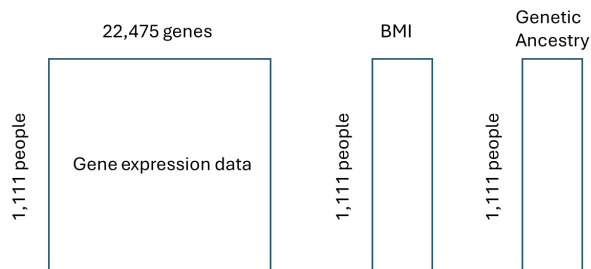


1. Which genes are associated with BMI?



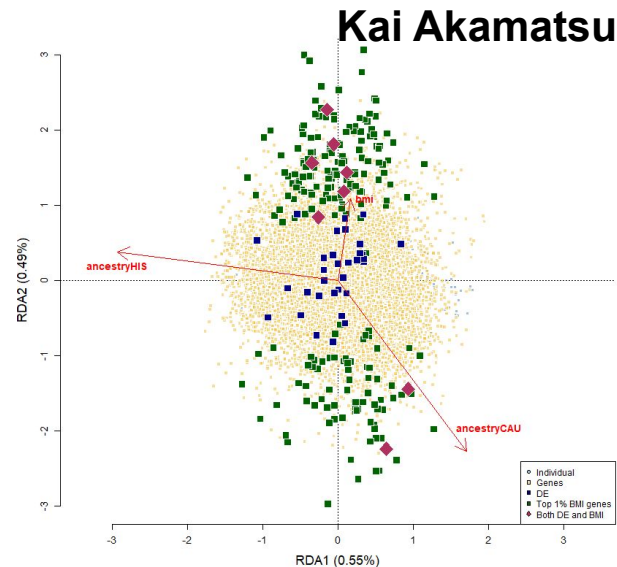
RDA(GE ~ BMI+ANC)

Explains more variance than PCA (p = 0.001)

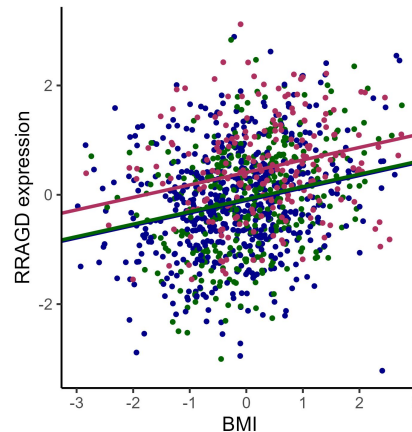
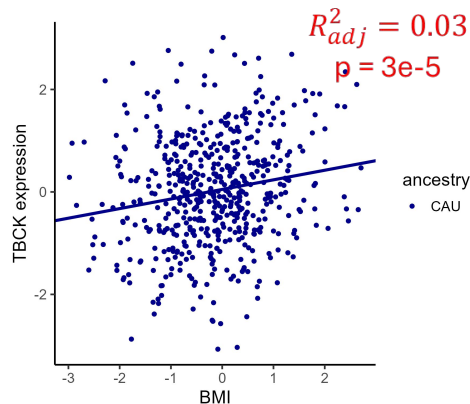
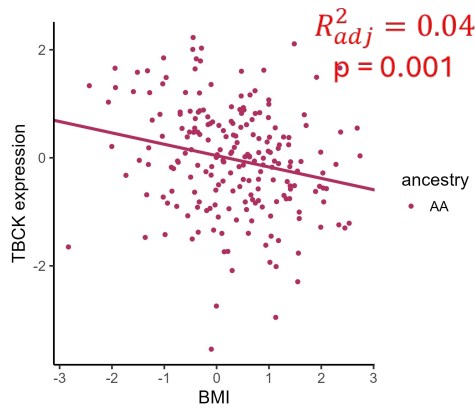
$$S_{BMI} = \sum_{i=1}^3 S_{RDA_i} \times BMI \text{ loading}_{RDA_i} \times Eigenvalue_{RDA_i}$$

Top 1% of BMI ranked genes

- 8 previously found differentially expressed genes ($p = 1.4e-8$)
- 144/224 tested genes are significantly associated with BMI ($p < 0.05/22,475$)



2. Genes with BMI*Ancestry interaction?



ancestry
 • AA
 • CAU
 • HIS

References:
 Gene Cards
 Dornbos et al. 2022 Cell Metabolism
 Schlingmann et al. 2021 J Am Soc Nephrol
 Kranzler et al 2019 Nat Comm
 MESA study (dataset)