB28</i> | 0.08 | | | |
| 20 | <i>BCL2L1</i> | 0.11 | 1 | <i>PUSL1</i> | 0.09 | 6 | <i>KCNQ5</i> | 0.09 | 1 | <i>EFNA1</i> | 0.08 | | | |
| 16 | <i>KIAAO895L</i> | 0.11 | 1 | <i>PRDM16</i> | 0.09 | 6 | <i>GPR111</i> | 0.09 | 17 | <i>NTSC</i> | 0.08 | | | |
| 12 | <i>TSPAN9</i> | 0.11 | 6 | <i>COL11A2</i> | 0.09 | 7 | <i>GTF2I</i> | 0.09 | 11 | <i>SLC35C1</i> | 0.08 | | | |
| 2 | <i>FAM49A</i> | 0.11 | 1 | <i>ZBTB7B</i> | 0.09 | 12 | <i>HECTD4</i> | 0.09 | 5 | <i>SGTB</i> | 0.08 | | | |
| 7 | <i>SUGCT</i> | 0.11 | 16 | <i>BCKDK</i> | 0.09 | 8 | <i>PCMTD1</i> | 0.09 | 2 | <i>SSFA2</i> | 0.08 | | | |
| 8 | <i>PSD3</i> | 0.11 | 16 | <i>CTF1</i> | 0.09 | 16 | <i>ACD</i> | 0.09 | 16 | <i>FAM96B</i> | 0.08 | | | |
| 16 | <i>AGR</i> | 0.11 | 16 | <i>PRSS53</i> | 0.09 | 1 | <i>ACKR1</i> | 0.09 | 14 | <i>MGAT2</i> | 0.08 | | | |
| 9 | <i>EHMT1</i> | 0.11 | 8 | <i>SGCZ</i> | 0.09 | 1 | <i>SLC50A1</i> | 0.09 | 17 | <i>EVI2B</i> | 0.08 | | | |
| 11 | <i>AHNAK</i> | 0.11 | 15 | <i>GANC</i> | 0.09 | 2 | <i>TLX2</i> | 0.09 | 7 | <i>OR6V1</i> | 0.08 | | | |
| 14 | <i>C14orf28</i> | 0.11 | 16 | <i>TERF2IP</i> | 0.09 | 2 | <i>NECAP1P2</i> | 0.09 | 2 | <i>DNAJC5G</i> | 0.08 | | | |
| 2 | <i>ERMN</i> | 0.11 | 10 | <i>HIFIAN</i> | 0.09 | 13 | <i>NPM1P22</i> | 0.09 | 19 | <i>HMG20B</i> | 0.08 | | | |
| 10 | <i>MSS51</i> | 0.11 | 11 | <i>TENM4</i> | 0.09 | 1 | <i>OR10J3</i> | 0.09 | 4 | <i>FNIP2</i> | 0.08 | | | |
| 6 | <i>CEP162</i> | 0.10 | 8 | <i>CHRN3</i> | 0.09 | 2 | <i>OR7E28P</i> | 0.09 | 3 | <i>FAIM</i> | 0.08 | | | |
| 8 | <i>RP1L1</i> | 0.10 | 15 | <i>GABRB3</i> | 0.09 | 18 | <i>RP53AP49</i> | 0.09 | 2 | <i>DFNB59</i> | 0.08 | | | |
| 6 | <i>UHRF1BP1</i> | 0.10 | 20 | <i>NFS1</i> | 0.09 | 2 | <i>TAF13P2</i> | 0.09 | 20 | <i>PTK6</i> | 0.08 | | | |
| 15 | <i>FBN1</i> | 0.10 | 14 | <i>RHOJ</i> | 0.09 | 1 | <i>DCT1</i> | 0.09 | 6 | <i>PARK2</i> | 0.08 | | | |
| 8 | <i>POTEA</i> | 0.10 | 17 | <i>RAB11FIP4</i> | 0.09 | 12 | <i>SLCO1B3</i> | 0.09 | 14 | <i>PLEK2</i> | 0.08 | | | |
| 3 | <i>AN010</i> | 0.10 | 4 | <i>RXFP1</i> | 0.09 | 1 | <i>KCNT2</i> | 0.08 | 22 | <i>CCDC134</i> | 0.08 | | | |
| 2 | <i>ACKR3</i> | 0.10 | 3 | <i>KCNAB1</i> | 0.09 | 11 | <i>OR4P4</i> | 0.08 | 3 | <i>MS1R</i> | 0.08 | | | |
| 1 | <i>SCMH1</i> | 0.10 | 8 | <i>THAP1</i> | 0.09 | 11 | <i>OR8H3</i> | 0.08 | 6 | <i>AGER</i> | 0.08 | | | |
| 22 | <i>ADSL</i> | 0.10 | 1 | <i>LHX8</i> | 0.09 | 17 | <i>DHX58</i> | 0.08 | 7 | <i>ARF5</i> | 0.08 | | | |
| 5 | <i>KIF3A</i> | 0.10 | 10 | <i>SEC31B</i> | 0.09 | 17 | <i>GNA13</i> | 0.08 | 7 | <i>ING3</i> | 0.08 | | | |
| 22 | <i>MGAT3</i> | 0.10 | 16 | <i>ORA13</i> | 0.09 | 6 | <i>NCOA7</i> | 0.08 | 8 | <i>CHRN46</i> | 0.08 | | | |
| 8 | <i>PTK2</i> | 0.10 | 2 | <i>RAB17</i> | 0.09 | 4 | <i>PRKG2</i> | 0.08 | 6 | <i>ANKS1A</i> | 0.08 | | | |
| 3 | <i>ARHGEF3</i> | 0.10 | 5 | <i>SEPTB</i> | 0.09 | 2 | <i>PRKRA</i> | 0.08 | 3 | <i>DUSP7</i> | 0.08 | | | |
| 8 | <i>MCMDC2</i> | 0.10 | 22 | <i>MCHR1</i> | 0.09 | 2 | <i>ARL5A</i> | 0.08 | 12 | <i>HOXC13</i> | 0.08 | | | |
| 9 | <i>NXNL2</i> | 0.10 | 22 | <i>RPL3</i> | 0.09 | 8 | <i>ST18</i> | 0.08 | 16 | <i>GFD2</i> | 0.08 | | | |
| 6 | <i>PDE7B</i> | 0.10 | 4 | <i>SORCS2</i> | 0.09 | 5 | <i>PPP2R2B</i> | 0.08 | 4 | <i>BOD1L1</i> | 0.08 | | | |
| 17 | <i>ADAP2</i> | 0.10 | 12 | <i>TMTC2</i> | 0.09 | 1 | <i>SHC1</i> | 0.08 | 4 | <i>SMARCA5</i> | 0.08 | | | |
| 2 | <i>DIRC1</i> | 0.10 | 4 | <i>TMPRSS11B</i> | 0.09 | 16 | <i>ITGAL</i> | 0.08 | 9 | <i>OLFM12A</i> | 0.08 | | | |
| 2 | <i>RAB3GAP1</i> | 0.10 | 20 | <i>FER1L4</i> | 0.09 | 2 | <i>KDM3A</i> | 0.08 | 15 | <i>CTDSP2</i> | 0.08 | | | |
| 6 | <i>AH11</i> | 0.10 | 12 | <i>TCTN2</i> | 0.09 | 22 | <i>TTC2B</i> | 0.08 | 7 | <i>ZNF655</i> | 0.08 | | | |
| 2 | <i>LRPPRC</i> | 0.10 | 20 | <i>RBM39</i> | 0.09 | 12 | <i>SBN01</i> | 0.08 | 22 | <i>CACNA11</i> | 0.08 | | | |
| 2 | <i>KIF3C</i> | 0.10 | 3 | <i>PPARG</i> | 0.09 | 1 | <i>MAG13</i> | 0.08 | 16 | <i>CDH16</i> | 0.08 | | | |
| 16 | <i>CENPT</i> | 0.10 | 8 | <i>HOOK3</i> | 0.09 | 15 | <i>CAPN3</i> | 0.08 | 14 | <i>DNAAF2</i> | 0.08 | | | |
| 15 | <i>FAM96A</i> | 0.10 | 5 | <i>FBN2</i> | 0.09 | 1 | <i>RPL5</i> | 0.08 | 17 | <i>ATP5H</i> | 0.08 | | | |
| 8 | <i>TRPS1</i> | 0.10 | 7 | <i>ZNF789</i> | 0.09 | 14 | <i>AHS1</i> | 0.08 | 16 | <i>RRAD</i> | 0.08 | | | |
| 20 | <i>ERGIC3</i> | 0.10 | 17 | <i>TRPV1</i> | 0.09 | 11 | <i>DAK</i> | 0.08 | 21 | <i>N6AMT1</i> | 0.08 | | | |
| 1 | <i>NOTCH2</i> | 0.10 | 6 | <i>TBC1D7</i> | 0.09 | 22 | <i>PDGFB</i> | 0.08 | 19 | <i>SIPA1L3</i> | 0.08 | | | |
| 2 | <i>ITGB1B1P1</i> | 0.10 | 3 | <i>EIF4E3</i> | 0.09 | 6 | <i>EZR</i> | 0.08 | 22 | <i>TEF</i> | 0.08 | | | |
| 16 | <i>KARS</i> | 0.10 | 13 | <i>ZYMM5</i> | 0.09 | 8 | <i>FABP9</i> | 0.08 | 22 | <i>PMM1</i> | 0.08 | | | |
| 12 | <i>AN02</i> | 0.10 | 11 | <i>F2</i> | 0.09 | 11 | <i>SCGB1D1</i> | 0.08 | 12 | <i>SLC6A15</i> | 0.08 | | | |
| 1 | <i>ANKRD45</i> | 0.10 | 2 | <i>NAT8</i> | 0.09 | 12 | <i>EIF2B1</i> | 0.08 | 19 | <i>MAST1</i> | 0.08 | | | |
| 2 | <i>CACNB4</i> | 0.10 | 16 | <i>PARD6A</i> | 0.09 | 1 | <i>CPSF3L</i> | 0.08 | 9 | <i>EDF1</i> | 0.08 | | | |
| 1 | <i>LRR7</i> | 0.10 | 1 | <i>EFNA3</i> | 0.09 | 22 | <i>TOB2</i> | 0.08 | 6 | <i>GPSM3</i> | 0.08 | | | |
| 5 | <i>NIM1K</i> | 0.10 | 12 | <i>FAM109A</i> | 0.09 | 15 | <i>DUOX2</i> | 0.08 | 22 | <i>ST13</i> | 0.08 | | | |
| 1 | <i>RABGGTB</i> | 0.10 | 2 | <i>SULT1C2P1</i> | 0.09 | 5 | <i>IL13</i> | 0.08 | 15 | <i>CYP19A1</i> | 0.08 | | | |
| 20 | <i>RBM12</i> | 0.10 | 6 | <i>TRDN</i> | 0.09 | 4 | <i>GAB1</i> | 0.08 | 2 | <i>APOB</i> | 0.08 | | | |
| 19 | <i>RASGRP4</i> | 0.10 | 13 | <i>PRR20A</i> | 0.09 | 10</td | | | | | | | | |

Appendix B

Lists of top *FineMAV* candidates

Top 100 *FineMAV* hits in Africans (AFR), East Asians (EAS), Europeans (EUR), Eurasians (EAS+EUR) and non-admixed Native Americans (AMR) are given in the following pages.

