

Table S1. Number of genes that pass a certain R² threshold in test/training using the different models in the Mixed-Pop cross-validation scheme

| R² threshold | KNN | Elastic-Net | Combined | Single SNP | All models |
|--------------------------------|------------|--------------------|-----------------|-------------------|-------------------|
| 0.05 | 503/627 | 559/567 | 555/558 | 829/1355 | 956/1419 |
| 0.1 | 278/340 | 356/359 | 338/341 | 448/575 | 529/624 |
| 0.2 | 103/129 | 171/173 | 149/151 | 172/199 | 214/234 |
| 0.3 | 56/62 | 85/86 | 69/69 | 81/86 | 103/109 |
| 0.4 | 28/32 | 49/50 | 38/38 | 43/46 | 57/61 |
| 0.5 | 18/18 | 26/28 | 19/19 | 17/19 | 30/32 |