

S11 Table Enrichment statistics and general linear model coefficients for squared BMI association z-scores differences between adipose tissue, epidermal tissue, lymphoblastoid cell lines (LCL) and whole blood eQTLs, and matching control variants.

| annotation | | $\bar{\beta}$ | β (low 95%) | β (high 95%) | p | π_1 | p_{MW} |
|-------------|---------|---------------|-------------------|--------------------|----------|---------|----------|
| Adipose | eQTL | 0.13 | 0.059 | 0.20 | 0.00032 | 0.22 | 2.38E-08 |
| | control | -0.043 | -0.084 | -0.003 | 0.035 | 0.072 | |
| Epidermal | eQTL | 0.12 | 0.049 | 0.18 | 0.00067 | 0.15 | 7.96E-07 |
| | control | -0.041 | -0.084 | 0.0018 | 0.06 | 0.048 | |
| LCL | eQTL | 0.12 | 0.05 | 0.18 | 0.00061 | 0.13 | 3.34E-09 |
| | control | -0.093 | -0.14 | -0.051 | 1.45E-05 | 0.035 | |
| Whole blood | eQTL | 0.15 | -0.0049 | 0.30 | 0.058 | 0.093 | 1.72E-05 |
| | control | -0.018 | -0.062 | 0.026 | 0.43 | 0.027 | |
| All | prox | 0.095 | 0.044 | 0.15 | 0.00025 | 0.13 | 0.97 |
| | dist | 0.18 | 0.13 | 0.23 | 2.98E-13 | 0.17 | 0.034 |
| | eQTL | 0.17 | 0.13 | 0.20 | 1.20E-17 | 0.15 | 7.74E-24 |

$\bar{\beta}$ is the mean effect size over the general linear model replicas with functional genetic affiliation covariates; p is the corresponding unadjusted p-value (see methods for more details); π_1 is the estimated proportion of non-null associations; p_{MW} is the unadjusted Mann-Whitney test p-value for differences in association chi-squared between eQTL and respective matched control variants; prox stands for proximal eQTLs, dist for distal eQTLs.