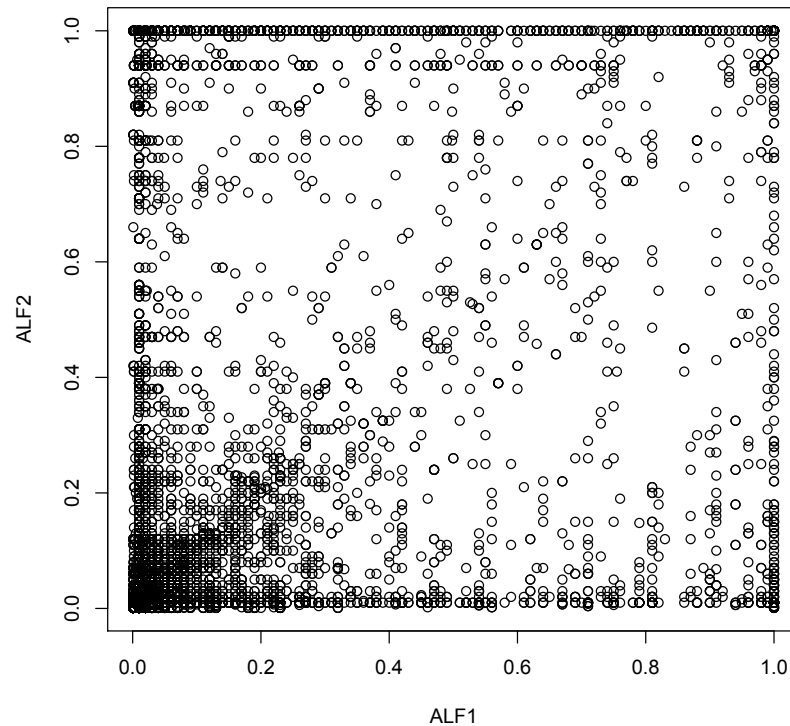


NetSNP

EK, YF

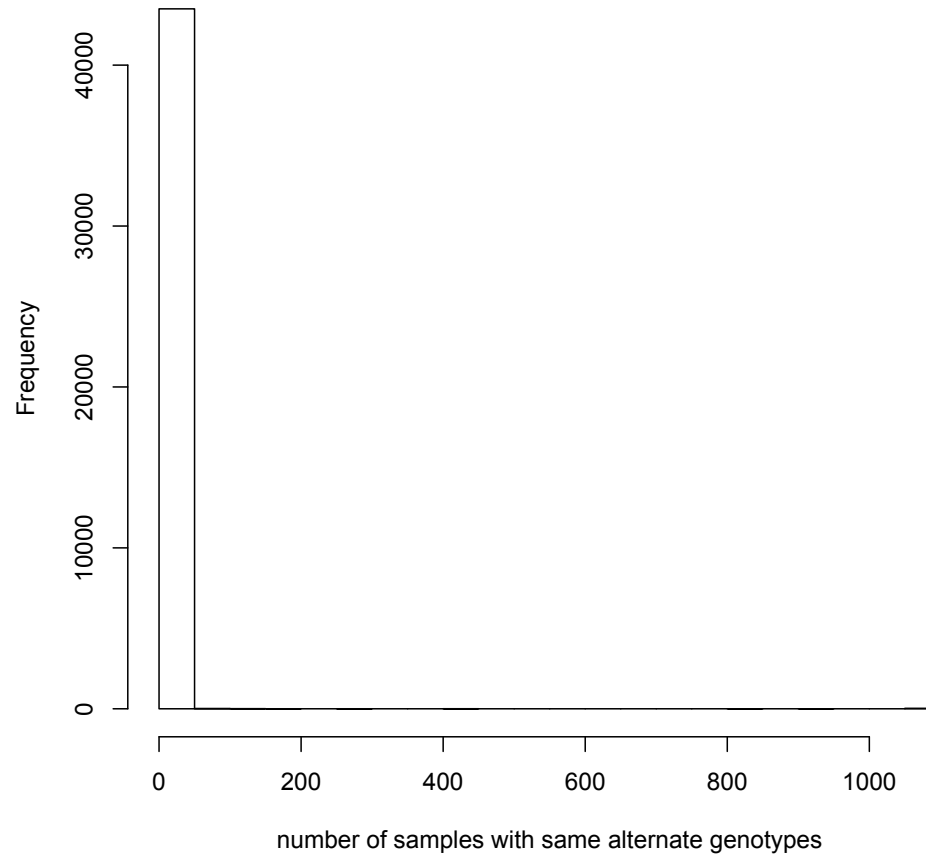
Previous results

- Allele frequencies of non-synonymous SNPs are significantly negatively correlated with degree centrality ($\rho = -0.03$) and betweenness centrality ($\rho = -0.02$)
- Non-syn SNP density and Indel density also significantly negatively correlated with degree ($\rho = -0.09$ and -0.04 respectively)
- Genes associated with HGMD mutations tend to show higher degree than genes with Phase I non-syn SNPs; however this is not the case for GWAS SNPs