| | |
|-------------|--|
| SNP | – Single Nucleotide Polymorphism ID |
| CHR | – chromosome |
| POS | – genomic position |
| DER_ALLELE | – derived allele |
| DAF | – population specific Derived Allele Frequency |
| DAF_GLOB | – Global Derived Allele Frequency (average across populations) |
| DAP | – Derived Allele Purity |
| CADD | – Combined Annotation-Dependent Depletion of derived allele |
| FineMAV | – population specific Fine-Mapping of Adaptive Variation |
| CONSEQUENCE | – most severe consequence according to ENSEMBL (NC stands for non-coding; RNA stands for different types of non-coding RNA including lincRNA, snRNA and miRNA) |
| GENE | – associated gene name |

| SNP | CHR | POS | DER_ALLELE | DAF_AFR | DAF_EAS | DAF_EUR | DAF_GLOB | DAP | CADD | FineMAV_AFR | CONSEQUENCE | GENE |
|-------------|-----|-----------|------------|---------|---------|---------|----------|------|-------|-------------|-------------------------|-----------------|
| rs2814779 | 1 | 159174683 | C | 0.96 | 0.00 | 0.01 | 0.32 | 0.98 | 17.74 | 16.73 | 5 prime UTR | ACKR1 |
| rs7645635 | 3 | 188327555 | C | 0.71 | 0.00 | 0.01 | 0.24 | 0.98 | 23.50 | 16.34 | Missense | LPP |
| rs8052655 | 16 | 67409180 | A | 0.64 | 0.00 | 0.04 | 0.23 | 0.79 | 32.00 | 16.28 | Missense; Regulatory | LRRC36 |
| rs6601495 | 8 | 10480377 | C | 0.77 | 0.00 | 0.01 | 0.26 | 0.97 | 21.00 | 15.73 | Missense | RPL11 |
| rs35999740 | 19 | 22116015 | T | 0.48 | 0.00 | 0.01 | 0.16 | 0.92 | 34.00 | 14.94 | Stop | ZNF208 |
| rs13043 | 3 | 138347988 | C | 0.63 | 0.00 | 0.01 | 0.21 | 0.93 | 23.10 | 13.38 | Missense | FAIM |
| rs1871534 | 8 | 145639681 | C | 0.91 | 0.00 | 0.01 | 0.31 | 0.97 | 14.92 | 13.29 | Missense | SLC39A4 |
| rs10743455 | 12 | 23269297 | C | 0.57 | 0.00 | 0.00 | 0.19 | 1.00 | 21.20 | 12.16 | RNA | |
| rs10955754 | 8 | 116763229 | A | 0.62 | 0.00 | 0.01 | 0.21 | 0.97 | 19.83 | 12.05 | Intron | TRPS1 |
| rs12334173 | 7 | 107698612 | T | 0.64 | 0.00 | 0.01 | 0.22 | 0.90 | 20.20 | 11.77 | Intron | LAMB4 |
| rs7073075 | 10 | 108751261 | A | 0.68 | 0.00 | 0.02 | 0.24 | 0.89 | 19.33 | 11.77 | Intron | SORCS1 |
| rs7749306 | 6 | 10687746 | T | 0.78 | 0.04 | 0.02 | 0.28 | 0.76 | 19.73 | 11.75 | Missense | C6orf52 |
| rs2871874 | 2 | 121696149 | G | 0.59 | 0.00 | 0.01 | 0.20 | 0.92 | 21.70 | 11.75 | Regulatory | GLI2 |
| rs12386710 | 7 | 79665088 | G | 0.57 | 0.00 | 0.00 | 0.19 | 0.98 | 20.40 | 11.45 | Intergenic | |
| rs73129583 | 5 | 91226210 | A | 0.60 | 0.00 | 0.00 | 0.20 | 0.98 | 19.35 | 11.43 | Intergenic | |
| rs4246244 | 12 | 23255870 | G | 0.57 | 0.00 | 0.00 | 0.19 | 1.00 | 19.68 | 11.22 | RNA | |
| rs7860464 | 9 | 710966 | A | 0.55 | 0.00 | 0.02 | 0.19 | 0.89 | 22.60 | 11.13 | Missense | KANK1 |
| rs7091076 | 10 | 108751262 | G | 0.68 | 0.00 | 0.02 | 0.24 | 0.89 | 18.23 | 11.10 | Intron | SORCS1 |
| rs11993782 | 8 | 145004042 | A | 0.83 | 0.00 | 0.01 | 0.28 | 0.97 | 13.85 | 11.08 | Intron | PLEC |
| rs11989050 | 8 | 116781936 | C | 0.70 | 0.00 | 0.00 | 0.24 | 0.97 | 16.29 | 11.08 | Intron | TRPS1 |
| rs7840291 | 8 | 116762150 | A | 0.71 | 0.00 | 0.00 | 0.24 | 0.97 | 16.00 | 10.99 | Intron | TRPS1 |
| rs10016143 | 4 | 149615561 | G | 0.72 | 0.00 | 0.00 | 0.24 | 0.98 | 15.46 | 10.92 | RNA | |
| rs1185511 | 17 | 3627619 | T | 0.59 | 0.00 | 0.00 | 0.20 | 1.00 | 18.44 | 10.82 | Regulatory | GSG2; ITGAE |
| rs16887761 | 8 | 116781627 | C | 0.70 | 0.00 | 0.00 | 0.24 | 0.97 | 15.90 | 10.81 | Intergenic | |
| rs11860295 | 16 | 67316234 | T | 0.69 | 0.00 | 0.07 | 0.26 | 0.70 | 22.20 | 10.79 | Missense | PLEKHG4 |
| rs1346265 | 15 | 45695612 | T | 0.53 | 0.01 | 0.00 | 0.18 | 0.94 | 21.80 | 10.78 | Regulatory | SPATA5L1; GATM |
| rs5962502 | X | 104535693 | C | 0.89 | 0.05 | 0.06 | 0.33 | 0.68 | 17.77 | 10.73 | Intron | IL1RAPL2 |
| rs2467852 | 15 | 45695341 | A | 0.53 | 0.01 | 0.00 | 0.18 | 0.94 | 21.50 | 10.65 | Regulatory | SPATA5L1; GATM |
| rs11121679 | 1 | 11072691 | A | 0.49 | 0.00 | 0.00 | 0.16 | 0.99 | 21.90 | 10.58 | Regulatory; 5 prime UTR | TARDBP |
| rs17005371 | 2 | 26687761 | A | 0.54 | 0.00 | 0.01 | 0.18 | 0.91 | 21.60 | 10.57 | Missense | OTOF |
| rs1093431 | 8 | 54899861 | T | 0.61 | 0.00 | 0.02 | 0.21 | 0.87 | 19.97 | 10.55 | Regulatory | TCEA1 |
| rs73641908 | 9 | 14339646 | C | 0.57 | 0.00 | 0.00 | 0.19 | 0.99 | 18.39 | 10.48 | Intron | NFIB |
| rs6830772 | 4 | 110475069 | C | 0.56 | 0.00 | 0.00 | 0.19 | 0.99 | 18.68 | 10.46 | NC transcript exon | SETP20 |
| rs67954183 | X | 17610532 | T | 0.59 | 0.01 | 0.01 | 0.20 | 0.89 | 19.66 | 10.33 | Regulatory | NHS |
| rs11989722 | 8 | 116662069 | T | 0.63 | 0.00 | 0.01 | 0.21 | 0.97 | 16.68 | 10.28 | Regulatory | TRPS1 |
| rs6468210 | 8 | 33858833 | G | 0.52 | 0.00 | 0.01 | 0.18 | 0.95 | 20.70 | 10.24 | RNA | |
| rs57609710 | 1 | 173560754 | G | 0.65 | 0.00 | 0.01 | 0.22 | 0.97 | 16.00 | 10.16 | Intron | SLC9C2 |
| rs181107182 | X | 39964323 | G | 0.59 | 0.00 | 0.04 | 0.21 | 0.80 | 21.50 | 10.12 | Regulatory | BCOR |
| rs73636231 | X | 104706319 | A | 0.69 | 0.00 | 0.00 | 0.23 | 0.98 | 14.86 | 10.10 | Intron | IL1RAPL2 |
