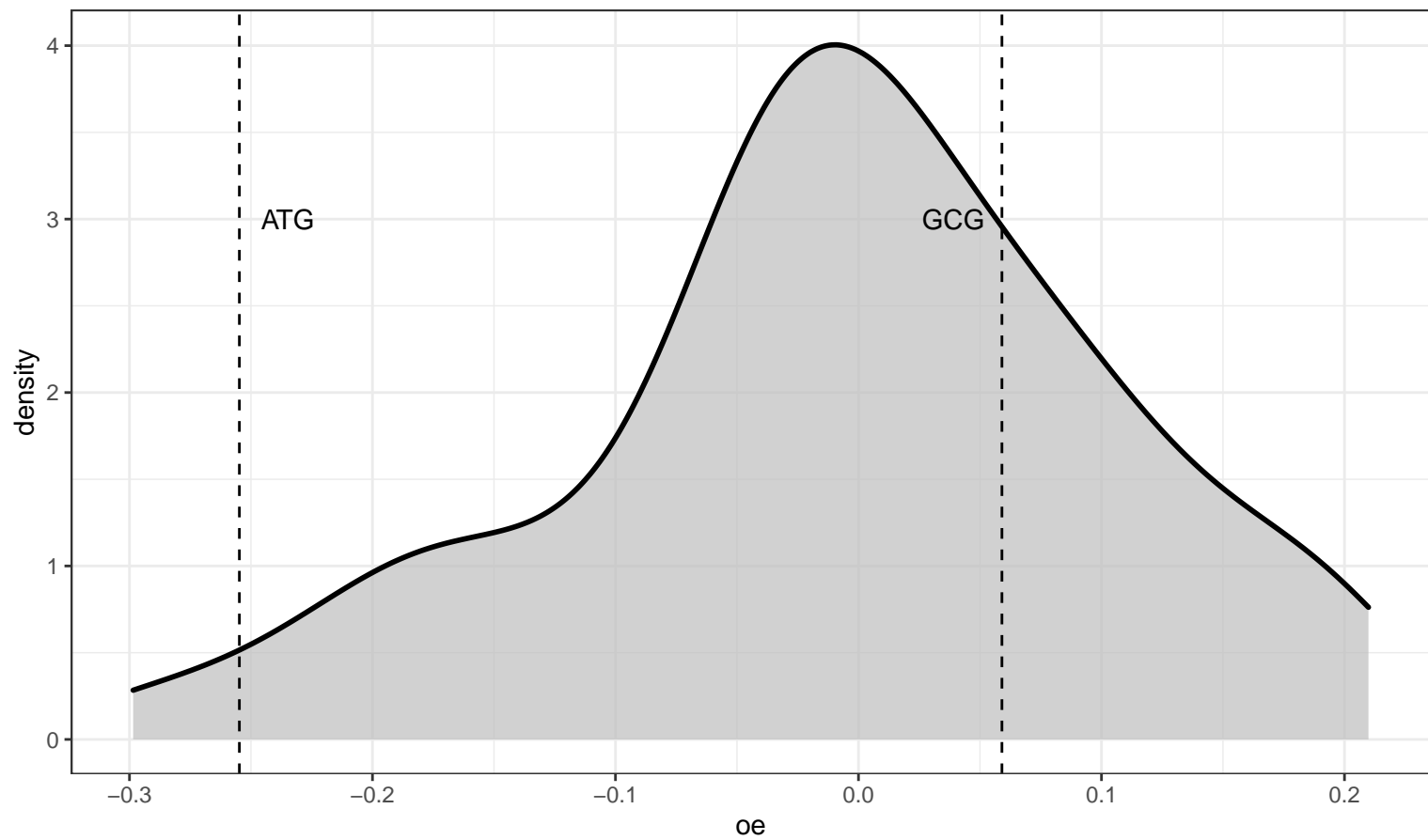
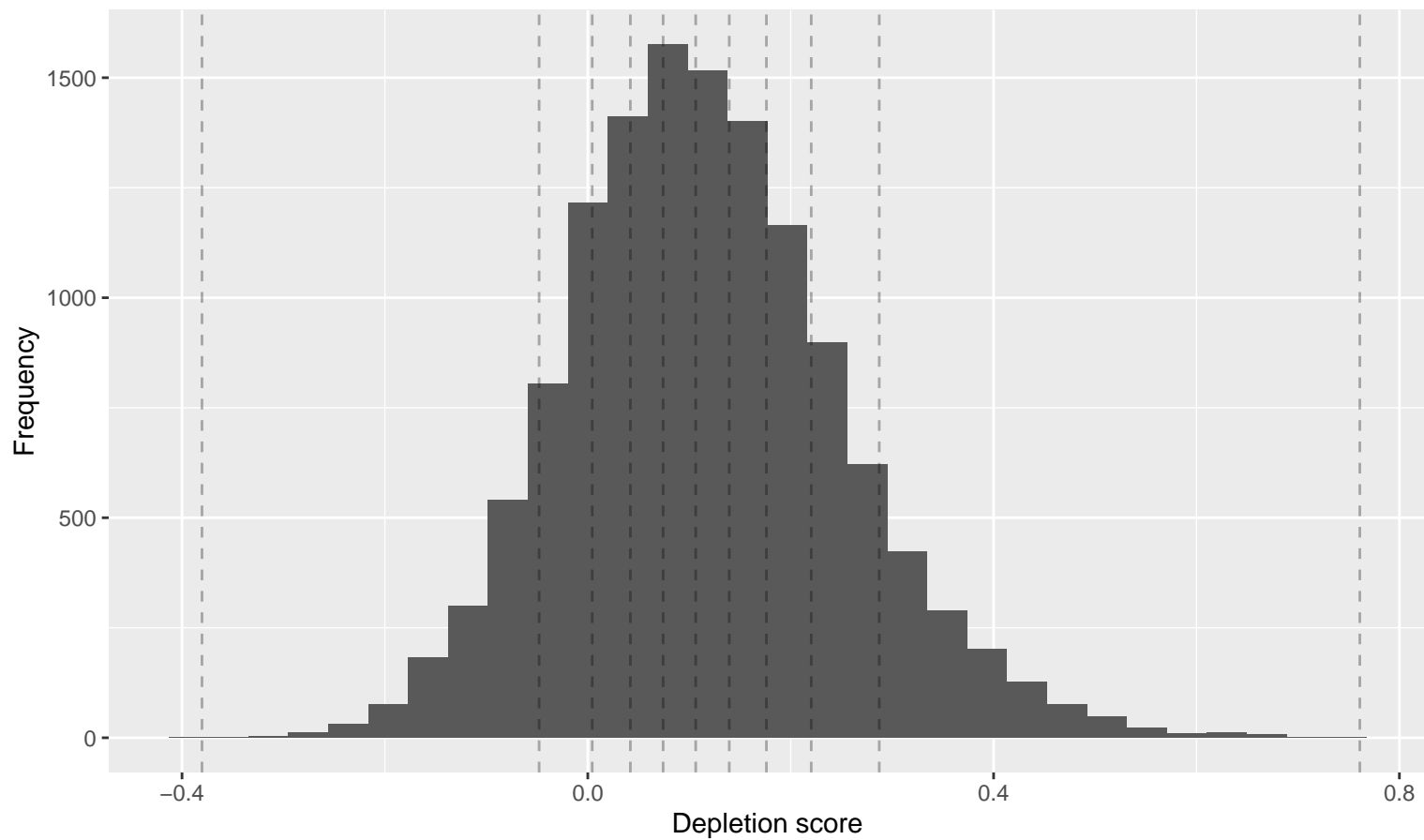


