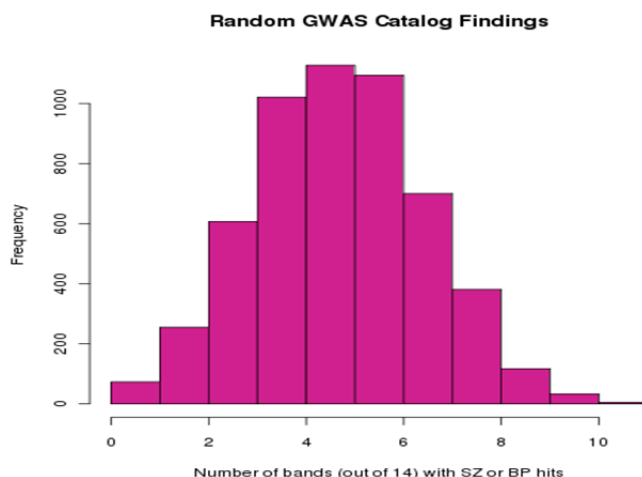


Search of NHGRI GWAS database for potential enrichment of linkage peaks for schizophrenia (SZ) and/or bipolar (BP) GWAS “hits.”

Of the 12 loci (14 bands) listed in Table 1, 7 bands had at least one SZ or BP finding in the GWAS catalogue (<http://www.genome.gov/gwastudies/>), including multiple hits on 10q22.2 and 15q23.

To see whether this was due to chance, we generated 10,000 replicates of randomly sampled sets of 14 bands each, and extracted a subset of 5,413 replicates that had total band length matched to our observed total band length within +/- 10Mb. We then counted the proportion of replicates for which 7 or more bands had one or more “hits” for SZ or BP. Only 23% of random replicates showed hits in 7 or more bands, suggesting that our peaks may be somewhat enriched for SZ-BP associated SNPs.



However, searching for overlap by chromosomal band can be misleading, as the boundaries of the linkage peaks, which are ill defined under the best of circumstances, are also poorly correlated with band boundaries. Furthermore, since linkage analysis and association analysis pick up fundamentally different types of genetic effects, it is unclear what the interpretation of this comparison should be. Nonetheless, it may be that some of these reported associations can point us to specific genes under the linkage peaks that should be prioritized for follow up.

GWAS findings overlapping with the band locations of linkage peaks (as annotated in NHGRI Catalogue)

Band	Reported Gene	Mapped gene
3q28	-	PYDC2-FGF12
10q22.3	ZMIZ1	ZMIZ1
10q22.3	-	ZMIZ1
6q15	GABRR1	CYCSP16-PNRC1
11p15.3	-	MRVI1-CTR9
11p11.2	TSPAN18	TSPAN18
12q23.1	ANKS1B	ANKS1B
15q23	-	PAQR5
15q23	-	MIR629-UACA