| rs73695330 | 8 | 91295266 | T | 0.50 | 0.01 | 0.00 | 0.17 | 0.95 | 21.20 | 10.08 | RNA | LINC00534 |
| rs11537667 | 16 | 70303659 | T | 0.30 | 0.00 | 0.00 | 0.10 | 0.98 | 34.00 | 10.05 | Missense | AARS |
| rs10044990 | 5 | 107141997 | A | 0.50 | 0.00 | 0.00 | 0.17 | 0.97 | 20.40 | 9.98 | Regulatory | RN7SKP122 |
| rs55844314 | 3 | 46036264 | G | 0.64 | 0.04 | 0.03 | 0.24 | 0.70 | 22.20 | 9.96 | Regulatory | FYCO1 |
| rs6759356 | 2 | 158140806 | C | 0.50 | 0.00 | 0.02 | 0.17 | 0.87 | 22.80 | 9.95 | Missense | GALNT5 |
| rs1427463 | 17 | 62492582 | T | 0.80 | 0.03 | 0.12 | 0.32 | 0.56 | 22.00 | 9.93 | Missense; Regulatory | POLG2 |
| rs692703 | 15 | 41408736 | G | 0.46 | 0.00 | 0.01 | 0.16 | 0.96 | 22.30 | 9.93 | Regulatory | INO80 |
| rs9460973 | 6 | 24175021 | A | 0.49 | 0.00 | 0.02 | 0.17 | 0.84 | 23.80 | 9.92 | Missense | DCDC2 |
| rs698258 | 2 | 176988412 | T | 0.54 | 0.00 | 0.02 | 0.19 | 0.86 | 21.40 | 9.90 | Intron | HOXD9; HOXD10 |
| rs857418 | 6 | 14656031 | C | 0.54 | 0.00 | 0.01 | 0.19 | 0.91 | 19.96 | 9.86 | Regulatory | |
| rs7406656 | 17 | 58832257 | C | 0.81 | 0.02 | 0.11 | 0.31 | 0.61 | 20.10 | 9.85 | Intron | BCAS3 |
| rs7868958 | 9 | 110905201 | G | 0.46 | 0.00 | 0.00 | 0.15 | 0.98 | 22.10 | 9.84 | Regulatory | |
| rs10912654 | 1 | 173601630 | T | 0.70 | 0.00 | 0.01 | 0.23 | 0.98 | 14.36 | 9.80 | Intron | ANKRD45 |
| rs6048066 | 20 | 2291722 | C | 0.43 | 0.00 | 0.00 | 0.14 | 1.00 | 22.70 | 9.77 | Missense | TGM3 |
| rs2122635 | 7 | 131830328 | A | 0.87 | 0.06 | 0.07 | 0.33 | 0.62 | 17.96 | 9.73 | Regulatory | PLXNA4 |
| rs8034559 | 15 | 95105462 | T | 0.49 | 0.00 | 0.01 | 0.17 | 0.97 | 20.40 | 9.70 | Intergenic | |
| rs10093311 | 8 | 54899788 | G | 0.60 | 0.00 | 0.02 | 0.21 | 0.87 | 18.54 | 9.69 | Regulatory | TCEA1 |
| rs7072384 | 10 | 108750921 | C | 0.68 | 0.00 | 0.02 | 0.24 | 0.89 | 15.86 | 9.68 | Intron | SORCS1 |
| rs7723522 | 5 | 100962433 | T | 0.71 | 0.03 | 0.03 | 0.26 | 0.75 | 18.02 | 9.67 | Intergenic | |
| rs10111177 | 8 | 33843454 | T | 0.52 | 0.00 | 0.01 | 0.17 | 0.95 | 19.58 | 9.67 | RNA | |
| rs2408536 | 21 | 24144784 | A | 0.47 | 0.00 | 0.00 | 0.16 | 0.99 | 20.70 | 9.56 | Intergenic | |
| rs10503956 | 8 | 33941001 | A | 0.47 | 0.00 | 0.00 | 0.16 | 0.97 | 20.80 | 9.55 | Intergenic | |
| rs521983 | 13 | 58636124 | T | 0.45 | 0.00 | 0.00 | 0.15 | 0.98 | 21.40 | 9.51 | Intergenic | |
| rs28711384 | 2 | 164867367 | C | 0.61 | 0.00 | 0.01 | 0.20 | 0.96 | 16.27 | 9.50 | RNA | |
| rs34155925 | 4 | 76788564 | T | 0.45 | 0.01 | 0.00 | 0.15 | 0.93 | 22.60 | 9.49 | Missense | PPEF2 |
| rs7705335 | 5 | 72743925 | C | 0.64 | 0.00 | 0.00 | 0.22 | 0.98 | 14.98 | 9.47 | Missense; Regulatory | FOXD1 |
| rs331537 | 11 | 4471276 | A | 0.72 | 0.03 | 0.03 | 0.26 | 0.74 | 17.78 | 9.46 | Missense | OR52K2 |
| rs17105909 | 14 | 37473678 | A | 0.56 | 0.00 | 0.00 | 0.19 | 0.99 | 16.97 | 9.42 | Intron | SLC25A21 |
| rs5965014 | X | 64988114 | T | 0.71 | 0.00 | 0.00 | 0.24 | 0.99 | 13.36 | 9.40 | Downstream gene | NANOGP9 |
| rs1657220 | 10 | 34816233 | T | 0.62 | 0.00 | 0.05 | 0.22 | 0.76 | 19.96 | 9.40 | Regulatory | PARD3 |
| rs7103594 | 11 | 78320673 | A | 0.63 | 0.00 | 0.01 | 0.21 | 0.97 | 15.34 | 9.38 | Intergenic | |
| rs983763 | 4 | 185981720 | G | 0.72 | 0.00 | 0.00 | 0.24 | 0.99 | 13.26 | 9.35 | RNA | |
| rs733495 | 8 | 72472156 | C | 0.47 | 0.00 | 0.00 | 0.16 | 1.00 | 19.99 | 9.35 | RNA | |
| rs16945912 | 15 | 63133002 | C | 0.57 | 0.01 | 0.02 | 0.20 | 0.85 | 19.16 | 9.34 | 3 prime UTR | TLN2 |
| rs6982495 | 8 | 34790660 | T | 0.55 | 0.00 | 0.02 | 0.19 | 0.90 | 18.87 | 9.33 | Intergenic | |
| rs6883147 | 5 | 68176952 | C | 0.53 | 0.00 | 0.00 | 0.18 | 0.97 | 18.12 | 9.32 | RNA | |
| rs7090581 | 10 | 26504928 | A | 0.48 | 0.00 | 0.00 | 0.16 | 0.99 | 19.86 | 9.31 | Regulatory | GAD2; MYO3A |
| rs7095872 | 10 | 112435986 | C | 0.57 | 0.00 | 0.00 | 0.19 | 0.98 | 16.52 | 9.30 | Regulatory | RBM20 |
| rs6556137 | 5 | 133019116 | C | 0.50 | 0.00 | 0.02 | 0.17 | 0.88 | 21.10 | 9.28 | Intergenic | |
| rs2610724 | 6 | 89883001 | A | 0.52 | 0.00 | 0.00 | 0.18 | 0.95 | 18.62 | 9.25 | Intron | RNGTT |
| rs1128308 | 14 | 105954682 | G | 0.60 | 0.00 | 0.02 | 0.21 | 0.86 | 18.10 | 9.25 | Regulatory | CRIP1; C14orf80 |
| rs6659237 | 1 | 147026125 | G | 0.67 | 0.00 | 0.04 | 0.24 | 0.81 | 17.10 | 9.24 | Intron | BCL9 |
| rs1464836 | 7 | 108478693 | A | 0.52 | 0.00 | 0.01 | 0.17 | 0.95 | 18.69 | 9.23 | Intergenic | |
| rs60081219 | X | 53710797 | A | 0.67 | 0.02 | 0.01 | 0.23 | 0.85 | 16.23 | 9.22 | Regulatory | HUWE1 |
| rs1253835 | 13 | 106223388 | G | 0.56 | 0.01 | 0.02 | 0.20 | 0.85 | 19.26 | 9.22 | Intergenic | |
| rs7106654 | 11 | 47203983 | A | 0.36 | 0.00 | 0.01 | 0.12 | 0.95 | 27.10 | 9.20 | Missense | PAC5IN3 |
| rs1871148 | 3 | 71102544 | C | 0.48 | 0.00 | 0.00 | 0.16 | 0.99 | 19.14 | 9.19 | Intron | FOXP1 |
| rs201113 | 10 | 11048264 | C | 0.79 | 0.00 | 0.10 | 0.30 | 0.65 | 17.79 | 9.13 | Regulatory | CELF2 |
| rs7268805 | 20 | 11198959 | G | 0.59 | 0.00 | 0.02 | 0.21 | 0.85 | 18.27 | 9.11 | Missense; Splice | NRK |
| rs16984889 | X | 105168689 | A | 0.44 | 0.00 | 0.00 | 0.15 | 0. | | | | |