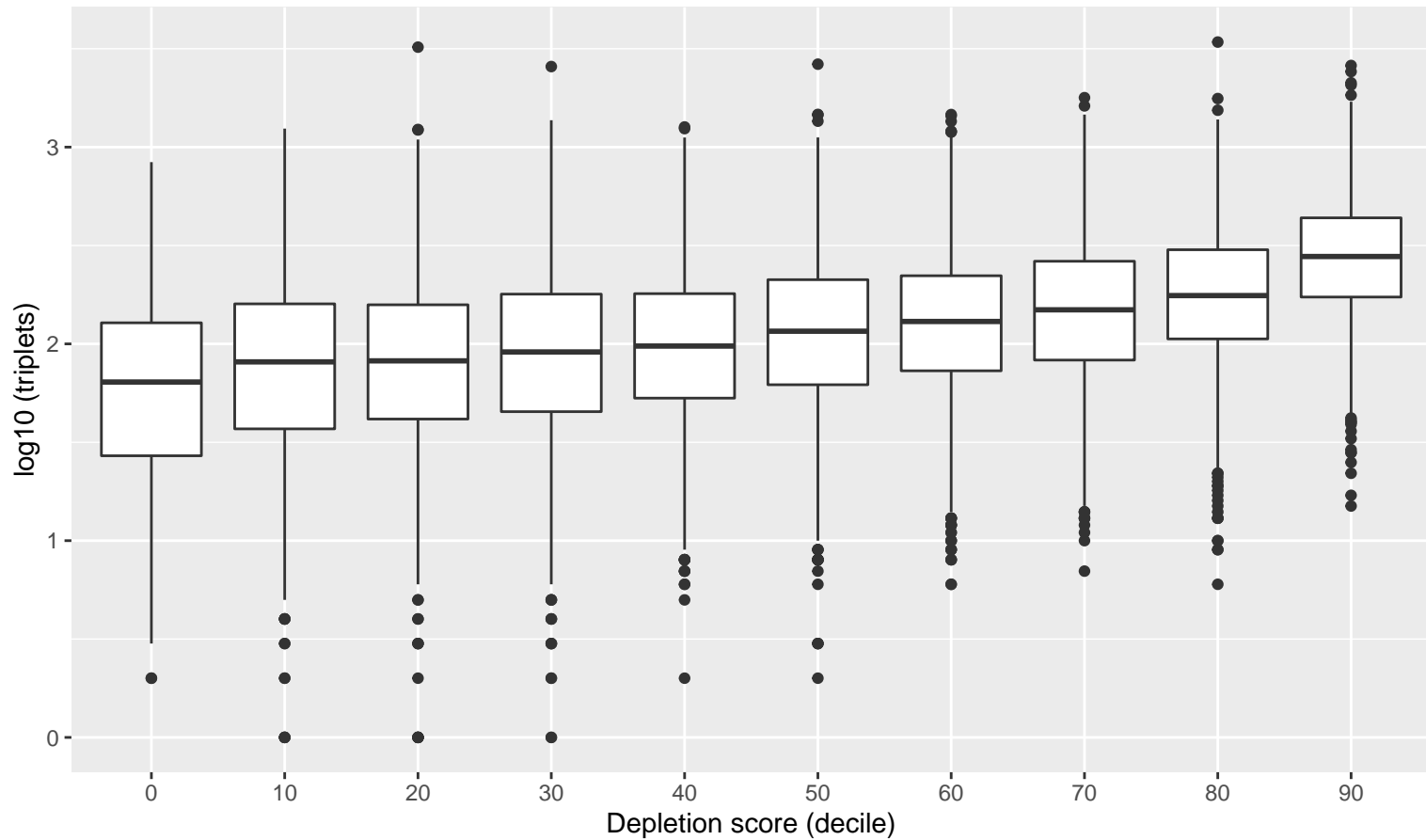
O/E weight distribution



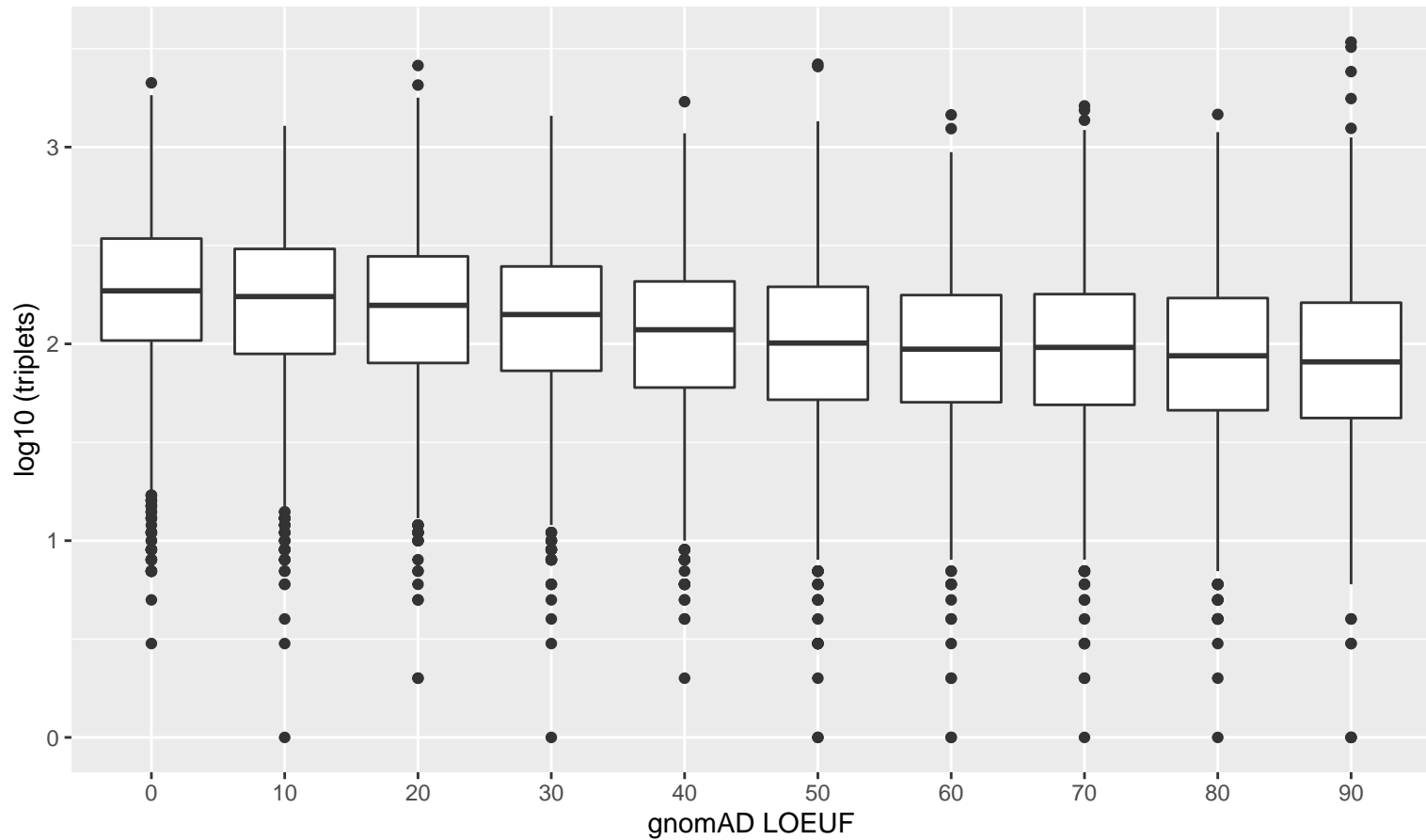
Depletion score distribution and deciles



