

Supplementary Table 2. Statistical power and sample size (at 80% power) calculations of 34 SNPs interacted by the *BOLL* gene according to the interaction p-value ranking

| Gene | Chr | SNP | BP | M/m | SNP by rs700651 (<i>BOLL</i>) interaction | | |
|------------------|----------|-------------|-----------|-----|---|-------|-------------|
| | | | | | InOR | Power | Sample size |
| <i>BOLL</i> | 2q33.1 | rs700651 | 198631714 | A/G | NA | NA | NA |
| <i>PTCH1</i> | 9q22.32 | rs1105980 | 98113635 | G/C | 1.53 | 0.253 | 427 |
| <i>CCDC3</i> | 10p13 | rs12412014 | 12911725 | G/C | 1.47 | 0.266 | 420 |
| <i>LINC00457</i> | 13q13.2 | rs1536847 | 35106975 | G/T | 1.39 | 0.261 | 423 |
| <i>C5orf60</i> | 5q35.3 | rs62405726 | 179069468 | G/A | 1.46 | 0.251 | 428 |
| <i>METTL4</i> | 18p11.32 | rs549315 | 2183055 | G/A | -1.32 | 0.166 | 485 |
| <i>RGPD4</i> | 2q12.3 | rs700855 | 108368694 | T/C | 1.31 | 0.225 | 443 |
| <i>RGPD4</i> | 2q12.3 | rs328025 | 108355045 | G/A | 1.25 | 0.232 | 439 |
| <i>MALL</i> | 2q13 | rs117802391 | 110862084 | C/T | 19.57 | 0.376 | 372 |
| <i>LINC01978</i> | 17q25.3 | rs57851800 | 77896371 | A/C | -1.27 | 0.241 | 434 |
| <i>RREB1</i> | 6p24.3 | rs9505086 | 7232186 | T/C | 1.24 | 0.289 | 409 |
| <i>DST</i> | 6p12.1 | rs117021265 | 56628021 | T/C | -18.96 | 0.494 | 333 |
| <i>RPRM</i> | 2q23.3 | rs5005908 | 154003680 | G/T | 1.26 | 0.278 | 414 |
| <i>FOXP1</i> | 3p13 | rs878118 | 71246228 | T/G | -1.39 | 0.344 | 385 |
| <i>LINC01344</i> | 1q25.3 | rs12033118 | 182229747 | C/T | -19.75 | 0.452 | 346 |
| <i>RBMS3</i> | 3p24.1 | rs1979271 | 29607405 | T/A | -1.17 | 0.178 | 476 |
| <i>CXCR4</i> | 2q22.1 | rs189432614 | 136809235 | A/G | -34.81 | 0.459 | 344 |
| <i>CDH13</i> | 16q23.3 | rs3848296 | 82550548 | G/A | 1.46 | 0.386 | 368 |
| <i>RUFY1</i> | 5q35.3 | rs4075890 | 178997373 | T/C | 1.46 | 0.386 | 368 |
| <i>EIF2B5</i> | 3q27.1 | rs4350902 | 184352200 | T/C | -1.18 | 0.103 | 554 |
| <i>PLEKHA1</i> | 10q26.13 | rs10510110 | 124192430 | C/T | 1.26 | 0.186 | 470 |
| <i>PFKP</i> | 10p15.2 | rs58183624 | 3107217 | C/T | -2.68 | 0.31 | 399 |
| <i>TRIM22</i> | 11p15.4 | rs7480654 | 5722839 | T/C | -1.21 | 0.286 | 410 |
| <i>LINC00879</i> | 3q11.2 | rs4411883 | 94549686 | T/G | -1.91 | 0.419 | 357 |
| <i>TNIK</i> | 3q26.31 | rs11925024 | 171014067 | A/C | -0.9 | 0.068 | 616 |
| <i>TNIK</i> | 3q26.31 | rs1231 | 171031233 | A/T | -0.8 | 0.022 | 811 |
| <i>FTO</i> | 16q12.2 | rs9302654 | 54009545 | C/T | 0.58 | 0.001 | 1596 |
| <i>SLFN11</i> | 17q12 | rs77814639 | 33678827 | A/G | -0.43 | 0 | 2829 |
| <i>SAP18</i> | 13q12.11 | rs9509543 | 21692404 | C/T | -0.2 | 0 | 9469 |
| <i>EDNRA</i> | 4q31.22 | rs6841581 | 148401190 | A/G | -0.27 | NA | NA |
| <i>SLC7A10</i> | 19q13.11 | rs11672303 | 33726375 | T/C | 0.23 | 0 | 7263 |
| <i>CACUL1</i> | 10q26.11 | rs11198727 | 120767097 | A/G | 0.17 | 0 | 9023 |
| <i>MPDZ</i> | 9p23 | rs1332064 | 12942764 | T/C | 0.1 | 0 | 35842 |
| <i>UNC13C</i> | 15q21.3 | rs4774715 | 55140204 | C/T | -0.09 | 0 | 32541 |
| <i>RYK</i> | 3q22.2 | rs74585958 | 133773362 | G/A | -0.21 | 0 | 42495 |
| <i>EIF4H</i> | 7q11.23 | rs150664966 | 73594157 | T/C | -0.05 | 0 | 391282 |

Power indicates a statistical power. Sample size shows the number of cases reaching at an 80% statistical power. SNP : single-nucleotide polymorphism, Chr : chromosome, BP : base-pair position, M/m : major/minor allele type, InOR : natural log-transformed odds ratio, NA : not available