| SNP | CHR | POS | DER ALLELE | DAF AFR | DAF EAS | DAF EUR | DAF GLOB | DAP | CADD | FineMAV | EAS | CONSEQUENCE | GENE |
|------------|-----|-----------|------------|---------|---------|---------|----------|------|-------|---------|----------------------|------------------|-------------------|
| rs1343879 | X | 75004529 | A | 0.03 | 0.83 | 0.03 | 0.30 | 0.79 | 35.00 | 23.01 | | Stop | MAGEE2 |
| rs2293766 | 7 | 100371358 | A | 0.02 | 0.51 | 0.01 | 0.18 | 0.82 | 47.00 | 19.48 | | Stop | ZAN |
| rs3827760 | 2 | 109513601 | G | 0.00 | 0.87 | 0.01 | 0.30 | 0.95 | 22.30 | 18.42 | | Missense | EDAR |
| rs1800414 | 15 | 28197037 | C | 0.00 | 0.60 | 0.00 | 0.20 | 1.00 | 24.10 | 14.31 | | Missense; Splice | OCA2 |
| rs72617608 | Y | 2863171 | A | 0.00 | 0.82 | 0.00 | 0.27 | 1.00 | 17.31 | 14.12 | NC transcript exon | EEF1A1P41 | |
| rs11150606 | 16 | 31090911 | C | 0.01 | 0.76 | 0.03 | 0.27 | 0.84 | 21.30 | 13.66 | | Missense | PRSS53 |
| rs3732240 | 2 | 71366957 | A | 0.00 | 0.43 | 0.02 | 0.15 | 0.87 | 32.00 | 12.12 | | Missense | MPHOSPH10 |
| rs17027638 | 3 | 3197918 | G | 0.00 | 0.70 | 0.02 | 0.24 | 0.88 | 19.75 | 12.07 | | Synonymous | CRBN |
| rs34537429 | 2 | 26296089 | G | 0.00 | 0.86 | 0.02 | 0.30 | 0.90 | 15.53 | 12.00 | | Regulatory | RAB10 |
| rs72627476 | 10 | 109451118 | G | 0.00 | 0.86 | 0.01 | 0.29 | 0.95 | 14.61 | 11.91 | | Intron | CCDC138 |
| rs12678022 | 8 | 73837442 | A | 0.01 | 0.78 | 0.04 | 0.28 | 0.82 | 18.45 | 11.76 | | Intron | KCNB2 |
| rs17822931 | 16 | 48258198 | T | 0.01 | 0.78 | 0.14 | 0.31 | 0.54 | 26.50 | 11.26 | | Missense | ABCC11 |
| rs72630048 | X | 71715133 | A | 0.04 | 0.73 | 0.01 | 0.26 | 0.79 | 16.04 | 10.97 | | Regulatory | HDAC8 |
| rs11217799 | 11 | 120164954 | C | 0.01 | 0.65 | 0.00 | 0.22 | 0.96 | 17.49 | 10.96 | | Intron | POU2F3 |
| rs4411467 | 15 | 93588043 | A | 0.03 | 0.68 | 0.04 | 0.25 | 0.73 | 22.00 | 10.96 | 3 prime UTR | RGMA | |
| rs37365004 | 11 | 45975130 | T | 0.00 | 0.56 | 0.03 | 0.20 | 0.83 | 23.60 | 10.92 | | Missense | PHF21A |
| rs9360004 | 6 | 93673482 | A | 0.02 | 0.71 | 0.01 | 0.25 | 0.88 | 17.46 | 10.88 | | Intergenic | |
| rs4688744 | 3 | 50249500 | A | 0.00 | 0.62 | 0.01 | 0.21 | 0.93 | 18.13 | 10.43 | | Regulatory | SLC38A3 |
| rs12921053 | 16 | 82867623 | A | 0.06 | 0.76 | 0.02 | 0.28 | 0.70 | 19.41 | 10.42 | | Regulatory | CDH13 |
| rs35685348 | 15 | 64759279 | T | 0.04 | 0.79 | 0.09 | 0.31 | 0.59 | 21.80 | 10.25 | | Intron | ZNF609 |
| rs1047781 | 19 | 49206631 | T | 0.00 | 0.44 | 0.00 | 0.15 | 1.00 | 23.20 | 10.20 | | Missense | FUT2 |
| rs74595980 | 3 | 50198840 | C | 0.00 | 0.63 | 0.01 | 0.21 | 0.92 | 17.44 | 10.15 | | Intron | SEMA3F |
| rs58137261 | 3 | 50187637 | C | 0.00 | 0.63 | 0.01 | 0.21 | 0.92 | 17.49 | 10.11 | | Regulatory | SEMA3F |
| rs2072053 | 3 | 50197092 | T | 0.00 | 0.63 | 0.01 | 0.21 | 0.92 | 17.47 | 10.10 | Synonymous | SEMA3F | |
| rs6609051 | X | 39938225 | C | 0.00 | 0.64 | 0.03 | 0.23 | 0.83 | 18.81 | 10.01 | | Intron | BCOR |
| rs16986619 | 2 | 19740980 | C | 0.02 | 0.70 | 0.07 | 0.26 | 0.65 | 22.00 | 9.95 | | Regulatory | |
| rs72612108 | 8 | 32306158 | A | 0.01 | 0.61 | 0.02 | 0.21 | 0.84 | 19.25 | 9.91 | | Regulatory | NRG1 |
| rs2240227 | 19 | 15852242 | A | 0.01 | 0.61 | 0.05 | 0.22 | 0.72 | 22.30 | 9.85 | | Missense | OR10H3 |
| rs2282440 | 1 | 31347320 | A | 0.01 | 0.52 | 0.01 | 0.18 | 0.83 | 22.50 | 9.79 | | Missense | SDC3 |
| rs10496971 | 2 | 145769943 | G | 0.07 | 0.79 | 0.07 | 0.31 | 0.57 | 21.10 | 9.58 | Regulatory; RNA | TEX41 | |
| rs2242406 | 16 | 75574030 | T | 0.01 | 0.70 | 0.04 | 0.25 | 0.78 | 17.33 | 9.56 | | Synonymous | TMEM231 |
| rs936212 | 15 | 40581543 | C | 0.00 | 0.56 | 0.01 | 0.19 | 0.91 | 18.69 | 9.53 | | Missense | PLCB2 |
| rs289817 | 15 | 63795675 | A | 0.08 | 0.91 | 0.13 | 0.37 | 0.49 | 22.00 | 9.49 | | Regulatory | USP3 |
| rs245821 | 5 | 142403197 | A | 0.00 | 0.43 | 0.00 | 0.14 | 1.00 | 21.70 | 9.43 | | Regulatory | ARHGPAP26 |
| rs61687236 | X | 74860977 | A | 0.03 | 0.83 | 0.03 | 0.29 | 0.79 | 14.34 | 9.40 | | Intergenic | |
| rs12607385 | 18 | 47777937 | A | 0.00 | 0.43 | 0.01 | 0.14 | 0.93 | 23.70 | 9.36 | | Missense | CFAP53 |
| rs17143187 | 7 | 20666235 | C | 0.01 | 0.45 | 0.01 | 0.16 | 0.85 | 24.10 | 9.26 | | Splice | ABC85 |
| rs79525262 | 17 | 48639367 | A | 0.01 | 0.82 | 0.12 | 0.31 | 0.61 | 18.46 | 9.22 | | Intron | CACNA1G |
| rs108046 | 19 | 14582468 | A | 0.04 | 0.82 | 0.09 | 0.32 | 0.60 | 18.51 | 9.14 | | Missense | PKN1; PTGER1 |
| rs12231744 | 12 | 112477055 | C | 0.05 | 0.57 | 0.00 | 0.21 | 0.72 | 22.10 | 9.10 | | Missense | NAA25 |
| rs72612111 | 8 | 32345444 | A | 0.00 | 0.57 | 0.02 | 0.20 | 0.84 | 18.89 | 9.02 | | Regulatory | NRG1 |
| rs3843699 | 15 | 64637091 | T | 0.01 | 0.76 | 0.08 | 0.28 | 0.69 | 17.18 | 9.01 | | Regulatory | CSNK1G1 |
| rs10497377 | 2 | 172926226 | T | 0.01 | 0.44 | 0.01 | 0.15 | 0.88 | 23.40 | 9.00 | | Missense; Splice | METAP1D |
| rs12036697 | 1 | 152878909 | G | 0.00 | 0.52 | 0.00 | 0.18 | 0.98 | 17.67 | 8.99 | | Regulatory | IVL |
| rs2074000 | 7 | 20685484 | A | 0.00 | 0.45 | 0.01 | 0.15 | 0.90 | 22.20 | 8.97 | | Missense | ABC85 |
| rs2224442 | 14 | 97272382 | G | 0.12 | 0.83 | 0.05 | 0.34 | 0.51 | 21.10 | 8.93 | | Regulatory | VRK1 |
| rs77017835 | 7 | 100377364 | A | 0.03 | 0.51 | 0.01 | 0.18 | 0.76 | 22.90 | 8.89 | | Missense | ZAN |
| rs2236943 | 3 | 50278613 | A | 0.00 | 0.62 | 0.01 | 0.21 | 0.93 | 15.31 | 8.81 | | Intron | GNA12 |
| rs61186727 | 3 | 149801650 | A | 0.00 | 0.43 | 0.00 | 0.14 | 0.97 | 21.10 | 8.81 | | Regulatory | |
| rs77794375 | 7 | 100285476 | T | 0.02 | 0.50 | 0.01 | 0.18 | 0.79 | 22.40 | 8.77 | | Missense | GIGYF1 |
| rs58361699 | 9 | 14241650 | C | 0.00 | 0.51 | 0.01 | 0.17 | 0.92 | 18.57 | 8.72 | | Regulatory | NFIB |
| rs2897762 | X | 12212919 | G | 0.00 | 0.62 | 0.04 | 0.22 | 0.77 | 18.19 | 8.70 | | Intron | FRMPD4 |
| rs16938528 | 8 | 73866368 | A | 0.01 | 0.78 | 0.04 | 0.28 | 0.80 | 13.90 | 8.66 | | RNA | |
| rs11217775 | 11 | 120121323 | C | 0.02 | 0.62 | 0.03 | 0.22 | 0.78 | 17.99 | 8.62 | | Intron | GNA12 |
| rs1017570 | 12 | 54245951 | T | 0.04 | 0.64 | 0.05 | 0.24 | 0.64 | 21.00 | 8.61 | | Intergenic | POU2F3 |
| rs727250 | X | 71645222 | G | 0.05 | 0.73 | 0.01 | 0.26 | 0.74 | 15.93 | 8.60 | | Intron | HDAC8 |
| rs79117849 | 3 | 50370841 | G | 0.00 | 0.62 | 0.01 | 0.21 | 0.93 | 14.85 | 8.57 | | Intron | RASSF1 |
| rs6123230 | 20 | 51566360 | T | 0.01 | 0.55 | 0.04 | 0.20 | 0.75 | 20.90 | 8.57 | | Intergenic | |
| rs2235371 | 1 | 209964080 | T | 0.00 | 0.43 | 0.01 | 0.15 | 0.88 | 22.50 | 8.54 | Missense; Regulatory | IRF6 | |
| rs29292114 | 15 | 65876969 | A | 0.00 | 0.43 | 0.01 | 0.15 | 0.93 | 21.00 | 8.51 | | Intron | VWA9 |
| rs12638212 | 3 | 108159977 | A | 0.04 | 0.56 | 0.04 | 0.21 | 0.62 | 24.40 | 8.48 | Missense; Regulatory | MYH15 | |
| rs12643176 | 4 | 38253288 | C | 0.00 | 0.72 | 0.03 | 0.25 | 0.86 | 13.77 | 8.48 | | Intergenic | |
| rs7711270 | 5 | 141870940 | C | 0.00 | 0.57 | 0.03 | 0.20 | 0.81 | 18.25 | 8.47 | | Regulatory | |
| rs80166022 | 7 | 83487913 | G | 0.01 | 0.61 | 0.01 | 0.21 | 0.90 | 15.24 | 8.44 | | Intergenic | |
| rs58402910 | 11 | 131279607 | T | 0.05 | 0.62 | 0.01 | 0.23 | 0.74 | 18.06 | 8.35 | | Intron | NTM |
| rs12622852 | 2 | 1740954 | G | 0.00 | 0.77 | 0.08 | 0.28 | 0.70 | 15.46 | 8.31 | | Regulatory | |
| rs10433910 | 4 | 80852826 | C | 0.04 | 0.66 | 0.05 | 0.25 | 0.62 | 20.30 | 8.30 | | Intron | ANTXR2 |
| rs66112369 | X | 55829607 | A | 0.01 | 0.62 | 0.00 | 0.21 | 0.95 | 14.00 | 8.27 | | Intergenic | |
| rs3795786 | 1 | 228469903 | T | 0.02 | 0.29 | 0.01 | 0.11 | 0.76 | 37.00 | 8.26 | | Stop | OBSCN |
| rs4912861 | 5 | 141888970 | C | 0.00 | 0.53 | 0.05 | 0.19 | 0.74 | 20.90 | 8.23 | | Regulatory | |
| rs9384327 | 6 | 155752362 | C | 0.01 | 0.69 | 0.07 | 0.26 | 0.68 | 17.59 | 8.19 | | Intron | NOX3 |
| rs12585165 | 13 | 74150425 | T | 0.03 | 0.60 | 0.01 | 0.21 | 0.80 | 17.08 | 8.18 | | RNA | LINC00392 |
| rs9634714 | 13 | 34908238 | A | 0.01 | 0.78 | 0.05 | 0.28 | 0.78 | 13.39 | 8.16 | | Intergenic | |
| rs11014573 | 10 | 25758874 | G | 0.01 | 0.56 | 0.00 | 0.19 | 0.94 | 15.45 | 8.13 | | Intron | GPR158 |
| rs12688902 | X | 71695388 | G | 0.04 | 0.71 | 0.01 | 0.25 | 0.78 | 14.53 | 8.10 | | Regulatory | HDAC8 |
| rs2922849 | 8 | 6456740 | T | 0.00 | 0.46 | 0.02 | 0.16 | 0.85 | 20.80 | 8.09 | | Regulatory | MCPH1 |
| rs12492683 | 3 | 50351598 | T | 0.00 | 0.62 | 0.01 | 0.21 | 0.93 | 14.00 | 8.08 | Upstream gene | HYAL1; HYAL2 | |
| rs72630058 | X | 71880808 | T | 0.04 | 0.68 | 0.01 | 0.24 | 0.79 | 15.01 | 8.07 | | Intron | PHKA1 |
| rs965305 | 15 | 98271950 | T | 0.01 | 0.56 | 0.05 | 0.21 | 0.69 | 20.70 | 8.02 | | RNA | LINC00923 |
| rs2140929 | 10 | 80304118 | A | 0.00 | 0.45 | 0.00 | 0.15 | 0.97 | 18.21 | 7.99 | Regulatory; RNA | LINC00856 | |
| rs12622360 | 2 | 60610224 | A | 0.00 | 0.61 | 0.06 | 0.23 | 0.70 | 18.82 | 7.99 | | RNA | RNU1-32P; MIR4432 |
| rs3824883 | 11 | 120172688 | T | 0.00 | 0.60 | 0.00 | 0.20 | 0.97 | 13.61 | 7.99 | NC transcript exon | POU2F3 | |
| rs4688683 | 3 | 50239464 | T | 0.00 | 0.61 | 0.01 | 0.21 | 0.93 | 13.88 | 7.95 | | Regulatory | SLC38A3 |
| rs4935502 | 10 | 55955444 | G | 0.13 | 0.84 | 0.13 | 0.37 | 0.38 | 24.50 | 7.91 | | Missense; Splice | PCDH15 |
| rs60041373 | 7 | 109419462 | C | 0.00 | 0.40 | 0.00 | 0.14 | 0.96 | 20.50 | 7.91 | | Intergenic | |
| rs9363019 | 6 | 93628360 | G | 0.02 | 0.73 | 0.13 | 0.29 | 0.53 | | | | | |