Depletion score versus 5' UTR triplets

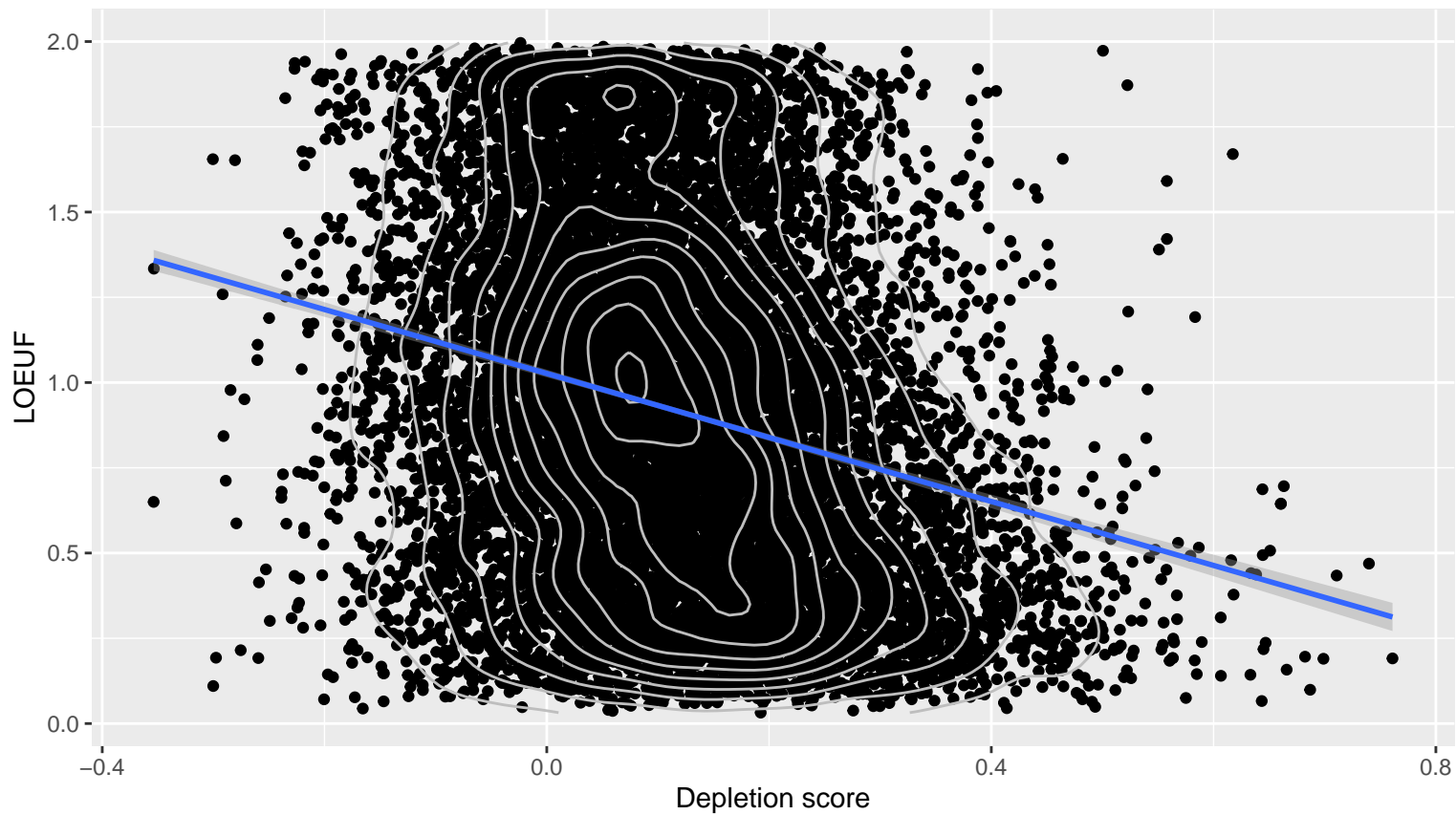


LOEUF (gnomAD) vs Triplet Count



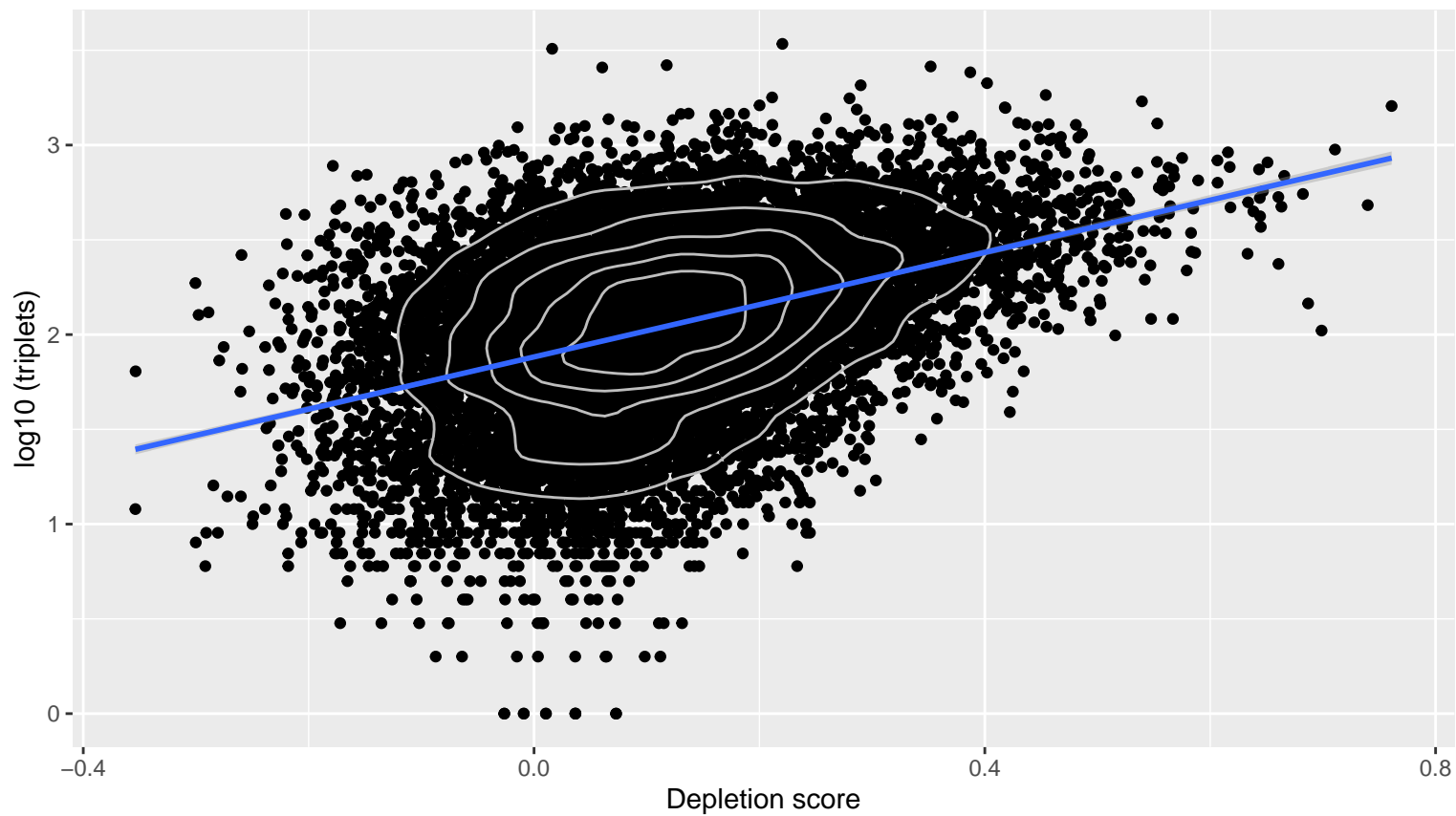
# Depletion Score versus LOEUF

Pearson correlation =  $-0.2502$  (P-value =  $2.99\text{e-}184$ )

