**Supplementary table 1:** SNPs associated with childhood BMI and their associations with MS

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SNP** | **A1** | **A2** | **βexposure** | **βoutcome** | **SEoutcome** | **Poutcome** | **SEexposure** | **Pexposure** |
| rs11676272 | G | A | 0.068 | 0.020305 | 0.016619 | 0.2218 | 0.007 | 7.12E-23 |
| rs12041852 | G | A | 0.046 | -0.001 | 0.016744 | 0.9524 | 0.007 | 2.28E-10 |
| rs12429545 | A | G | 0.076 | 0.008637 | 0.024731 | 0.7269 | 0.01 | 2.08E-14 |
| rs13130484 | T | C | 0.067 | 0.025318 | 0.016477 | 0.1244 | 0.007 | 1.58E-23 |
| rs13253111 | A | G | 0.042 | 0.012275 | 0.016365 | 0.4532 | 0.007 | 4.89E-09 |
| rs13387838 | A | G | 0.139 | 0.034281 | 0.104132 | 0.742 | 0.025 | 2.84E-08 |
| rs1421085 | C | T | 0.059 | 0.031491 | 0.016436 | 0.05537 | 0.007 | 4.53E-16 |
| rs3829849 | T | C | 0.041 | 0.0008 | 0.017732 | 0.964 | 0.007 | 8.81E-09 |
| rs4854349 | C | T | 0.09 | 0.007472 | 0.021419 | 0.7272 | 0.009 | 5.41E-22 |
| rs543874 | G | A | 0.077 | 0.009554 | 0.020331 | 0.6384 | 0.009 | 2.20E-19 |
| rs6567160 | C | T | 0.05 | 0.002002 | 0.018913 | 0.9157 | 0.008 | 1.21E-09 |
| rs7132908 | A | G | 0.066 | 0.039989 | 0.016912 | 0.01805 | 0.008 | 1.57E-18 |
| rs7550711 | T | C | 0.105 | -0.04898 | 0.048316 | 0.3107 | 0.019 | 4.52E-08 |
| rs987237 | G | A | 0.062 | -0.01064 | 0.021197 | 0.6156 | 0.009 | 1.80E-12 |