| SNP | CHR | POS | DER_ALLELE | DAF_AFR | DAF_EAS | DAF_EUR | DAF_GLOB | DAP | CADD | FineMAV_EUR | CONSEQUENCE | GENE |
|------------|-----|------------|------------|---------|---------|---------|----------|------|-------|-------------|-------------------------|----------------|
| rs1691982 | 5 | 33951693 | G | 0.04 | 0.01 | 0.94 | 0.33 | 0.86 | 26.30 | 21.21 | Missense | SLC45A2 |
| rs1426654 | 15 | 48426484 | A | 0.07 | 0.01 | 1.00 | 0.36 | 0.75 | 18.75 | 13.99 | Missense | SLC24A5 |
| rs10962600 | 9 | 16795783 | T | 0.02 | 0.00 | 0.73 | 0.25 | 0.89 | 18.33 | 11.92 | Regulatory | BNC2 |
| rs12939056 | 17 | 7754993 | A | 0.01 | 0.00 | 0.58 | 0.20 | 0.92 | 22.00 | 11.65 | Regulatory; Synonymous | KDM6B; TMEM88 |
| rs12142199 | 1 | 1249187 | A | 0.07 | 0.02 | 0.81 | 0.30 | 0.71 | 19.45 | 11.07 | Missense | CPSF3L |
| rs12881545 | 14 | 101176212 | C | 0.03 | 0.01 | 0.65 | 0.23 | 0.83 | 19.95 | 10.78 | Regulatory | |
| rs11073964 | 15 | 91543761 | C | 0.04 | 0.00 | 0.60 | 0.21 | 0.78 | 22.40 | 10.56 | Missense | VPS3B |
| rs6705778 | 2 | 104490395 | G | 0.04 | 0.00 | 0.71 | 0.25 | 0.81 | 18.05 | 10.36 | RNA | |
| rs1472932 | 17 | 19220666 | A | 0.06 | 0.00 | 0.81 | 0.29 | 0.76 | 16.51 | 10.17 | Regulatory | EPN2 |
| rs4851673 | 2 | 104817402 | G | 0.08 | 0.00 | 0.74 | 0.28 | 0.69 | 19.88 | 10.14 | Intergenic | |
| rs7580 | X | 71493691 | T | 0.10 | 0.01 | 0.75 | 0.29 | 0.63 | 21.30 | 10.09 | Regulatory; Synonymous | RPS4X; PIN4 |
| rs12350739 | 9 | 16885017 | A | 0.02 | 0.01 | 0.56 | 0.20 | 0.87 | 20.40 | 10.01 | Regulatory | |
| rs1446585 | 2 | 136407479 | A | 0.03 | 0.00 | 0.54 | 0.19 | 0.84 | 21.70 | 9.84 | Missense | R3HDM1 |
| rs34938541 | 2 | 104830710 | T | 0.09 | 0.00 | 0.76 | 0.29 | 0.66 | 18.73 | 9.46 | Intergenic | |
| rs17261772 | 2 | 135911422 | T | 0.03 | 0.00 | 0.59 | 0.21 | 0.84 | 19.07 | 9.40 | Missense | RAB3GAPI |
| rs10756789 | 9 | 16720122 | G | 0.02 | 0.00 | 0.63 | 0.22 | 0.89 | 16.53 | 9.30 | Regulatory | BNC2 |
| rs12128213 | 1 | 200197538 | G | 0.02 | 0.01 | 0.51 | 0.18 | 0.82 | 21.60 | 9.11 | Regulatory | |
| rs1355128 | 17 | 19299144 | A | 0.04 | 0.00 | 0.78 | 0.27 | 0.84 | 13.93 | 9.10 | Intergenic | |
| rs13037496 | 20 | 314665534 | T | 0.05 | 0.01 | 0.48 | 0.18 | 0.70 | 26.50 | 8.99 | Missense | EFCAB8 |
| rs35517488 | 7 | 113362256 | T | 0.03 | 0.01 | 0.51 | 0.18 | 0.80 | 21.90 | 8.97 | Intergenic | |
| rs28591622 | 17 | 19175317 | A | 0.06 | 0.00 | 0.81 | 0.29 | 0.76 | 14.24 | 8.77 | Intron | EPN2 |
| rs7637449 | 3 | 56628031 | A | 0.07 | 0.05 | 0.54 | 0.22 | 0.49 | 33.00 | 8.68 | Missense | CCDC66 |
| rs4508618 | 2 | 104763415 | G | 0.06 | 0.00 | 0.74 | 0.27 | 0.74 | 15.80 | 8.65 | RNA | |
| rs2026805 | 9 | 16800789 | A | 0.02 | 0.00 | 0.72 | 0.25 | 0.89 | 13.39 | 8.59 | Intron | BNC2 |
| rs13027794 | 2 | 216577817 | T | 0.09 | 0.00 | 0.70 | 0.26 | 0.66 | 18.55 | 8.54 | Regulatory; RNA | LINC00607 |
| rs2842895 | 6 | 7106316 | C | 0.03 | 0.01 | 0.54 | 0.19 | 0.81 | 19.37 | 8.54 | Upstream gene | RREB1 |
| rs35135256 | 2 | 104788566 | G | 0.08 | 0.00 | 0.74 | 0.28 | 0.68 | 16.79 | 8.52 | Intergenic | |
| rs10756812 | 9 | 16786303 | A | 0.02 | 0.00 | 0.69 | 0.24 | 0.89 | 13.69 | 8.50 | Intron | BNC2 |
| rs12913832 | 15 | 28365618 | G | 0.03 | 0.00 | 0.64 | 0.22 | 0.85 | 15.66 | 8.48 | Intron | HERC2 |
| rs1042602 | 11 | 88911696 | A | 0.01 | 0.00 | 0.37 | 0.13 | 0.89 | 25.40 | 8.37 | Missense | TYR |
| rs12345910 | 9 | 16802118 | C | 0.02 | 0.00 | 0.72 | 0.25 | 0.89 | 12.71 | 8.23 | Regulatory | BNC2 |
| rs17675094 | 16 | 82949088 | C | 0.02 | 0.03 | 0.60 | 0.22 | 0.73 | 18.41 | 8.08 | Intron | CDH13 |
| rs11788101 | 9 | 16828961 | T | 0.02 | 0.00 | 0.55 | 0.19 | 0.89 | 15.94 | 7.85 | Regulatory | BNC2 |
| rs776912 | 1 | 10847784 | A | 0.06 | 0.00 | 0.65 | 0.24 | 0.71 | 16.93 | 7.81 | Intron | CASZ1 |
| rs4676964 | 3 | 71034748 | T | 0.04 | 0.01 | 0.52 | 0.19 | 0.72 | 20.80 | 7.79 | Intron | FOXP1 |
| rs7568863 | 2 | 104642666 | A | 0.05 | 0.00 | 0.59 | 0.21 | 0.76 | 17.29 | 7.74 | RNA | |
| rs679539 | 18 | 7743989 | A | 0.04 | 0.00 | 0.47 | 0.17 | 0.75 | 21.60 | 7.70 | Intron | PTPRM |
| rs11751128 | 6 | 1555561796 | T | 0.01 | 0.00 | 0.28 | 0.10 | 0.81 | 34.00 | 7.62 | Missense | TIAM2 |
| rs10960774 | 9 | 12739313 | G | 0.05 | 0.01 | 0.59 | 0.22 | 0.72 | 17.65 | 7.58 | Regulatory | |
| rs9874207 | 3 | 71019750 | T | 0.03 | 0.00 | 0.51 | 0.18 | 0.80 | 18.54 | 7.57 | Intron | FOXP1 |
| rs6057598 | 20 | 31168281 | C | 0.05 | 0.07 | 0.71 | 0.28 | 0.57 | 18.25 | 7.43 | RNA; Intron | NOL4L |
| rs10178579 | 2 | 139231958 | A | 0.03 | 0.01 | 0.50 | 0.18 | 0.73 | 20.30 | 7.42 | Regulatory; RNA | |
| rs12727510 | 1 | 214356500 | T | 0.03 | 0.01 | 0.62 | 0.22 | 0.80 | 14.91 | 7.41 | Intergenic | |
| rs1249090 | 1 | 48153140 | G | 0.04 | 0.04 | 0.53 | 0.20 | 0.63 | 22.20 | 7.41 | Regulatory | |
| rs11170700 | 12 | 54210635 | T | 0.03 | 0.01 | 0.47 | 0.17 | 0.77 | 20.40 | 7.41 | RNA | RN7SKP289 |
| rs10810606 | 9 | 16754982 | A | 0.03 | 0.00 | 0.69 | 0.24 | 0.88 | 12.15 | 7.39 | Intron | BNC2 |
| rs12344347 | 9 | 16769662 | T | 0.02 | 0.00 | 0.69 | 0.24 | 0.89 | 11.92 | 7.38 | Intron | BNC2 |
| rs13281090 | 8 | 66590479 | A | 0.05 | 0.00 | 0.53 | 0.19 | 0.74 | 18.60 | 7.36 | Intron | MTFR1 |
| rs12915092 | 15 | 56035767 | A | 0.02 | 0.02 | 0.50 | 0.18 | 0.81 | 18.13 | 7.35 | Regulatory | PRTG |
| rs4357572 | 1 | 50576710 | A | 0.03 | 0.03 | 0.54 | 0.20 | 0.68 | 19.76 | 7.32 | Intron | ELAVL4 |
| rs1052023 | 19 | 42799049 | T | 0.01 | 0.00 | 0.39 | 0.13 | 0.91 | 20.50 | 7.29 | Synonymous | CIC |
| rs1126809 | 11 | 89017961 | A | 0.01 | 0.00 | 0.25 | 0.09 | 0.87 | 33.00 | 7.27 | Missense | TYR |
| rs561828 | 11 | 126035297 | C | 0.04 | 0.01 | 0.49 | 0.18 | 0.72 | 20.20 | 7.19 | RNA | |
| rs9887642 | X | 71348837 | A | 0.06 | 0.03 | 0.79 | 0.29 | 0.68 | 13.31 | 7.17 | Regulatory; 3 prime UTR | RGAG4; NHL52 |
| rs10421769 | 19 | 33605312 | T | 0.03 | 0.01 | 0.65 | 0.23 | 0.81 | 13.54 | 7.15 | Missense | GPATCH1 |
| rs2217415 | 2 | 137731295 | T | 0.03 | 0.01 | 0.49 | 0.18 | 0.78 | 18.75 | 7.12 | Intron | THSD7B |
| rs7593295 | 2 | 104781454 | C | 0.06 | 0.00 | 0.74 | 0.27 | 0.74 | 12.92 | 7.06 | Regulatory | |
| rs17856697 | 17 | 7348625 | G | 0.01 | 0.00 | 0.35 | 0.12 | 0.87 | 22.80 | 7.05 | Missense; Regulatory | CHRN1; FGF11 |
| rs13222241 | 7 | 113393990 | A | 0.03 | 0.01 | 0.53 | 0.19 | 0.80 | 16.72 | 7.04 | Intergenic | |
| rs89962 | 12 | 52915172 | T | 0.02 | 0.01 | 0.41 | 0.15 | 0.81 | 21.10 | 7.01 | Upstream gene | KRT5 |
| rs637316 | X | 72489427 | A | 0.04 | 0.02 | 0.67 | 0.24 | 0.75 | 13.67 | 6.92 | Intergenic | |
| rs55930529 | 8 | 144905741 | T | 0.02 | 0.01 | 0.53 | 0.18 | 0.86 | 15.10 | 6.92 | Regulatory | PUF60 |
| rs11781090 | 8 | 148471633 | T | 0.02 | 0.01 | 0.53 | 0.19 | 0.79 | 16.62 | 6.91 | Downstream gene | SCRIB |
| rs6707475 | 2 | 74710491 | C | 0.09 | 0.18 | 0.84 | 0.37 | 0.38 | 21.70 | 6.91 | Missense; Regulatory | TTC31; CCDC142 |
| rs597894 | X | 71551322 | T | 0.08 | 0.02 | 0.77 | 0.29 | 0.66 | 13.43 | 6.86 | Intron | HDACB |
| rs6862358 | 5 | 78742980 | G | 0.03 | 0.01 | 0.52 | 0.18 | 0.79 | 16.65 | 6.86 | Regulatory | HOMER1 |
| rs11789463 | 9 | 16836011 | A | 0.02 | 0.00 | 0.51 | 0.18 | 0.89 | 14.97 | 6.84 | Regulatory | BNC2 |
| rs4299484 | 3 | 10189627 | T | 0.01 | 0.00 | 0.29 | 0.10 | 0.89 | 25.80 | 6.74 | Missense; Regulatory | MVH15 |
| rs16992674 | 14 | 101531854 | G | 0.02 | 0.04 | 0.49 | 0.18 | 0.66 | 20.80 | 6.73 | NC transcript exon; RNA | MIR412 |
| rs750607 | 15 | 74734819 | T | 0.03 | 0.01 | 0.54 | 0.19 | 0.82 | 14.85 | 6.67 | Regulatory | UBL7 |
| rs977745 | 17 | 59603321 | T | 0.04 | 0.11 | 0.64 | 0.26 | 0.49 | 21.30 | 6.67 | Intergenic | |
| rs28760541 | 17 | 1917205 | A | 0.06 | 0.00 | 0.81 | 0.29 | 0.76 | 10.78 | 6.64 | Regulatory | EPN2 |
| rs569791 | 1 | 38507495 | G | 0.03 | 0.05 | 0.53 | 0.20 | 0.60 | 21.00 | 6.63 | Downstream gene | POU3F1 |
| rs3904600 | 6 | 7109665 | G | 0.12 | 0.01 | 0.63 | 0.25 | 0.53 | 19.91 | 6.61 | Regulatory | RREB1 |
| rs12131971 | 1 | 38809580 | C | 0.04 | 0.01 | 0.45 | 0.17 | 0.70 | 21.00 | 6.59 | Intergenic | |
| rs12864339 | 13 | 59824906 | C | 0.03 | 0.01 | 0.45 | 0.16 | 0.77 | 19.27 | 6.59 | Intergenic | |
| rs1267936 | 19 | 33643243 | G | 0.03 | 0.01 | 0.62 | 0.22 | 0.80 | 13.29 | 6.59 | Regulatory | WDR8B |
| rs7499011 | 16 | 81242198 | A | 0.09 | 0.00 | 0.38 | 0.16 | 0.46 | 37.00 | 6.58 | Stop | PKD1L2 |
| rs587118 | 9 | 35074917 | C | 0.02 | 0.00 | 0.48 | 0.17 | 0.84 | 16.37 | 6.57 | Splice | FANCG |
| rs1411428 | 9 | 16661820 | G | 0.02 | 0.00 | 0.59 | 0.20 | 0.89 | 12.48 | 6.56 | Intron | BNC2 |
| rs12488457 | 3 | 130116696 | C | 0.05 | 0.17 | 0.72 | 0.32 | 0.40 | 22.80 | 6.53 | Missense | COL6A5 |
| rs17651549 | 17 | 44061278 | T | 0.01 | 0.00 | 0.24 | 0.08 | 0.82 | 33.00 | 6.53 | Missense | MAPT |
| rs820373 | 3 | 123404986 | G | 0.07 | 0.07 | 0.78 | 0.31 | 0.55 | 15.29 | 6.52 | Introm | MYLK |
| rs820371 | 3 | 123404111 | C | 0.07 | 0.07 | 0.77 | 0.30 | 0.55 | 15.53 | 6.52 | Introm | MYLK |
| rs3170660 | 1 | 27210721 | T | 0.02 | 0.00 | 0.37 | 0.13 | 0.80 | 22.00 | 6.50 | Missense | GPN2 |
| rs35244551 | 12 | 122416064 | T | 0.02 | 0.00 | 0.46 | 0.16 | 0.86 | 16.26 | 6.49 | Introm | WDR66 |
| rs11211032 | 1 | 45246243 | A | 0.03 | 0.03 | 0.47 | 0.18 | 0.67 | 20.40 | 6.46 | NC transcript exon | RPS1A/P11 |
| rs9403480 | 6 | 143605472 | G | 0.02 | 0.00 | 0.41 | 0.14 | 0.83 | 18.92 | 6.43 | Introm | AIG1 |
| rs959071 | 17 | 19142226 | C | 0.07 | 0.12 | 0.88 | 0.36 | 0.51 | 14.32 | 6.40 | | |