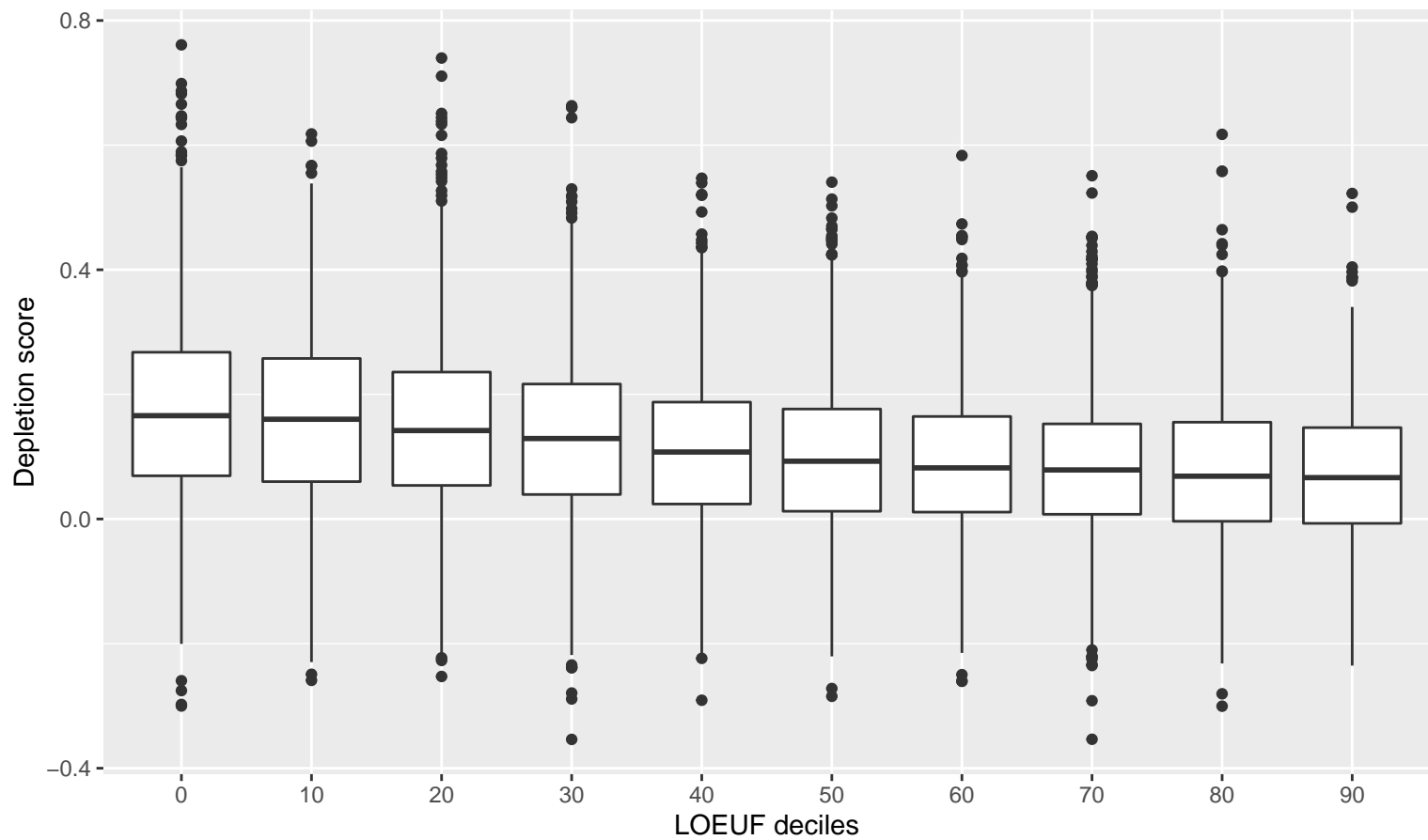


# Depletion Score versus triplets

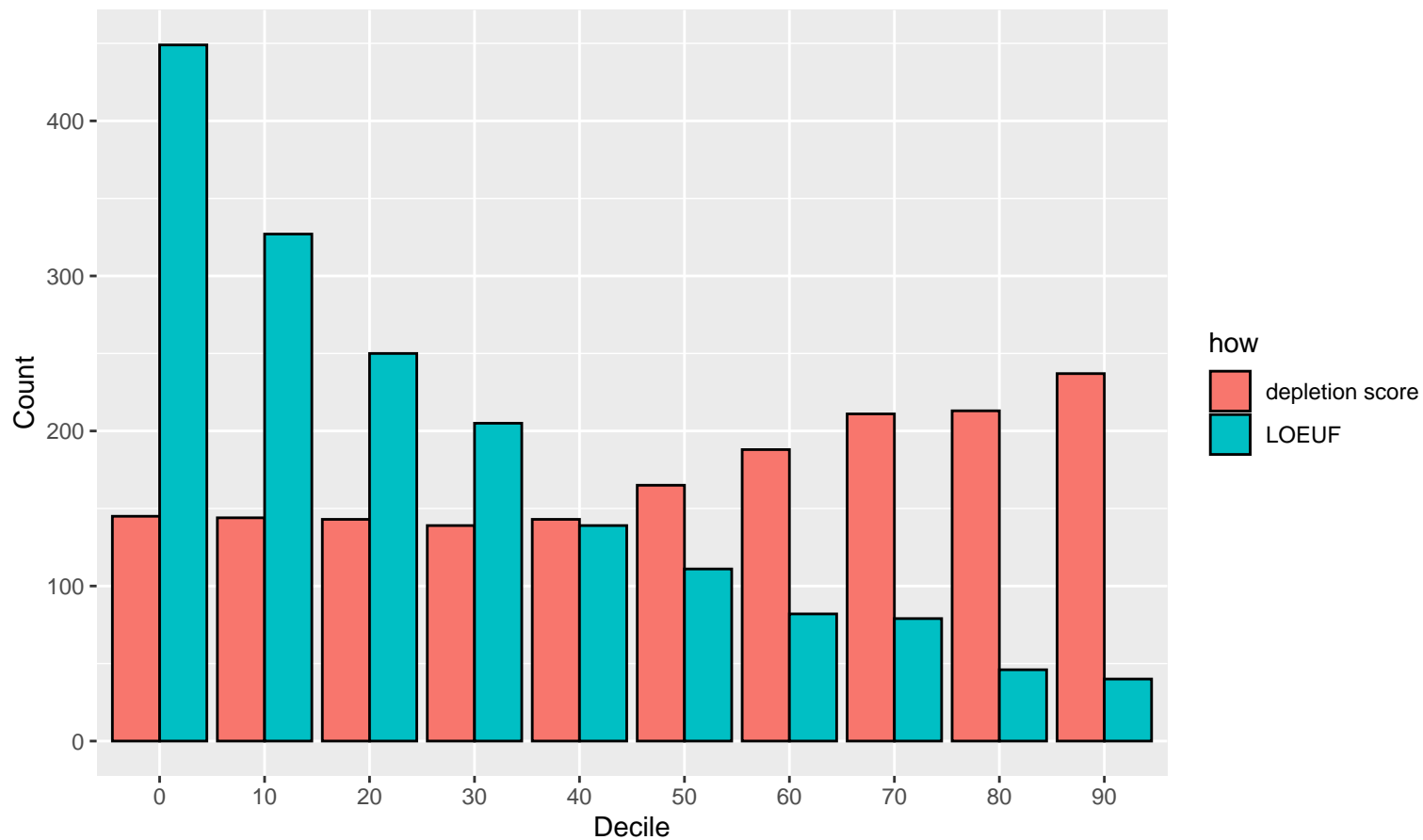
Pearson correlation = 0.4105 (P-value = 0.00e+00)



