

Imputing gene expression

eQTLGen Consortium

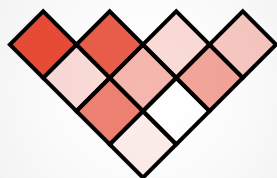


31,684 blood examples



***cis*-SNPs**

1000 Genomes Project



LD reference (R)

GTEx Portal



Gene expression reference

Constructing

Tuning & validation

***cis*-eQTL
effect sizes
(w)**



Testing associations

Individual-level GWAS data

Phenotype \sim Imputed expression

Summary-level GWAS data

$$\mathbf{Z}^* \approx \frac{\mathbf{w}^T \mathbf{Z}}{\sqrt{\mathbf{w}^T \mathbf{R} \mathbf{w}}}$$

where \mathbf{Z} is the SNP-trait standardized effect.