| SNP | CHR | POS | DER_ALLELE | DAF_AFR | DAF_EAS+EUR | DAF_GLOB | DAP | CADD | FineMAF_EAS+EUR | CONSEQUENCE | GENE |
|------------|-----|-----------|------------|---------|-------------|----------|------|-------|-----------------|-------------------------|---------------------|
| rs12471312 | 2 | 72789764 | G | 0.04 | 0.88 | 0.46 | 0.82 | 20.90 | 15.02 | Regulatory | <i>EXOC6B</i> |
| rs1801187 | X | 32380966 | T | 0.03 | 0.59 | 0.31 | 0.78 | 32.00 | 14.62 | Missense | <i>DMD</i> |
| rs1385699 | X | 65824986 | T | 0.05 | 0.90 | 0.48 | 0.77 | 18.50 | 12.78 | Missense | <i>EDA2R</i> |
| rs3753841 | 1 | 103379918 | A | 0.05 | 0.66 | 0.35 | 0.70 | 26.50 | 12.19 | Missense | <i>COL11A1</i> |
| rs5936453 | X | 147943667 | G | 0.05 | 0.94 | 0.49 | 0.76 | 17.04 | 12.14 | Intron | <i>AFF2</i> |
| rs16957091 | 15 | 43017426 | T | 0.04 | 0.76 | 0.40 | 0.75 | 21.20 | 12.05 | Synonymous | <i>CDAN1</i> |
| rs344478 | 7 | 146410468 | A | 0.08 | 0.90 | 0.49 | 0.67 | 19.56 | 11.77 | Intron | <i>CNTNAP2</i> |
| rs35143646 | X | 2856155 | T | 0.08 | 0.79 | 0.43 | 0.62 | 23.70 | 11.64 | Missense | <i>ARSE</i> |
| rs4844074 | X | 147897430 | A | 0.06 | 0.91 | 0.48 | 0.74 | 17.19 | 11.57 | Intron | <i>AFF2</i> |
| rs10736817 | 11 | 78602525 | A | 0.04 | 0.70 | 0.37 | 0.76 | 21.50 | 11.51 | Intron | <i>TENM4</i> |
| rs5943149 | X | 110655636 | G | 0.09 | 0.99 | 0.54 | 0.64 | 17.74 | 11.36 | Upstream gene | <i>DCX</i> |
| rs6637417 | X | 127370947 | A | 0.03 | 0.85 | 0.44 | 0.83 | 16.02 | 11.31 | Intergenic | |
| rs2037044 | 2 | 177682929 | A | 0.02 | 0.62 | 0.32 | 0.87 | 20.80 | 11.30 | RNA | |
| rs5985320 | X | 110466936 | A | 0.09 | 0.97 | 0.53 | 0.64 | 18.18 | 11.30 | 3 prime UTR | <i>PAK3</i> |
| rs2034721 | 17 | 53894516 | T | 0.07 | 0.83 | 0.45 | 0.67 | 20.20 | 11.22 | Regulatory | <i>PCTP</i> |
| rs5921046 | X | 97565093 | G | 0.06 | 0.81 | 0.44 | 0.70 | 19.63 | 11.19 | Intergenic | |
| rs1596930 | 2 | 72826665 | G | 0.04 | 0.88 | 0.46 | 0.82 | 15.41 | 11.15 | Intron | <i>EXOC6B</i> |
| rs2303223 | 16 | 31075175 | A | 0.02 | 0.64 | 0.33 | 0.87 | 19.99 | 11.14 | Synonymous | <i>ZNF668</i> |
| rs1343879 | X | 75004529 | A | 0.03 | 0.43 | 0.23 | 0.74 | 35.00 | 11.12 | Stop | <i>MAGEE2</i> |
| rs1078540 | X | 110951042 | C | 0.06 | 1.00 | 0.53 | 0.74 | 14.98 | 11.08 | Intron | <i>ALG13</i> |
| rs4722666 | 7 | 27197601 | G | 0.10 | 0.85 | 0.47 | 0.57 | 22.50 | 10.89 | Regulatory | <i>HOXA7; HOXA9</i> |
| rs2249797 | 5 | 98107341 | T | 0.02 | 0.61 | 0.32 | 0.82 | 21.70 | 10.89 | Regulatory | <i>RGMB</i> |
| rs17671597 | 16 | 7381106 | G | 0.02 | 0.57 | 0.30 | 0.86 | 22.10 | 10.85 | Regulatory | <i>RBFOX1</i> |
| rs2301721 | 7 | 27196113 | T | 0.10 | 0.84 | 0.47 | 0.57 | 22.50 | 10.82 | Missense; Regulatory | <i>HOXA7</i> |
| rs143383 | 20 | 34025983 | A | 0.03 | 0.67 | 0.35 | 0.80 | 19.99 | 10.72 | Regulatory; 5 prime UTR | <i>GDF5</i> |
| rs17822931 | 16 | 48258198 | T | 0.01 | 0.46 | 0.24 | 0.88 | 26.50 | 10.67 | Missense | <i>ABCC11</i> |
| rs1973791 | 3 | 187416634 | A | 0.05 | 0.67 | 0.36 | 0.72 | 21.90 | 10.64 | Synonymous | <i>RTP2</i> |
| rs9845788 | 3 | 135914715 | A | 0.05 | 0.70 | 0.37 | 0.70 | 21.70 | 10.64 | Regulatory | <i>MSL2</i> |
| rs6872244 | 5 | 117489412 | T | 0.05 | 0.71 | 0.38 | 0.74 | 20.20 | 10.59 | RNA | |
| rs4788980 | 17 | 73389446 | G | 0.08 | 0.89 | 0.48 | 0.66 | 17.89 | 10.53 | Regulatory | <i>GRB2</i> |
| rs1126565 | X | 19373839 | A | 0.05 | 0.98 | 0.51 | 0.79 | 13.68 | 10.51 | Synonymous | <i>PDHA1</i> |
| rs6979 | 16 | 67691668 | A | 0.03 | 0.66 | 0.34 | 0.79 | 20.20 | 10.48 | Missense | <i>ACD</i> |
| rs2276118 | 11 | 67288594 | T | 0.03 | 0.61 | 0.32 | 0.79 | 21.80 | 10.42 | Missense | <i>CABP2</i> |
| rs1049205 | 16 | 4942099 | T | 0.03 | 0.59 | 0.31 | 0.76 | 23.30 | 10.39 | Missense | <i>PPL</i> |
| rs9428174 | 1 | 120585262 | G | 0.06 | 0.79 | 0.42 | 0.71 | 18.57 | 10.36 | Intron | <i>NOTCH2</i> |
| rs184502 | 3 | 168196092 | A | 0.04 | 0.76 | 0.40 | 0.78 | 17.43 | 10.35 | Intron | <i>EGFEM1P</i> |
| rs1352943 | 3 | 27368875 | G | 0.03 | 0.60 | 0.31 | 0.79 | 22.00 | 10.34 | Regulatory | <i>NEK10</i> |
| rs1576050 | 10 | 31608510 | A | 0.06 | 0.87 | 0.47 | 0.71 | 16.72 | 10.32 | Regulatory | <i>ZEB1</i> |
| rs1593304 | 7 | 131619847 | G | 0.07 | 0.83 | 0.45 | 0.65 | 19.10 | 10.28 | RNA | |
| - | X | 153629155 | G | 0.13 | 0.92 | 0.52 | 0.53 | 21.10 | 10.28 | Missense | <i>RPL10</i> |
| rs5921045 | X | 97564948 | G | 0.06 | 0.81 | 0.44 | 0.70 | 18.15 | 10.26 | Intergenic | |
| rs2394517 | 6 | 29069299 | T | 0.05 | 0.47 | 0.26 | 0.63 | 35.00 | 10.22 | Stop | <i>OR2J1</i> |
| rs734312 | 4 | 6303354 | A | 0.03 | 0.69 | 0.36 | 0.80 | 18.60 | 10.21 | Missense | <i>WFS1</i> |
| rs12507582 | 4 | 169369920 | T | 0.02 | 0.48 | 0.25 | 0.81 | 26.20 | 10.18 | Missense | <i>DDX60L</i> |
| rs1132528 | 5 | 112929013 | T | 0.03 | 0.59 | 0.31 | 0.76 | 22.40 | 10.14 | Missense | <i>YTHDC2</i> |
| rs269868 | 15 | 45392075 | A | 0.16 | 0.94 | 0.55 | 0.46 | 23.40 | 10.08 | Missense | <i>DUOX2</i> |
| rs1036739 | 2 | 158665196 | G | 0.06 | 0.86 | 0.46 | 0.73 | 16.10 | 10.05 | Intron | <i>ACVR1</i> |
| rs3809482 | 15 | 43661802 | T | 0.03 | 0.61 | 0.32 | 0.81 | 20.40 | 10.04 | Missense | <i>ZSCAN29</i> |
| rs7193956 | 2 | 48122582 | A | 0.11 | 0.84 | 0.47 | 0.54 | 22.20 | 10.03 | Missense | <i>ABCC12</i> |
| rs6546839 | 2 | 73680508 | G | 0.12 | 0.88 | 0.50 | 0.53 | 21.60 | 10.02 | Missense | <i>ALMS1</i> |
| rs642652 | 2 | 72622480 | C | 0.05 | 0.90 | 0.48 | 0.75 | 14.77 | 9.99 | Intron | <i>EXOC6B</i> |
| rs16903296 | 5 | 36721292 | C | 0.06 | 0.76 | 0.41 | 0.71 | 18.48 | 9.97 | Regulatory | |
| rs12442525 | 15 | 42149506 | C | 0.06 | 0.71 | 0.38 | 0.67 | 21.00 | 9.96 | Missense | <i>SPTBN5</i> |
| rs11655511 | 17 | 59287269 | T | 0.06 | 0.78 | 0.42 | 0.68 | 18.67 | 9.95 | Regulatory | <i>BCAS3</i> |
| rs1061629 | 14 | 77926011 | T | 0.07 | 0.71 | 0.39 | 0.63 | 22.30 | 9.94 | Synonymous; 5 prime UTR | <i>AHSA1</i> |
| rs1332720 | X | 64815536 | C | 0.07 | 1.00 | 0.53 | 0.72 | 13.84 | 9.94 | Regulatory | <i>MSN</i> |
| rs2294504 | X | 109552667 | T | 0.02 | 0.60 | 0.31 | 0.88 | 18.82 | 9.93 | NC transcript exon | <i>AMMECR1</i> |
| rs7421376 | 2 | 217902364 | G | 0.02 | 0.54 | 0.28 | 0.86 | 21.40 | 9.91 | Intergenic | |
| rs4442810 | 16 | 65676733 | T | 0.02 | 0.57 | 0.29 | 0.85 | 20.60 | 9.89 | RNA | |
| rs2037912 | 16 | 4933939 | C | 0.03 | 0.59 | 0.31 | 0.78 | 21.30 | 9.84 | Missense | <i>PPL</i> |
| rs7944370 | 11 | 8105557 | G | 0.03 | 0.61 | 0.32 | 0.80 | 20.20 | 9.83 | Regulatory | <i>TUB</i> |
| rs3760454 | 17 | 30222002 | C | 0.03 | 0.55 | 0.29 | 0.80 | 22.40 | 9.80 | Missense | <i>UTP6</i> |
| rs4647654 | 7 | 136093047 | A | 0.03 | 0.62 | 0.32 | 0.82 | 19.19 | 9.77 | RNA | |
| rs10497469 | 2 | 177807577 | A | 0.03 | 0.65 | 0.34 | 0.82 | 18.39 | 9.75 | Intergenic | |
| rs2725405 | 17 | 79220224 | C | 0.03 | 0.57 | 0.30 | 0.81 | 21.20 | 9.75 | Missense | <i>SLC38A10</i> |
| rs2747701 | 6 | 71238105 | G | 0.02 | 0.51 | 0.26 | 0.83 | 22.90 | 9.73 | Missense | <i>FAM135A</i> |
| rs10790451 | 11 | 121570520 | G | 0.05 | 0.76 | 0.41 | 0.74 | 17.21 | 9.70 | Intergenic | |
| rs8082149 | 17 | 54572895 | C | 0.06 | 0.77 | 0.42 | 0.70 | 17.78 | 9.70 | Intron | <i>ANKFN1</i> |
| rs56103503 | 1 | 154980351 | T | 0.02 | 0.64 | 0.33 | 0.84 | 18.24 | 9.69 | Intron | <i>ZBTB7B</i> |
| rs12855681 | X | 98858596 | G | 0.09 | 0.87 | 0.48 | 0.62 | 17.81 | 9.68 | Intergenic | |
| rs238928 | 11 | 113973184 | C | 0.03 | 0.78 | 0.41 | 0.81 | 15.36 | 9.65 | Intron | <i>ZBTB16</i> |
| rs24657 | 16 | 22972853 | A | 0.03 | 0.58 | 0.30 | 0.76 | 22.00 | 9.64 | Intergenic | |
| rs6494466 | 15 | 64508763 | G | 0.04 | 0.81 | 0.42 | 0.79 | 14.98 | 9.63 | Missense; Splice | <i>CSNK1G1</i> |
| rs1057079 | 11 | 12050508 | T | 0.06 | 0.78 | 0.42 | 0.68 | 18.27 | 9.60 | Synonymous | <i>MTOR</i> |
| rs2602141 | 15 | 43724646 | T | 0.04 | 0.65 | 0.35 | 0.74 | 19.88 | 9.59 | Missense | <i>TP53BP1</i> |
| rs7210574 | 17 | 73824121 | T | 0.04 | 0.61 | 0.33 | 0.74 | 21.20 | 9.57 | Regulatory | <i>UNC13D; UNK</i> |
| rs6894514 | 5 | 117901084 | T | 0.09 | 0.77 | 0.43 | 0.56 | 22.10 | 9.56 | RNA | |
| rs8068946 | 17 | 70712513 | G | 0.04 | 0.68 | 0.36 | 0.75 | 18.72 | 9.55 | Regulatory | <i>LINC01228</i> |
| rs11150220 | 16 | 79848178 | G | 0.04 | 0.74 | 0.39 | 0.77 | 16.58 | 9.55 | RNA | |
| rs2330442 | 7 | 42380071 | A | 0.03 | 0.66 | 0.35 | 0.78 | 18.58 | 9.54 | Intergenic | |
| rs3827760 | 2 | 109513601 | G | 0.00 | 0.44 | 0.22 | 0.97 | 22.30 | 9.54 | Missense | <i>EDAR</i> |
| rs12347057 | 9 | 126694094 | T | 0.11 | 0.79 | 0.45 | 0.54 | 22.30 | 9.53 | Upstream gene | <i>DENND1A</i> |
| rs59191324 | X | 66430640 | A | 0.05 | 0.93 | 0.49 | 0.76 | 13.39 | 9.48 | Intergenic | |
| rs224333 | 20 | 34023962 | G | 0.03 | 0.67 | 0.35 | 0.79 | 17.92 | 9.45 | Regulatory | <i>GDF5</i> |
| rs62173642 | 2 | 177885414 | G | 0.08 | 0.73 | 0.40 | 0.60 | 21.60 | 9.45 | RNA | |
| rs11665349 | 18 | 67601981 | C | 0.15 | 0.98 | 0.56 | 0.49 | 19.56 | 9.44 | Intron | <i>CD226</i> |
| rs9930441 | 16 | 79862805 | T | 0.03 | 0.64 | 0.34 | 0.77 | 19.26 | 9.42 | RNA | <i>LINC01228</i> |
| rs1049928 | 7 | 96384778 | G | 0.04 | 0.60 | 0.32 | 0.74 | 21.20 | 9.41 | Intergenic | |
| rs1448335 | X | 20875921 | G | 0.07 | 0.80 | 0.43 | 0.66 | 17.83 | 9.38 | Regulatory | |
| rs1735679 | 10 | 31786137 | A | 0.06 | 0.88 | 0.47 | 0.71 | 15.15 | 9.38 | Intron | <i>ZEB1</i> |
| rs3747579 | 16 | 4445327 | T | 0.12 | 0.75 | 0.43 | 0.48 | 25.90 | 9.36 | Missense | <i>COR07</i> |
| rs12917189 | 15 | 43023482 | T | 0.05 | 0.77 | 0.41 | 0.74 | 16.37 | 9.35 | Missense | <i>CDAN1</i> |
| rs4888047 | 16 | 79826489 | G | 0.04 | 0.70 | 0.37 | 0.77 | 17.18 | 9.31 | RNA | <i>LINC01229</i> |
| rs4891384 | 18 | 67624554 | C | 0.11 | 0.98 | 0.54 | 0 | | | | |