LOEUF deciles versus depletion score

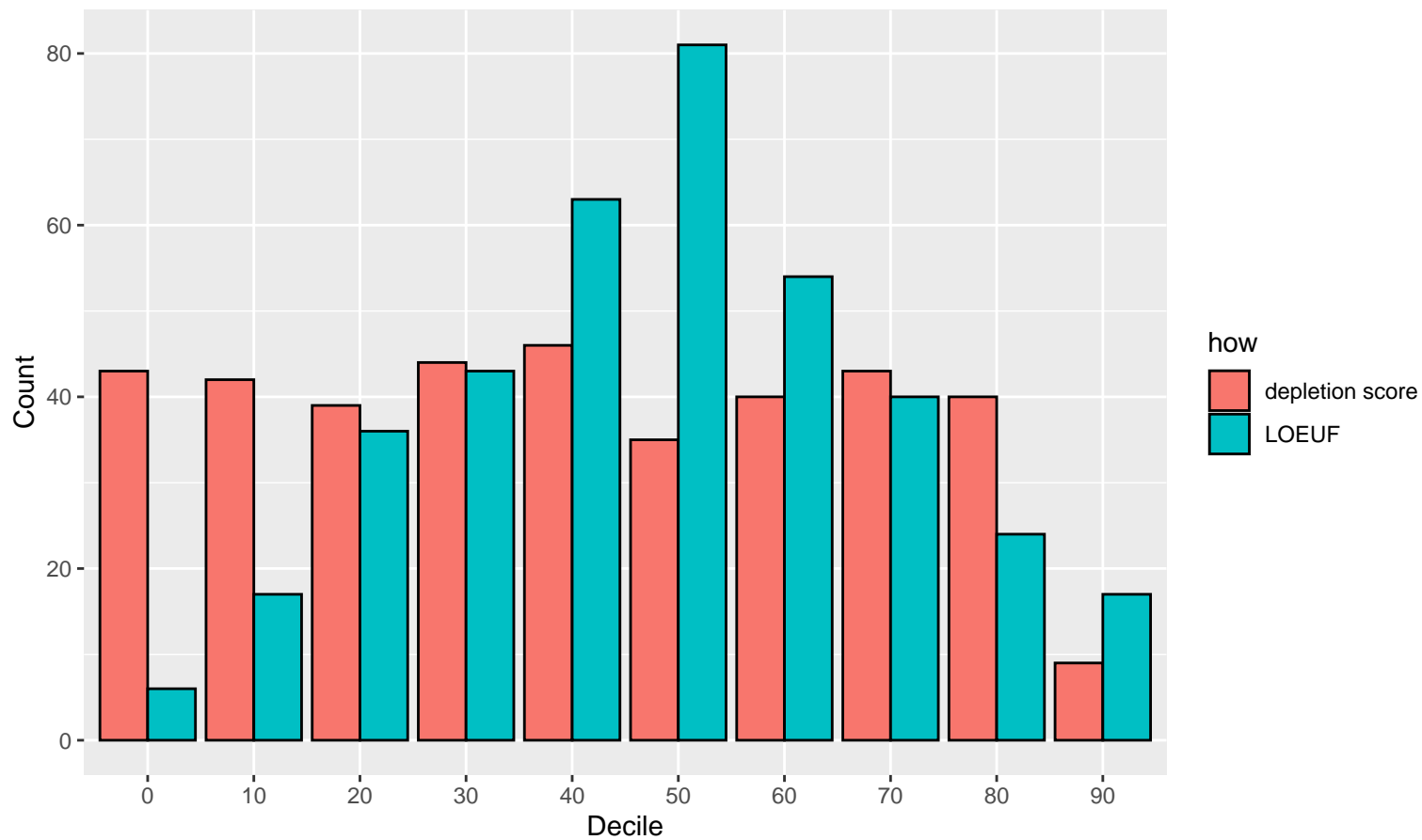


# mice essential genes

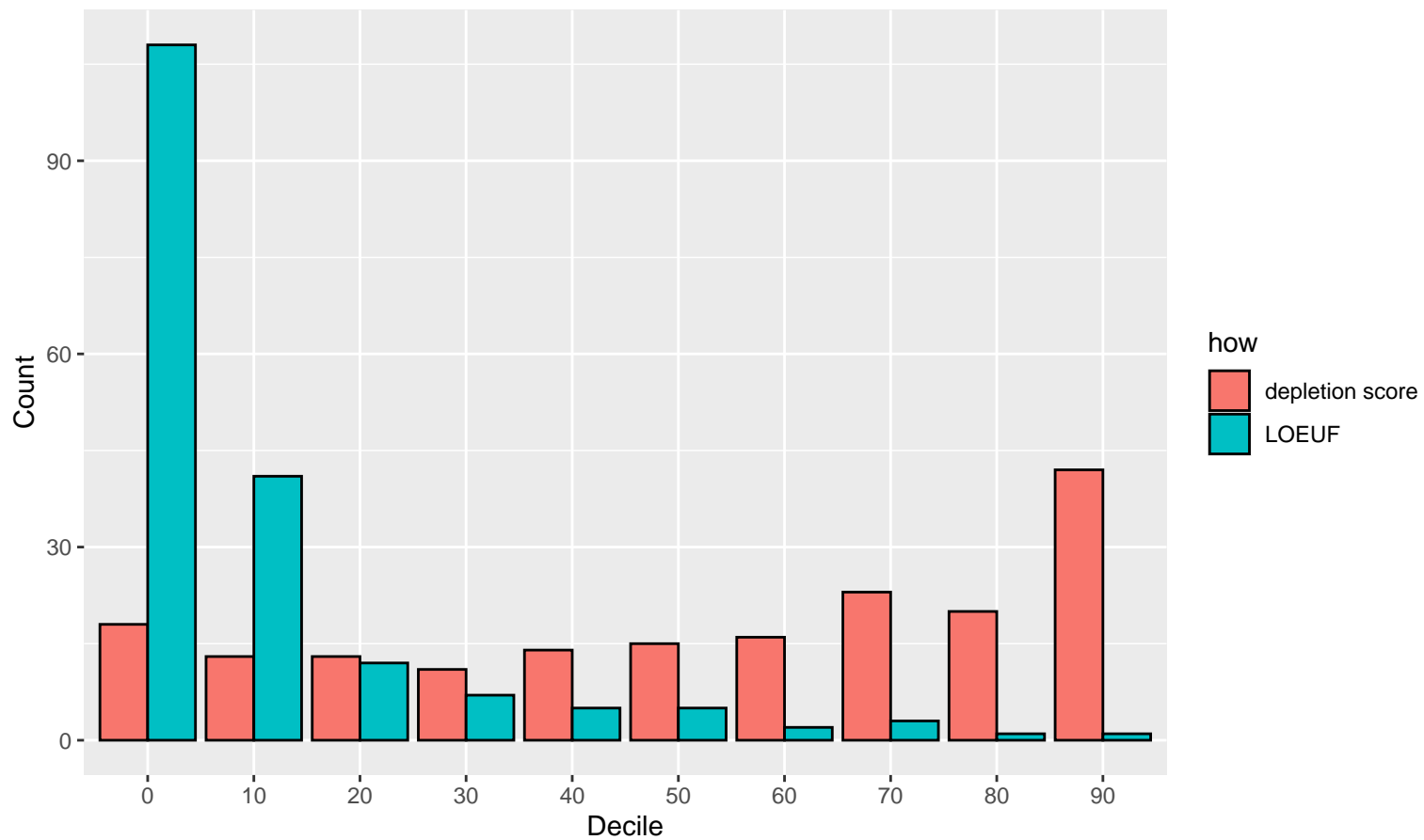




