ESM Table 3: Tests of heterogeneity of genotype frequencies and disease association across family collections (listed in ESM Table 1).

Region Candidate gene rsnumber Alleles	Genotype frequency heterogeneity tests	Disease association heterogeneity tests
1q32.1 *IL10* rs3024505 C>T	0.25	0.42
4p15.2 rs10517086 G>A	0.12	0.36
6q22.32 *C6orf173* rs9388489 A>G	6.9×10^{-4}	0.82
7p12.1 *COBL* rs4948088 C>A	5.6×10^{-8}	0.14
7p15.2 *SKAP2* rs7804356 T>C	4.3×10^{-8}	0.084
9p24.2 *GLIS3* rs7020673 G>C	0.025	0.61
10q23.31 *RNLS* rs10509540 T>C	0.071	0.015
12p13.31 *CD69* rs4763879 G>A	8.0×10^{-3}	0.57
14q24.1 *ZFP36L1/C14orf181* rs1465788 G>A	4.0×10^{-15}	0.010
14q32.2 *C14orf64* rs4900384 A>G	4.4×10^{-46}	0.30
16p11.2 *IL27* rs4788084 G>A	1.3×10^{-14}	0.57
16q23.1 *CTRB2* rs7202877 T>G	5.6×10^{-8}	0.026
17q12 *GSDMB/ORMDL3* rs2290400 G>A	1.3×10^{-11}	0.34
17q21.2 *CCR7*	1.9×10^{-14}	0.39

rs7221109 C>T		
19q13.32 *PRKD2* rs425105 A>G	0.51	0.57
20p13 *SIRPG* rs2281808 C>T	$3.1x10^{-14}$	0.91
22q12.2 *HORMAD2* rs5753037 C>T	$5.4x10^{-9}$	0.43
Xq28 *GAB3* rs2664170 A>G	$4.4x10^{-5}$	0.31*

*Only females analysed, only transmissions from the mother were considered for the chromosome X disease association heterogeneity test.