| SNP | CHR | POS | DER ALLELE | DAF_AFR | DAF_AMR | DAF_EAS | DAF_EUR | DAF_GLOB | DAP | CADD | FineMAV_AMR | CONSEQUENCE | GENE |
|-------------|-----|-----------|------------|---------|---------|---------|---------|----------|------|-------|-------------|-------------------------|-------------------------|
| rs34890031 | 7 | 133884081 | A | 0.00 | 0.77 | 0.04 | 0.00 | 0.20 | 0.86 | 32.00 | 21.32 | Missense | <i>LRGUK</i> |
| rs61750329 | 1 | 11585308 | T | 0.00 | 0.70 | 0.01 | 0.02 | 0.18 | 0.89 | 24.90 | 15.65 | Missense | <i>PTCHD2</i> |
| rs142326775 | 10 | 31134425 | T | 0.00 | 0.45 | 0.00 | 0.00 | 0.11 | 0.97 | 35.00 | 15.38 | Missense | <i>ZNF438</i> |
| rs146573098 | 12 | 113875765 | A | 0.00 | 0.57 | 0.00 | 0.00 | 0.14 | 0.99 | 26.50 | 14.89 | Missense | <i>SDSL</i> |
| rs12421620 | 11 | 66276576 | A | 0.01 | 0.89 | 0.01 | 0.03 | 0.23 | 0.88 | 18.19 | 14.15 | Missense | <i>DPP3</i> |
| rs1871044 | 11 | 67276158 | G | 0.02 | 0.75 | 0.04 | 0.00 | 0.20 | 0.80 | 22.30 | 13.42 | Regulatory | <i>PITPNM1; CDK2AP2</i> |
| rs149808694 | 16 | 9811265 | C | 0.00 | 0.73 | 0.01 | 0.00 | 0.18 | 0.97 | 18.87 | 13.28 | Intergenic | |
| rs138840395 | 6 | 157264533 | A | 0.00 | 0.73 | 0.00 | 0.00 | 0.18 | 0.98 | 18.38 | 13.13 | Regulatory | <i>ARID1B</i> |
| rs142949209 | 7 | 147359632 | T | 0.00 | 0.66 | 0.00 | 0.00 | 0.17 | 0.99 | 19.93 | 12.97 | Intron | <i>CNTNAP2</i> |
| rs143128534 | 6 | 56332359 | T | 0.00 | 0.64 | 0.00 | 0.00 | 0.16 | 1.00 | 19.83 | 12.62 | Intron | <i>DST</i> |
| rs4924468 | 15 | 40729596 | C | 0.00 | 0.57 | 0.00 | 0.00 | 0.14 | 0.98 | 22.30 | 12.37 | Up- Downstream gene | <i>BAHD1; IVD</i> |
| rs149320184 | 7 | 147375822 | C | 0.00 | 0.64 | 0.00 | 0.00 | 0.16 | 1.00 | 19.17 | 12.20 | Intron | <i>CNTNAP2</i> |
| rs145495982 | 7 | 147379361 | G | 0.00 | 0.64 | 0.00 | 0.00 | 0.16 | 1.00 | 18.95 | 12.06 | Intron | <i>CNTNAP2</i> |
| rs1574103 | 11 | 67057599 | T | 0.00 | 0.77 | 0.03 | 0.00 | 0.20 | 0.86 | 18.03 | 11.98 | Regulatory; Synonymous | <i>ANKRD13D</i> |
| rs35545453 | 3 | 69031963 | C | 0.00 | 0.57 | 0.01 | 0.01 | 0.15 | 0.92 | 22.90 | 11.91 | Missense; Splice | <i>EOGT</i> |
| rs146181399 | 7 | 147371437 | A | 0.00 | 0.64 | 0.00 | 0.00 | 0.16 | 1.00 | 18.55 | 11.81 | Intron | <i>CNTNAP2</i> |
| rs17739774 | 14 | 47770258 | T | 0.00 | 0.82 | 0.00 | 0.06 | 0.22 | 0.81 | 17.84 | 11.80 | Intron | <i>MDG2</i> |
| rs150664883 | 18 | 35146206 | A | 0.00 | 0.70 | 0.02 | 0.05 | 0.19 | 0.74 | 22.40 | 11.69 | Regulatory | <i>CELF4</i> |
| rs17819664 | 15 | 57221167 | T | 0.00 | 0.66 | 0.00 | 0.02 | 0.17 | 0.89 | 19.68 | 11.60 | Regulatory | <i>TCF12</i> |
| rs79317492 | 15 | 57537491 | C | 0.00 | 0.66 | 0.00 | 0.02 | 0.17 | 0.89 | 19.40 | 11.43 | Regulatory | <i>TCF12</i> |
| rs9548505 | 13 | 39422624 | T | 0.13 | 0.70 | 0.00 | 0.08 | 0.23 | 0.46 | 35.00 | 11.43 | Missense | <i>FREM2</i> |
| rs12441769 | 15 | 57116557 | T | 0.00 | 0.66 | 0.00 | 0.02 | 0.17 | 0.90 | 19.13 | 11.38 | Intron | <i>ZNF280D</i> |
| rs145088108 | 1 | 32740366 | A | 0.00 | 0.61 | 0.01 | 0.00 | 0.16 | 0.92 | 19.99 | 11.33 | Missense | <i>LCK</i> |
| rs74431877 | 1 | 32193049 | A | 0.00 | 0.66 | 0.01 | 0.00 | 0.17 | 0.95 | 17.74 | 11.16 | Missense | <i>ADGRB2</i> |
| rs74719094 | 14 | 96768380 | G | 0.00 | 0.52 | 0.01 | 0.00 | 0.13 | 0.92 | 23.10 | 11.14 | Missense | <i>ATG2B</i> |
| rs7499580 | 12 | 98578714 | A | 0.00 | 0.61 | 0.00 | 0.00 | 0.15 | 0.98 | 18.57 | 11.11 | RNA | |
| rs138670348 | 7 | 147375810 | C | 0.00 | 0.64 | 0.00 | 0.00 | 0.16 | 1.00 | 17.34 | 11.04 | Intron | <i>CNTNAP2</i> |
| rs117867971 | 3 | 60269689 | C | 0.00 | 0.61 | 0.01 | 0.00 | 0.16 | 0.93 | 19.24 | 11.02 | Intron | <i>FHIT</i> |
| rs62621285 | 11 | 130058437 | A | 0.00 | 0.57 | 0.00 | 0.03 | 0.15 | 0.82 | 23.60 | 11.02 | Missense | <i>ST14</i> |
| rs61740840 | 9 | 124794020 | T | 0.00 | 0.57 | 0.01 | 0.02 | 0.15 | 0.84 | 22.90 | 10.98 | Missense | <i>TLIL11</i> |
| rs79256594 | 3 | 89177432 | T | 0.01 | 0.80 | 0.05 | 0.02 | 0.22 | 0.77 | 17.95 | 10.95 | Intron | <i>EPHA3</i> |
| rs140151892 | 12 | 49214015 | G | 0.00 | 0.59 | 0.02 | 0.00 | 0.15 | 0.88 | 20.90 | 10.91 | NC transcript exon | <i>CACNB3</i> |
| rs12474958 | 2 | 62150282 | G | 0.00 | 0.61 | 0.00 | 0.01 | 0.16 | 0.93 | 19.09 | 10.90 | Regulatory | <i>IFIH1</i> |
| rs143040189 | 12 | 110937404 | C | 0.00 | 0.52 | 0.00 | 0.00 | 0.13 | 0.97 | 21.30 | 10.85 | Intron | <i>VPS29</i> |
| rs141137978 | 7 | 147379526 | C | 0.00 | 0.64 | 0.00 | 0.00 | 0.16 | 1.00 | 16.79 | 10.69 | Intron | <i>CNTNAP2</i> |
| rs2293766 | 7 | 100371358 | A | 0.02 | 0.80 | 0.04 | 0.00 | 0.32 | 0.29 | 47.00 | 10.66 | Stop | <i>ZAN</i> |
| rs117487309 | 22 | 41195082 | A | 0.01 | 0.77 | 0.01 | 0.01 | 0.20 | 0.90 | 15.24 | 10.55 | Synonymous | <i>SLC25A17</i> |
| rs12422382 | 12 | 116131292 | T | 0.00 | 0.52 | 0.00 | 0.00 | 0.13 | 0.97 | 20.60 | 10.49 | Intergenic | |
| rs78262741 | 9 | 4290185 | A | 0.00 | 0.52 | 0.00 | 0.00 | 0.13 | 0.98 | 20.50 | 10.45 | Regulatory | <i>GLIS3</i> |
| rs189645263 | 11 | 33278862 | G | 0.00 | 0.48 | 0.00 | 0.00 | 0.12 | 0.98 | 22.10 | 10.36 | Regulatory | <i>HIPK3</i> |
| rs12478730 | 2 | 163150279 | C | 0.00 | 0.61 | 0.00 | 0.01 | 0.16 | 0.93 | 17.95 | 10.25 | Regulatory | <i>IFIH1</i> |
| rs6130686 | 20 | 43371253 | T | 0.00 | 0.52 | 0.02 | 0.00 | 0.14 | 0.88 | 22.10 | 10.20 | Intron | <i>KCNK15</i> |
| rs144851788 | 18 | 50510228 | C | 0.01 | 0.52 | 0.00 | 0.00 | 0.13 | 0.94 | 20.60 | 10.10 | Intron | <i>DCC</i> |
| rs41307728 | 1 | 229594003 | T | 0.02 | 0.43 | 0.00 | 0.01 | 0.11 | 0.85 | 27.60 | 10.09 | Missense | <i>NUP133</i> |
| rs12540617 | 7 | 100815816 | T | 0.00 | 0.84 | 0.02 | 0.02 | 0.22 | 0.87 | 13.69 | 10.06 | Synonymous | <i>NAT16</i> |
| rs152740467 | 6 | 157270044 | A | 0.00 | 0.75 | 0.00 | 0.00 | 0.21 | 0.76 | 17.66 | 10.05 | Regulatory; 5 prime UTR | <i>FOXL2</i> |
| rs75681209 | 15 | 57451085 | G | 0.00 | 0.64 | 0.00 | 0.02 | 0.17 | 0.88 | 17.95 | 10.04 | Regulatory | <i>TCF12</i> |
| rs79140822 | 1 | 98298087 | G | 0.00 | 0.73 | 0.03 | 0.00 | 0.19 | 0.87 | 15.78 | 10.03 | Regulatory | <i>DPYD</i> |
| rs142443364 | 3 | 138660894 | T | 0.01 | 0.75 | 0.02 | 0.00 | 0.19 | 0.89 | 14.98 | 10.02 | RNA | <i>LINC01391</i> |
| rs148564531 | 7 | 147382260 | G | 0.00 | 0.64 | 0.00 | 0.00 | 0.16 | 1.00 | 15.75 | 10.02 | Intron | <i>CNTNAP2</i> |
| rs114571119 | 3 | 138657902 | A | 0.04 | 0.73 | 0.02 | 0.00 | 0.20 | 0.78 | 17.49 | 9.98 | RNA | <i>LINC01391</i> |
| rs138576967 | 6 | 157270044 | A | 0.00 | 0.75 | 0.00 | 0.00 | 0.19 | 0.98 | 13.48 | 9.94 | Regulatory | <i>ARID1B</i> |
| rs2066494 | 11 | 67165015 | C | 0.06 | 0.77 | 0.03 | 0.01 | 0.22 | 0.69 | 18.55 | 9.88 | Synonymous | <i>RAD9A</i> |
| rs147339364 | 12 | 98446787 | C | 0.00 | 0.68 | 0.03 | 0.00 | 0.18 | 0.87 | 16.59 | 9.83 | Intergenic | |
| rs75828095 | 6 | 56512199 | G | 0.00 | 0.61 | 0.01 | 0.00 | 0.16 | 0.95 | 16.80 | 9.78 | Regulatory | <i>DST</i> |
| rs145602591 | 15 | 32126672 | T | 0.00 | 0.57 | 0.02 | 0.00 | 0.15 | 0.87 | 19.80 | 9.77 | Missense | <i>COL16A1</i> |
| rs116131136 | 7 | 100807230 | T | 0.00 | 0.48 | 0.01 | 0.00 | 0.12 | 0.92 | 22.10 | 9.71 | Missense; Regulatory | <i>VGF</i> |
| rs1055280 | 7 | 135661990 | T | 0.00 | 0.50 | 0.01 | 0.00 | 0.13 | 0.89 | 21.80 | 9.68 | Regulatory; 5 prime UTR | <i>MTPN</i> |
| rs117415954 | 12 | 98446717 | C | 0.00 | 0.68 | 0.03 | 0.00 | 0.18 | 0.87 | 16.31 | 9.66 | Intergenic | |
| rs147152654 | 4 | 71724337 | T | 0.00 | 0.52 | 0.00 | 0.00 | 0.13 | 0.98 | 18.87 | 9.63 | Intergenic | |
| rs188337800 | 7 | 132121758 | C | 0.00 | 0.45 | 0.00 | 0.00 | 0.11 | 1.00 | 21.10 | 9.59 | Regulatory | <i>PLXNA4</i> |
| rs16940118 | 12 | 109754567 | T | 0.00 | 0.84 | 0.00 | 0.00 | 0.21 | 0.99 | 11.47 | 9.57 | Intergenic | |
| rs147302393 | 21 | 34925304 | G | 0.00 | 0.41 | 0.00 | 0.00 | 0.10 | 1.00 | 23.30 | 9.53 | Missense; Regulatory | <i>SON</i> |
| rs73009507 | 19 | 10961024 | G | 0.00 | 0.50 | 0.00 | 0.04 | 0.14 | 0.78 | 24.30 | 9.46 | Missense | <i>C19orf38</i> |
| rs35047625 | 22 | 32000930 | T | 0.00 | 0.41 | 0.05 | 0.00 | 0.12 | 0.70 | 33.00 | 9.39 | Missense; Splice | <i>SFI1</i> |
| rs76326377 | 3 | 28652325 | G | 0.00 | 0.73 | 0.08 | 0.05 | 0.22 | 0.61 | 21.20 | 9.38 | Intron | <i>RBMS3</i> |
| rs79250477 | 15 | 57436183 | A | 0.00 | 0.66 | 0.00 | 0.02 | 0.17 | 0.89 | 15.81 | 9.32 | Intron | <i>TCF12</i> |
| rs2019884 | 12 | 98481159 | C | 0.00 | 0.68 | 0.04 | 0.00 | 0.18 | 0.83 | 16.48 | 9.31 | Intergenic | |
| rs16934463 | 10 | 33713572 | G | 0.00 | 0.48 | 0.01 | 0.00 | 0.12 | 0.89 | 21.90 | 9.31 | Intergenic | |
| rs48257703 | 10 | 31441807 | G | 0.00 | 0.43 | 0.00 | 0.00 | 0.11 | 1.00 | 21.00 | 9.07 | Intergenic | |
| rs110837111 | 19 | 44001379 | C | 0.02 | 0.68 | 0.09 | 0.05 | 0.21 | 0.54 | 24.80 | 9.06 | Missense | <i>PHLDB3</i> |
| rs4788114 | 16 | 28995145 | T | 0.01 | 0.57 | 0.01 | 0.06 | 0.16 | 0.71 | 22.50 | 9.04 | Synonymous | <i>SPNS1</i> |
| rs139787913 | 11 | 116101686 | A | 0.00 | 0.50 | 0.01 | 0.00 | 0.13 | 0.93 | 19.54 | 9.04 | Regulatory | <i>PPP2R1B</i> |
| rs149326963 | 1 | 54863067 | T | 0.00 | 0.50 | 0.00 | 0.02 | 0.13 | 0.91 | 19.87 | 9.01 | Introm | <i>SSBP3</i> |
| rs961269 | 12 | 109915143 | A | 0.00 | 0.48 | 0.00 | 0.00 | 0.12 | 1.00 | 18.86 | 9.00 | Regulatory; 5 prime UTR | <i>KCTD10; UBE3B</i> |
| rs7862103 | 10 | 61142860 | T | 0.03 | 0.75 | 0.04 | 0.01 | 0.21 | 0.74 | 16.07 | 8.98 | Intergenic | |
| rs18567681 | 1 | 176354064 | C | 0.00 | 0.50 | 0.00 | 0.00 | 0.13 | 1.00 | 17.91 | 8.96 | Intergenic | <i>SLC12A9</i> |
| rs10509182 | 10 | 64760466 | C | 0.00 | 0.59 | 0.05 | 0.00 | 0.16 | 0.78 | 19.41 | 8.95 | Intergenic | |
| rs138004015 | 12 | 31653216 | T | 0.00 | 0.61 | 0.01 | 0.00 | 0.16 | 0.93 | 15.71 | 8.94 | Intron | |