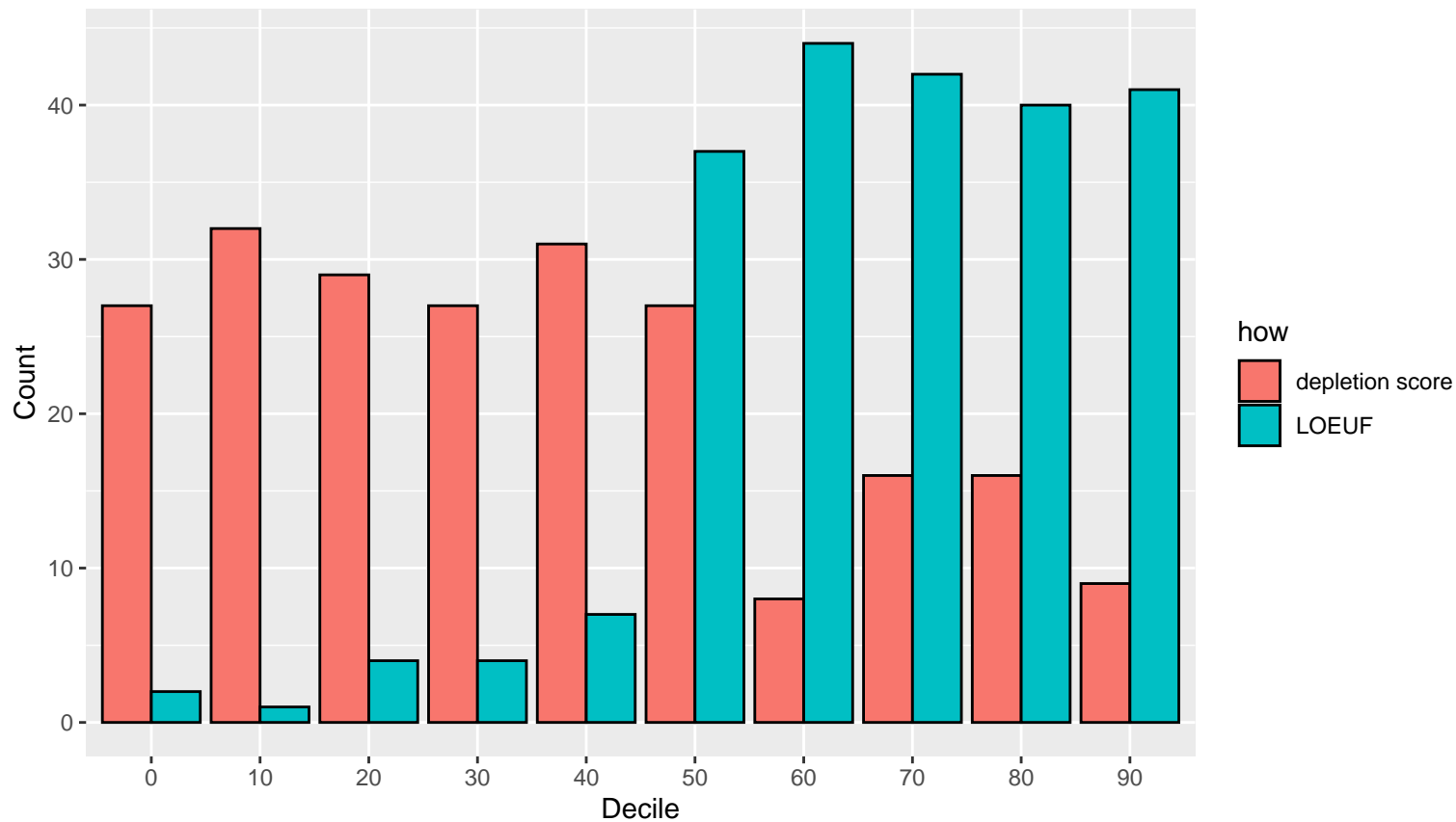
## Autosomal Recessive (Blekhman)



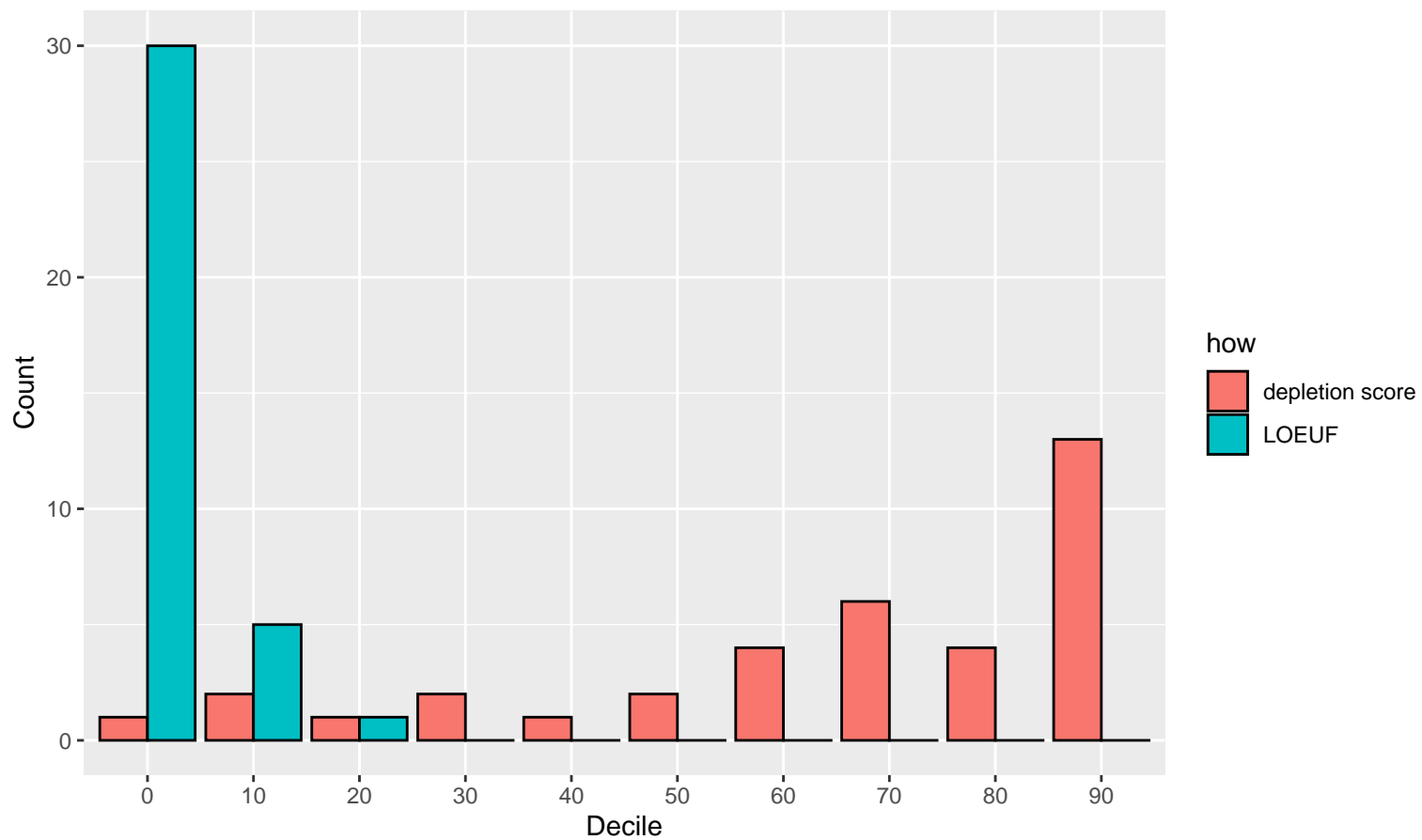
Evidence for dosage pathogenicity (Clingen, 2018)



