

Table and Figure Legends

Table 1: MUPPITS demographics

106 children in the MUPPITS cohort were diagnosed with asthma and 1 was excluded from analysis due to missing RNA sequencing data. The table shows distribution by sex, race based on census categories, and city of residence, as well as average age.

Figure 1: *IFI16* plot by FDR

Among the 6 SNPs identified in *IFI16*, 2 showed a statistically significant effect on *IFI16* gene expression (FDR<.05). **A**, rs1057027 was identified as a statistically significant eQTL (p-value=.0327) where there is increased *IFI16* gene expression for the reference allele compared to the alternate allele. **B**, a similar trend exists with rs1057028 (p-value = .0327). Boxplots have genotypes in order from reference allele to alternate allele and include mean, a lower quartile (25th percentile), and an upper quartile (75th percentile).

Figure 2: *IFI44L* plot by FDR

Among the 6 SNPs identified in *IFI44L*, 1 showed a statistically significant effect on *IFI44L* expression (FDR<.05). **A**, rs4650590 was identified as a statistically significant eQTL (p-value= .028) with increased *IFI44L* expression of the alternate allele compared to the reference allele.

Figure 3: *IFIH1* plot by FDR

Among the 3 SNPs identified in *IFIH1*, 2 showed a statistically significant effect on *IFIH1* gene expression (FDR<.05). **A**, rs1990760 was a statistically significant eQTL (p-value= .011) with decreased *IFIH1* expression of the reference allele compared to the alternate allele. **B**, Interestingly, rs3747517 had increased expression with the heterozygous genotype compared to the homozygous reference and homozygous alternate alleles. This SNP is also associated with *IFIH1* gene expression (p-value = .00067).

Figure 4: *IFI16* locus zoom plot

The locus zoom plot has points colored according to minor allele frequency. *IFI16* is located on chromosome 1 and spans the region from position 158999968 to position 159055155.

Figure 5: *IFI44L* locus zoom plot

The locus zoom plot has points colored according to minor allele frequency. *IFI44L* is located on chromosome 1 and spans the region from position 78619922 to position 78646145.

Figure 6: *IFIH1* locus zoom plot

The locus zoom plot has points colored according to minor allele frequency. *IFIH1* is located on chromosome 2 and spans the region from position 162267079 to position 162318703.

Table 2

The table includes all SNPs that met HW equilibrium and were used for cis-eQTL analysis. Effect size was measured on a log2 fold change scale. SNP functional consequences were investigated and recorded from dbSNP^[25]. No eQTL SNPs were found in transcription factor binding sites.

Table 3: *IFI16* Linkage Disequilibrium Matrix

The 6 by 6 linkage disequilibrium matrix for *IFI16* shows r^2 values within each cell.

Table 4: *IFI44L* Linkage Disequilibrium Matrix

The 6 by 6 linkage disequilibrium matrix for *IFI44L* shows r^2 values within each cell.

Table 5: *IFIH1* Linkage Disequilibrium Matrix

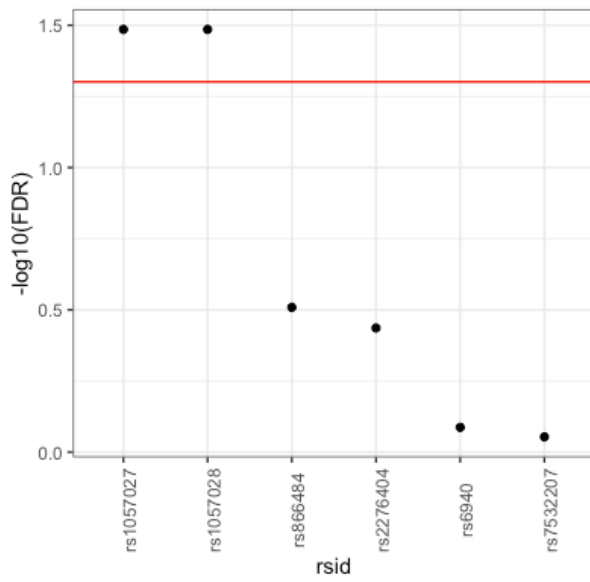
The 3 by 3 linkage disequilibrium matrix for *IFIH1* shows r^2 values within each cell.