Appendix C

List of primary phenotyping tests

The list below specifies a standard set of phenotyping tests that were applied to all mouse strains generated in this study. Provided here information was derived from Wellcome Trust Sanger Institute Mouse Pipelines internal website (mouse.internal.sanger.ac.uk).

Homozygous viability at P14
Recessive Lethal Study
Homozygous Fertility
General Observations
Weight Curves
Neurological Assessment
Grip Strength
Dysmorphology
Indirect Calorimetry
Glucose Tolerance (ip)
Auditory Brainstem Response
Body Composition (DEXA)
X-ray Imaging
Eye Morphology
Plasma Chemistry
Insulin
Haematology Terminal
Micronuclei
PBL Terminal
Heart Weight
Brain Histopathology
Eye Histopathology

Salmonella Challenge
Citrobacter Challenge
Cytotoxic T Cell Function
Spleen Immunophenotyping
Mesenteric Lymph Node
Bone Marrow
Anti-nuclear Antibody Assay
Epidermal Immune Composition
DSS Challenge
Influenza Challenge
Trichuris Challenge
OBCD Bone

Appendix D

List of publications

A Selective Sweep on a Deleterious Mutation in *CPT1A* in Arctic Populations

American Journal of Human Genetics 2014

Clemente, F. J., Cardona, A., Inchley, C. E., Peter, B. M., Jacobs, G., Pagani, L., Lawson, D. J., Antao, T., Vicente, M., Mitt, M., DeGiorgio, M., Faltyskova, Z., Xue, Y., Ayub, Q., **Szpak, M.**, Magi, R., Eriksson, A., Manica, A., Raghavan, M., Rasmussen, M., Rasmussen, S., Willerslev, E., Vidal-Puig, A., Tyler-Smith, C., Villem, R., Nielsen, R., Metspalu, M., Malyarchuk, B., Derenko, M., Kivisild, T.

Mountain gorilla genomes reveal the impact of long-term population decline and inbreeding

Science 2015

Xue, Y., Prado-Martinez, J., Sudmant, P. H., Narasimhan, V., Ayub, Q., **Szpak, M.**, Frandsen, P., Chen, Y., Yngvadottir, B., Cooper, D. N., de Manuel, M., Hernandez-Rodriguez, J., Lobon, I., Siegismund, H. R., Pagani, L., Quail, M. A., Hvilsom, C., Mudakikwa, A., Eichler, E. E., Cranfield, M. R., Marques-Bonet, T., Tyler-Smith, C., Scally, A.

Prioritizing Candidate Genetic Variants Driving Local Adaptations in Human Populations

Under review

Szpak, M., Mezzavilla, M., Ayub, Q., Chen, Y., Xue, Y., Tyler-Smith, C.

Whole genome sequencing coupled to imputation discovers genetic signals for anthropometric traits

Under review

Tachmazidou, I., Süveges, D., Min, J. L., Ritchie, G. R., Steinberg, J., Walter, K., Iotchkova, V., Schwartzenbruber, J., Huang, J., Memari, Y., McCarthy, S., Crawford, A. A., Bombieri, C., Cocca, M., Farmaki, A. E., Gaunt, T. R., Jousilahti, P., Kooijman, M. N., Lehne, B., Malerba, G., Männistö, S., Matchan, A., Medina-Gomez, C., Metrustry, S. J., Nag, A., Ntalla, I., Paternoster, L., Rayner, N. W., Sala, C., Scott, W. R., Shihab, H. A., Southam, L., St Pourcain, B., Traglia, M., Trajanoska, K., Zaza, G., Zhang, W., Artigas, M. S., Bansal, N., Benn, M., Chen, Z., Danecek, P., Lin, W. Y., Locke, A., Luan, J., Manning, A. K., Mulas, A., Sidore, C., Tybjaerg-Hansen, A., Varbo, A., Zoledziewska, M., Finan, C., Hatzikotoulas, K., Hendricks, A. E., Kemp, J. P., Moayyeri, A., Panoutsopoulou, K., **Szpak, M.**, Wilson, S. G., Boehnke, M., Cucca, F., Di Angelantonio, E., Langenberg, C., Lindgren, C., McCarthy, M. I., Morris, A. P., Nordestgaard, B. G., Scott, R. A., Tobin, M. D., Wareham, N. J., SpiroMeta consortium, GoT2D consortium, Burton, P., Chambers, J. C., Davey Smith, G., Dedoussis, G., Felix, J. F., Franco, O. H., Gambaro, G., Gasparini, P., Hammond, C. J., Hofman, A., Jaddoe, V. W., Kleber, M., Kooner, J. S., Perola, M., Relton, C., Ring, S. M., Rivadeneira, F., Salomaa, V., Spector, T. D., Stegle, O., Toniolo, D., Uitterlinden, A. G., arcOGEN consortium, Understanding Society Scientific Group, UK10K consortium, Barroso, I., Perry, J. R., Walker, B. R., Butterworth, A. S., Xue, Y., Durbin, R., Small, K. S., Soranzo, N., Timpson, N. J., Zeggini, E.