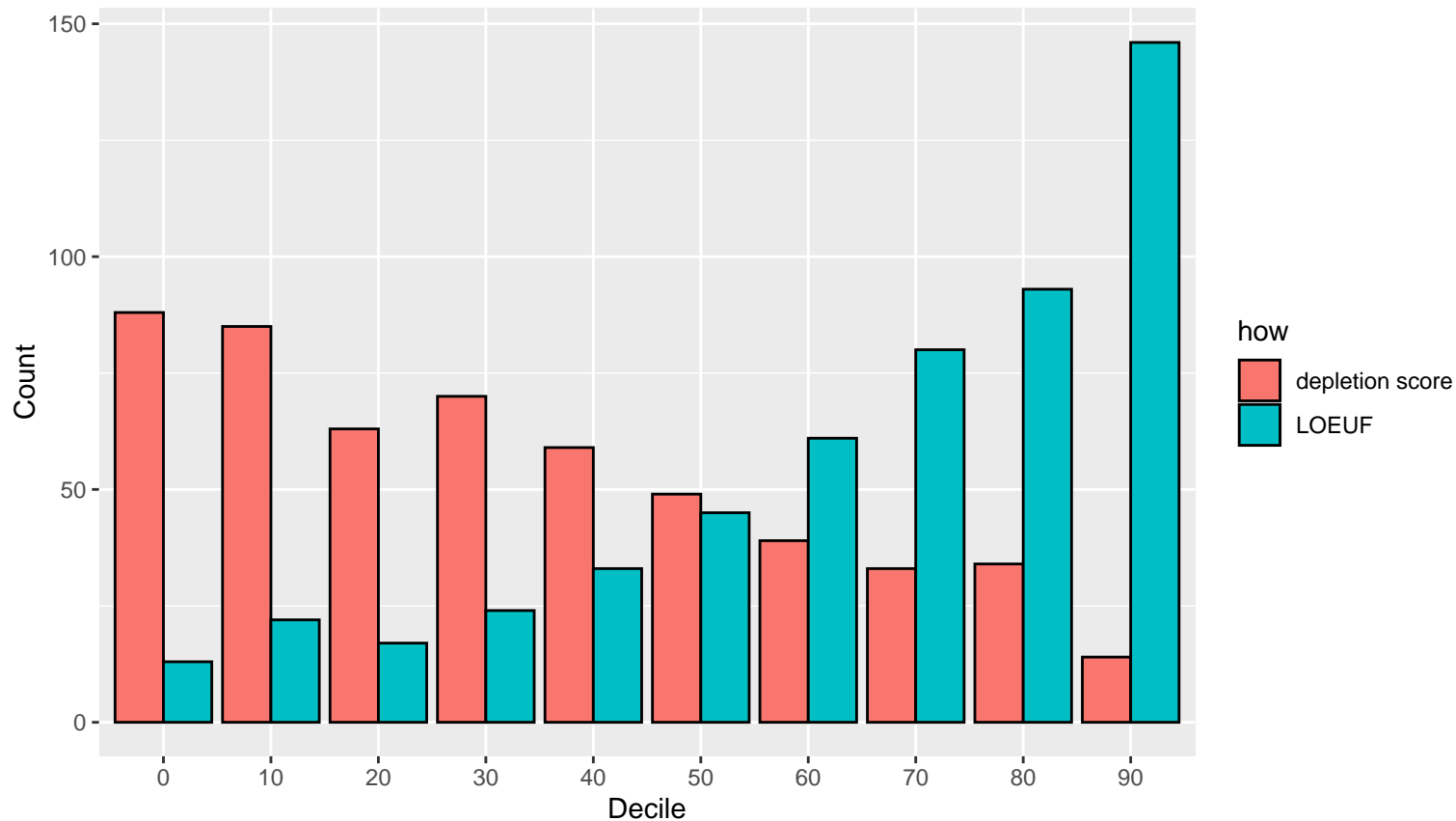
Genes with at least two different high-confidence  
LoF variants found in a homozygous state in at least one individual in ExAC



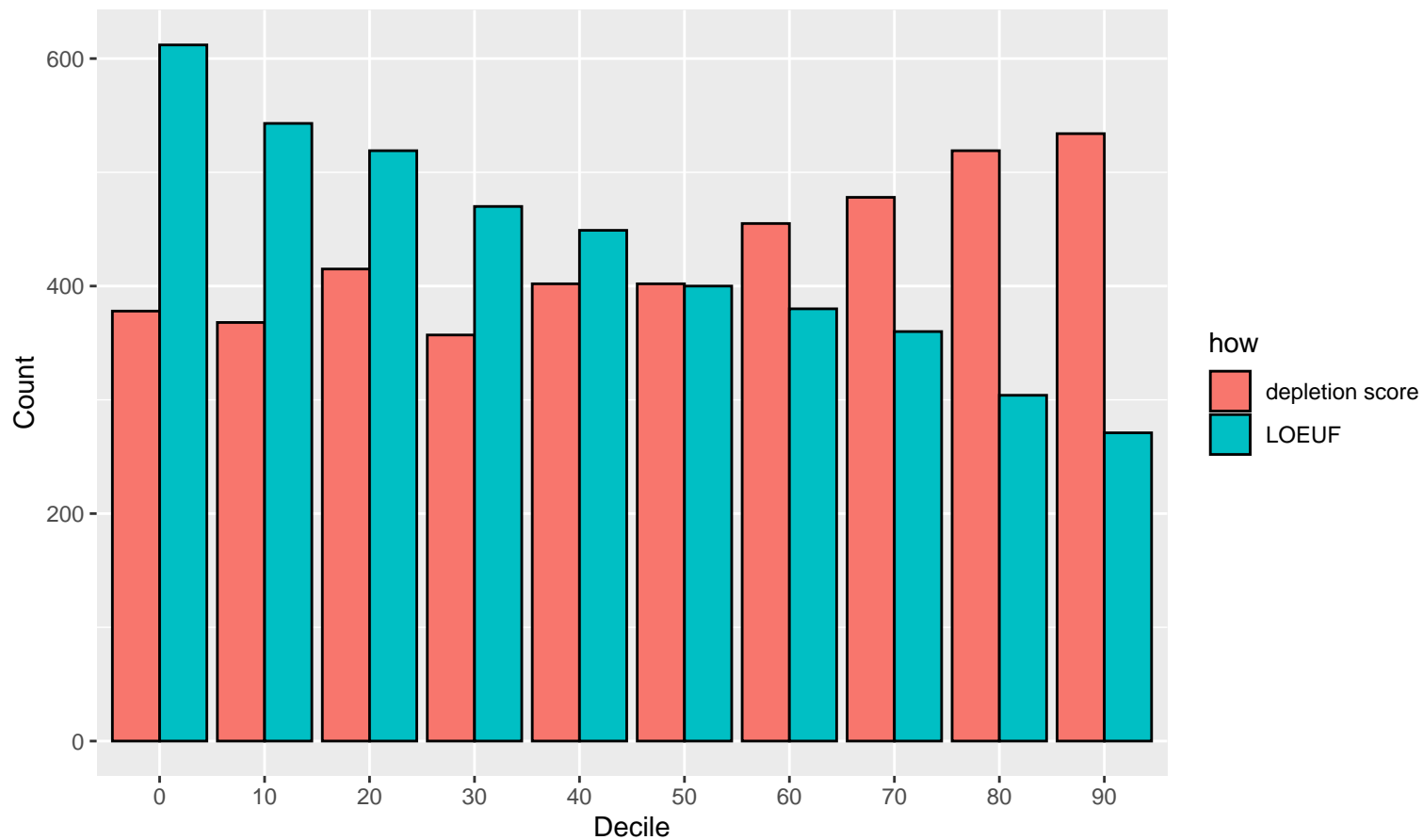
# haploinsufficiency (Severe)



