

| Short name    | Trait                     | Ref.                    | $\rho$ | P                     | N SNPs |
|---------------|---------------------------|-------------------------|--------|-----------------------|--------|
| SkinCol_UKB   | Skin Color                | Neale Lab (2021)        | -0.33  | $2.5 \times 10^{-13}$ | 463    |
| Height_UKB    | Height                    | Neale Lab (2021)        | -0.02  | 0.36                  | 2479   |
| SitHeight_UKB | Sitting height            | Neale Lab (2021)        | 0.02   | 0.47                  | 1953   |
| Height_GIANT  | Height                    | Wood et al. (2014)      | -0.02  | 0.34                  | 1735   |
| BMI_UKB       | Body mass index           | Neale Lab (2021)        | 0.02   | 0.29                  | 1836   |
| BMD_UKB       | Heel bone mineral density | Neale Lab (2021)        | -0.03  | 0.50                  | 583    |
| BMR_UKB       | Basal metabolic rate      | Neale Lab (2021)        | -0.01  | 0.66                  | 2028   |
| Weight_UKB    | Weight                    | Neale Lab (2021)        | 0.02   | 0.46                  | 2002   |
| FM_UKB        | Fat mass                  | Neale Lab (2021)        | 0.01   | 0.66                  | 1818   |
| FFM_UKB       | Fat free mass             | Neale Lab (2021)        | -0.03  | 0.19                  | 2098   |
| Waist_UKB     | Waist circumference       | Neale Lab (2021)        | -0.03  | 0.19                  | 1592   |
| Hip_UKB       | Hip circumference         | Neale Lab (2021)        | 0.00   | 0.87                  | 1688   |
| WBC_UKB       | White blood cell count    | Neale Lab (2021)        | -0.05  | 0.10                  | 1311   |
| RBC_UKB       | Red blood cell count      | Neale Lab (2021)        | 0.02   | 0.42                  | 1392   |
| Pulse_UKB     | Pulse rate                | Neale Lab (2021)        | 0.07   | 0.21                  | 291    |
| HDL_UKB       | HDL cholesterol           | Neale Lab (2021)        | 0.00   | 0.94                  | 656    |
| LDL_UKB       | LDL cholesterol           | Neale Lab (2021)        | -0.05  | 0.34                  | 363    |
| TG_UKB        | Triglycerides             | Neale Lab (2021)        | -0.02  | 0.68                  | 631    |
| AAM_UKB       | Age at menarche           | Neale Lab (2021)        | -0.01  | 0.84                  | 721    |
| BW_EGG        | Birthweight               | Horikoshi et al. (2016) | 0.05   | 0.18                  | 677    |
| HC_EGG        | Infant head circumference | Taal et al. (2012)      | 0.12   | 0.41                  | 46     |
| VitD_UKB      | Vitamin D                 | Neale Lab (2021)        | -0.02  | 0.87                  | 48     |
| Calcium_UKB   | Calcium                   | Neale Lab (2021)        | 0.18   | 0.22                  | 47     |
| Folate_UKB    | Folate                    | Neale Lab (2021)        | -0.04  | 0.79                  | 44     |
| FI_MAGIC      | Fasting insulin           | Chen et al. (2021)      | -0.12  | 0.05                  | 254    |
| FG_MAGIC      | Fasting glucose           | Chen et al. (2021)      | -0.06  | 0.33                  | 285    |
| 2hGlu_MAGIC   | Two hour glucose          | Chen et al. (2021)      | -0.07  | 0.52                  | 94     |
| HbA1c_MAGIC   | Glycated haemoglobin      | Chen et al. (2021)      | -0.06  | 0.27                  | 299    |

Table S1: Trait descriptions, sources, and values for Figure 6