

**Table S13. Power to detect additional variation in 15,000 samples.**

| Frequency         | $h_{gLD}^2$ | $h_g^2$ |
|-------------------|-------------|---------|
| 1 causal variant  |             |         |
| uncommon          | 0.250       | 0.000   |
| common            | 0.100       | 0.400   |
| 2 causal variants |             |         |
| uncommon          | 0.400       | 0.050   |
| common            | 0.300       | 0.700   |
| 3 causal variants |             |         |
| uncommon          | 0.900       | 0.100   |
| common            | 0.850       | 1.000   |