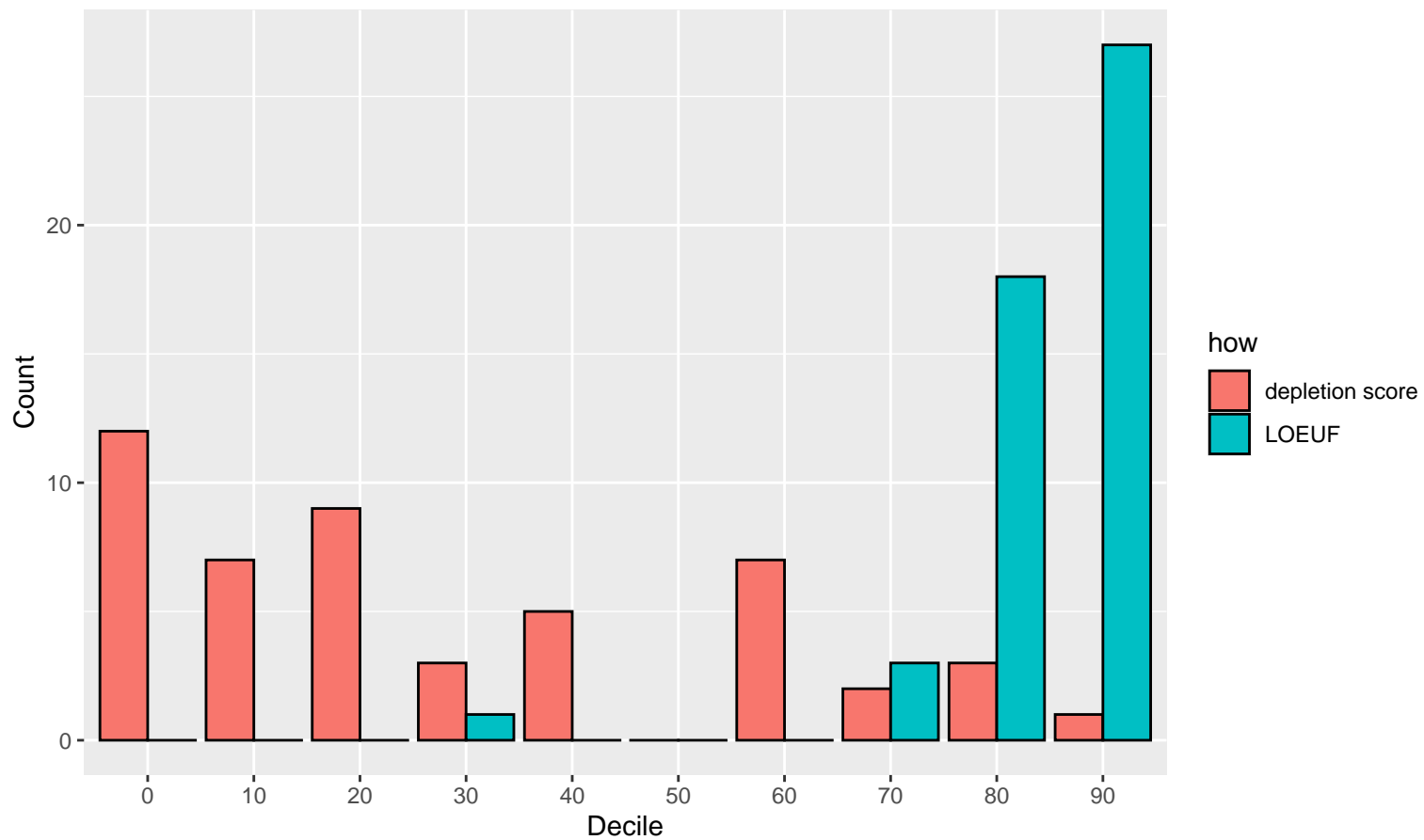
Genes deemed non-essential in multiple cultured cell lines  
based on CRISPR/Cas screen data



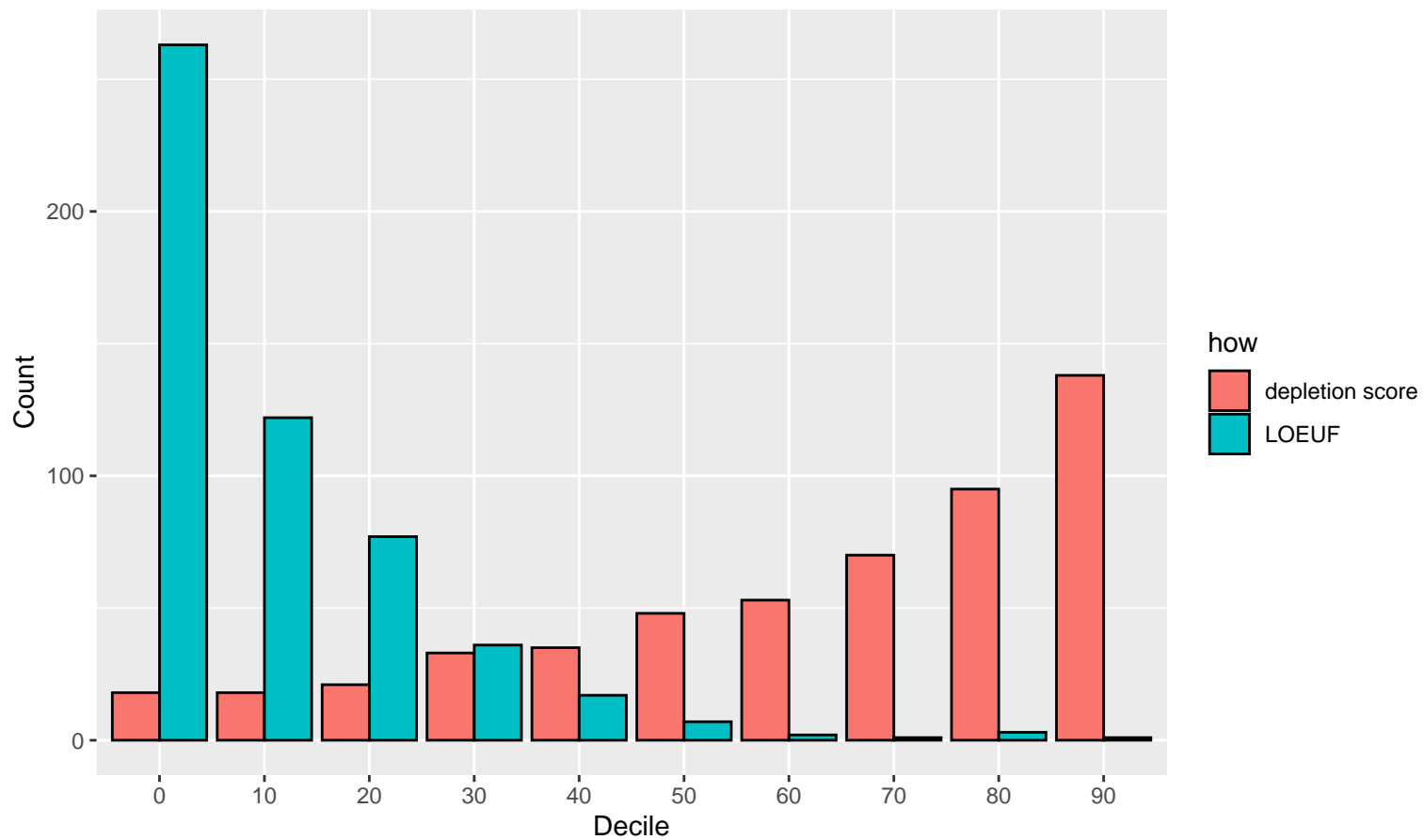
Closest gene to GWAS hits with  $P < 5 \times 10^{-8}$  in the NHGRI GWAS catalog



# olfactory receptors



## FMRP interactors





# uORF creating variants (canonical Gencode)

