

Table S4. Range of Spearman's rho for a) *cis*- associations detected using 'REDUCED' data, and b) Spearman's rho for *cis*- associations detected using normalized and PCA-corrected data.

a)

| | Permutation threshold | | | |
|----------------|-----------------------|---------|---------|---------|
| | 0.01 | | 0.001 | |
| | minimum | maximum | minimum | maximum |
| CEU | 0.375 | 0.903 | 0.405 | 0.903 |
| CHB | 0.438 | 0.908 | 0.466 | 0.908 |
| GIH | 0.426 | 0.923 | 0.464 | 0.923 |
| JPT | 0.421 | 0.92 | 0.465 | 0.92 |
| LWK | 0.438 | 0.925 | 0.462 | 0.925 |
| MEX | 0.536 | 0.933 | 0.603 | 0.933 |
| MKK | 0.337 | 0.896 | 0.366 | 0.896 |
| YRI | 0.372 | 0.932 | 0.394 | 0.932 |
| average | 0.418 | 0.918 | 0.453 | 0.918 |

b)

| | Permutation threshold | | | |
|----------------|-----------------------|---------|---------|---------|
| | 0.01 | | 0.001 | |
| | min rho | max rho | min rho | max rho |
| CEU | 0.380 | 0.891 | 0.411 | 0.891 |
| CHB | 0.439 | 0.908 | 0.476 | 0.908 |
| GIH | 0.434 | 0.887 | 0.469 | 0.887 |
| JPT | 0.433 | 0.919 | 0.458 | 0.919 |
| LWK | 0.428 | 0.878 | 0.466 | 0.878 |
| MEX | 0.572 | 0.902 | 0.621 | 0.902 |
| MKK | 0.338 | 0.857 | 0.358 | 0.857 |
| YRI | 0.385 | 0.897 | 0.412 | 0.897 |
| average | 0.426 | 0.892 | 0.459 | 0.892 |