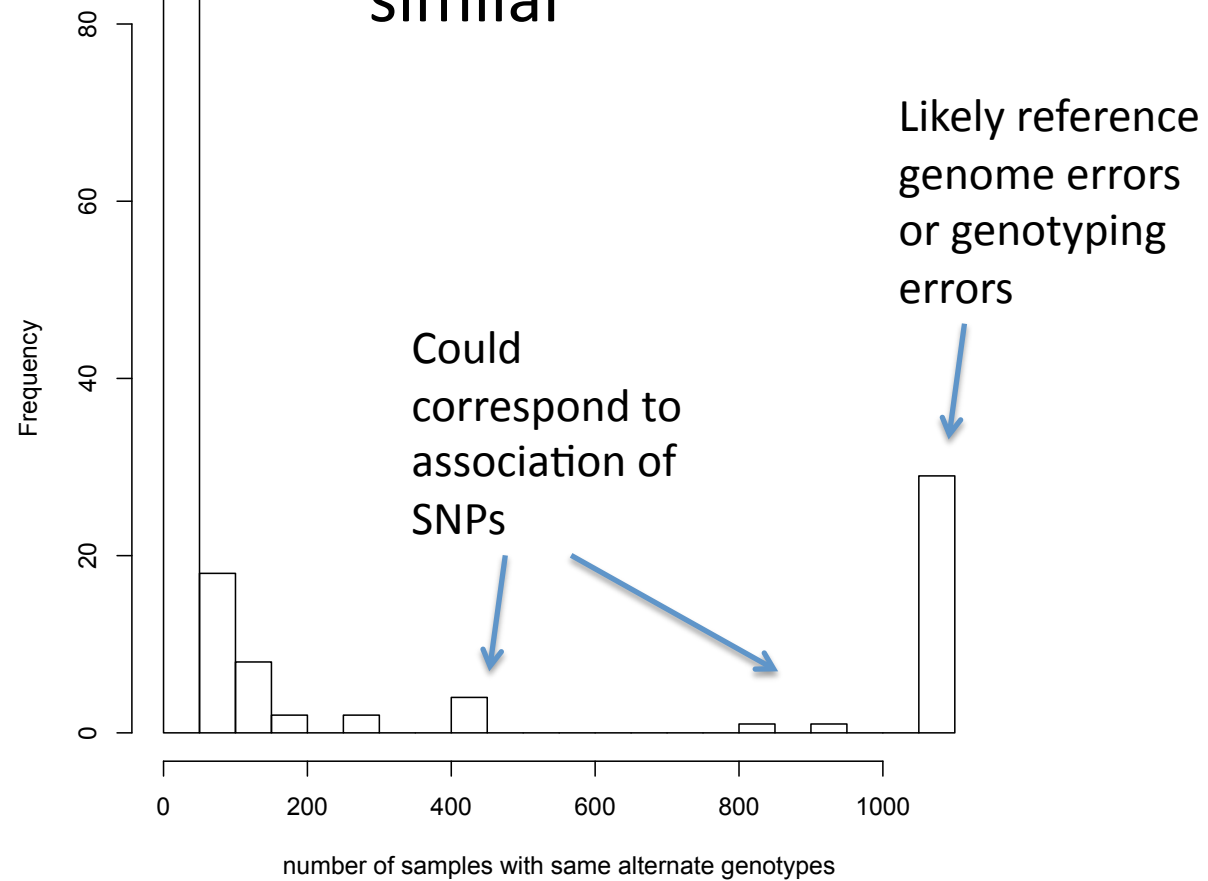
- Allele frequencies of SNPs in interacting proteins are positively correlated ($\rho = 0.34$); if consider only SNPs with minimum allele freq difference ($\rho = 0.53$, $pvalue < 2.2e-16$)
- Thus, interacting proteins are under similar selection constraints
- Is the correlation of allele frequencies due to similar genotypes ?
- In other words, is there association of SNPs due to PPI constraints ?

Distribution of number of samples with same alternate genotypes when alternate allele frequencies are very similar



- In most cases positive correlation of allele frequencies is not due to same genotypes of SNPs

Distribution of number of samples with same alternate genotypes when alternate allele frequencies are very similar



- In most cases positive correlation of allele frequencies is not due to same genotypes of SNPs

- Look further in detail at the 35 cases: in different species; PLINK