Table 1

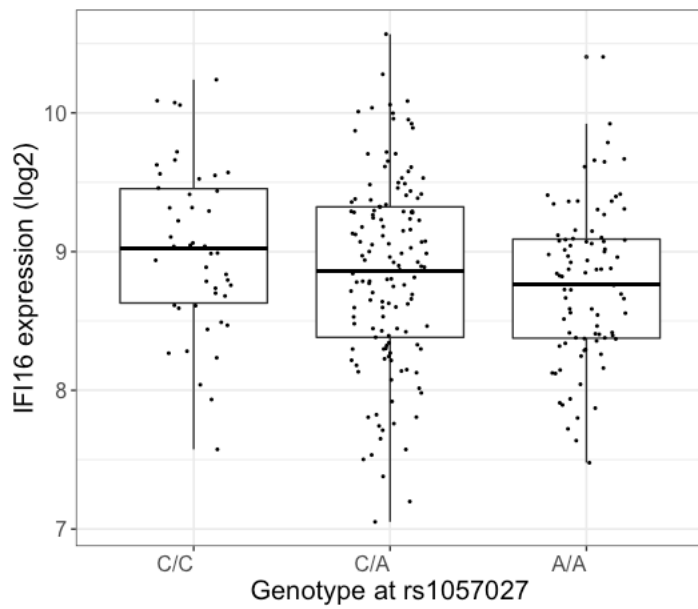
	N (%)
sex	
female	52 (49%)
male	54 (51%)
race	
Black, non-Hispanic	57 (53.8%)
Hispanic	36 (33.9%)
other, non-Hispanic	10 (9.4%)
White, non-Hispanic	3 (2.8%)
Age (avg)	
	10.8
city of residence	
Baltimore	0
Boston	14 (13.2%)
Chicago	7 (6.6%)
Cincinnati	7 (6.6%)
Dallas	8 (7.5%)
Denver	13 (12.3%)
Detroit	14 (13.2%)
New York	23 (21.7%)
St. Louis	13 (12.3%)
Washington DC	6 (5.7%)

Figure 1

IFI16 SNPs in MUPPITS



A



B

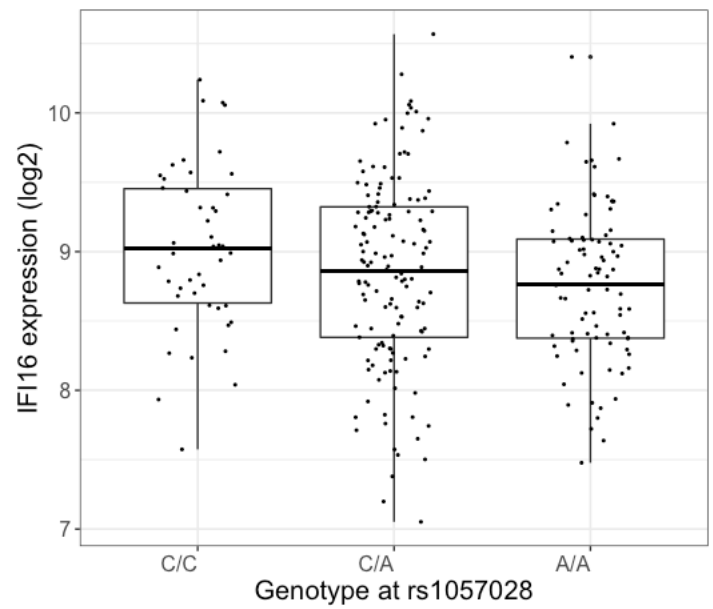
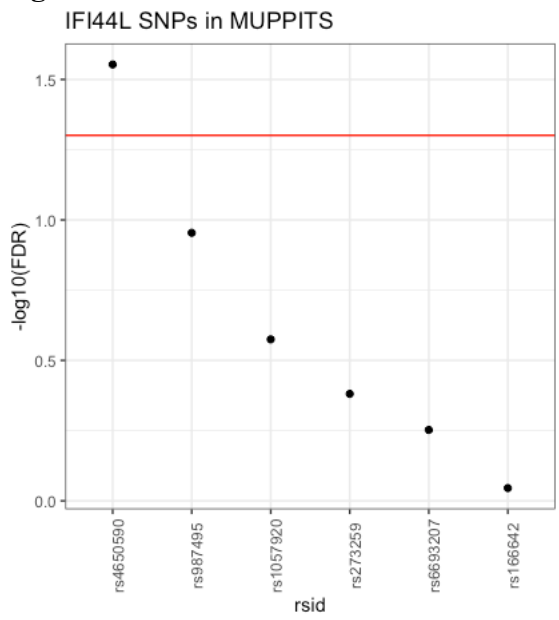


Figure 2



A

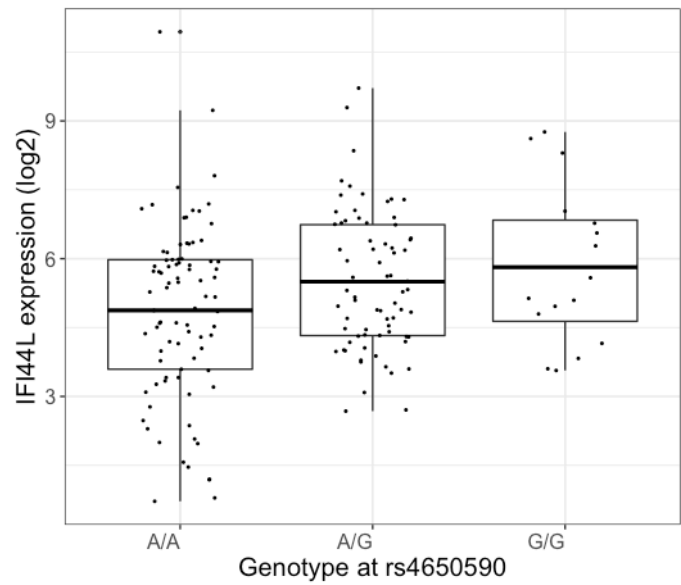
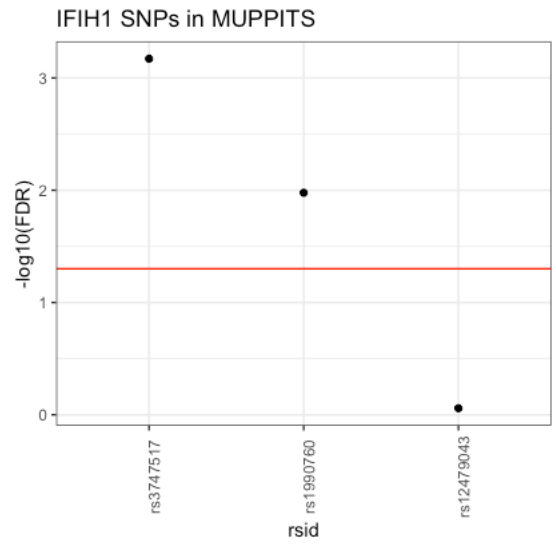
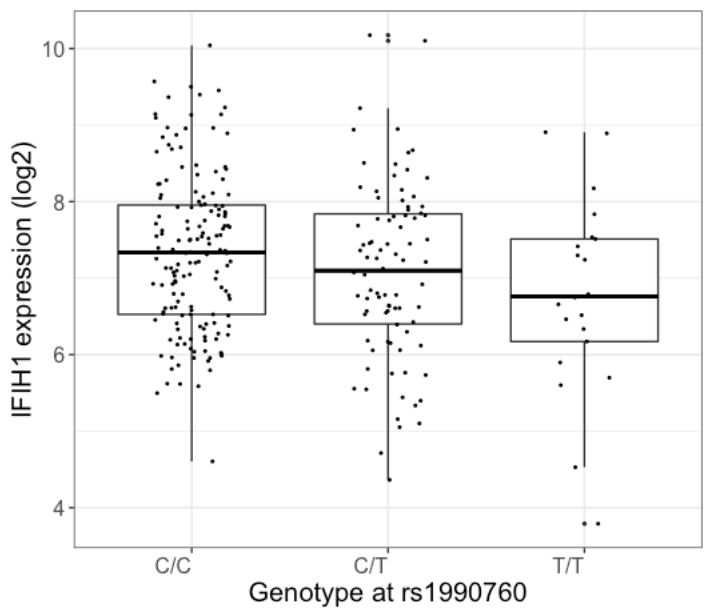


Figure 3



A



B

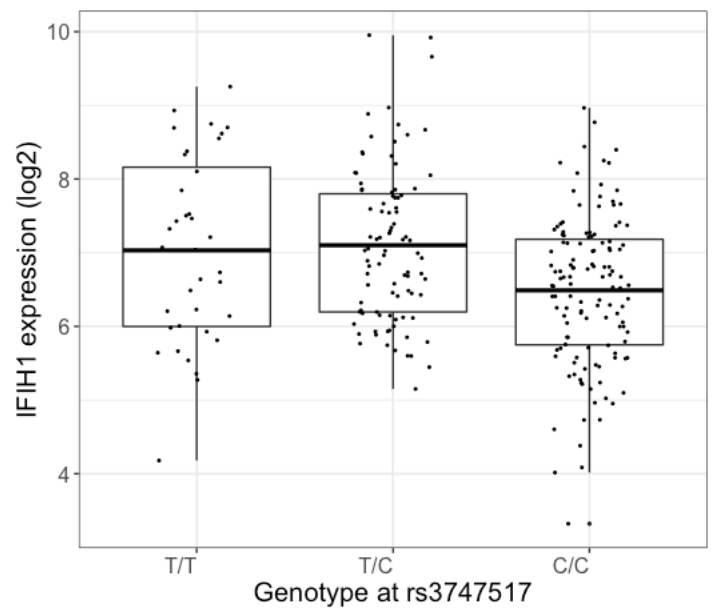


Figure 4

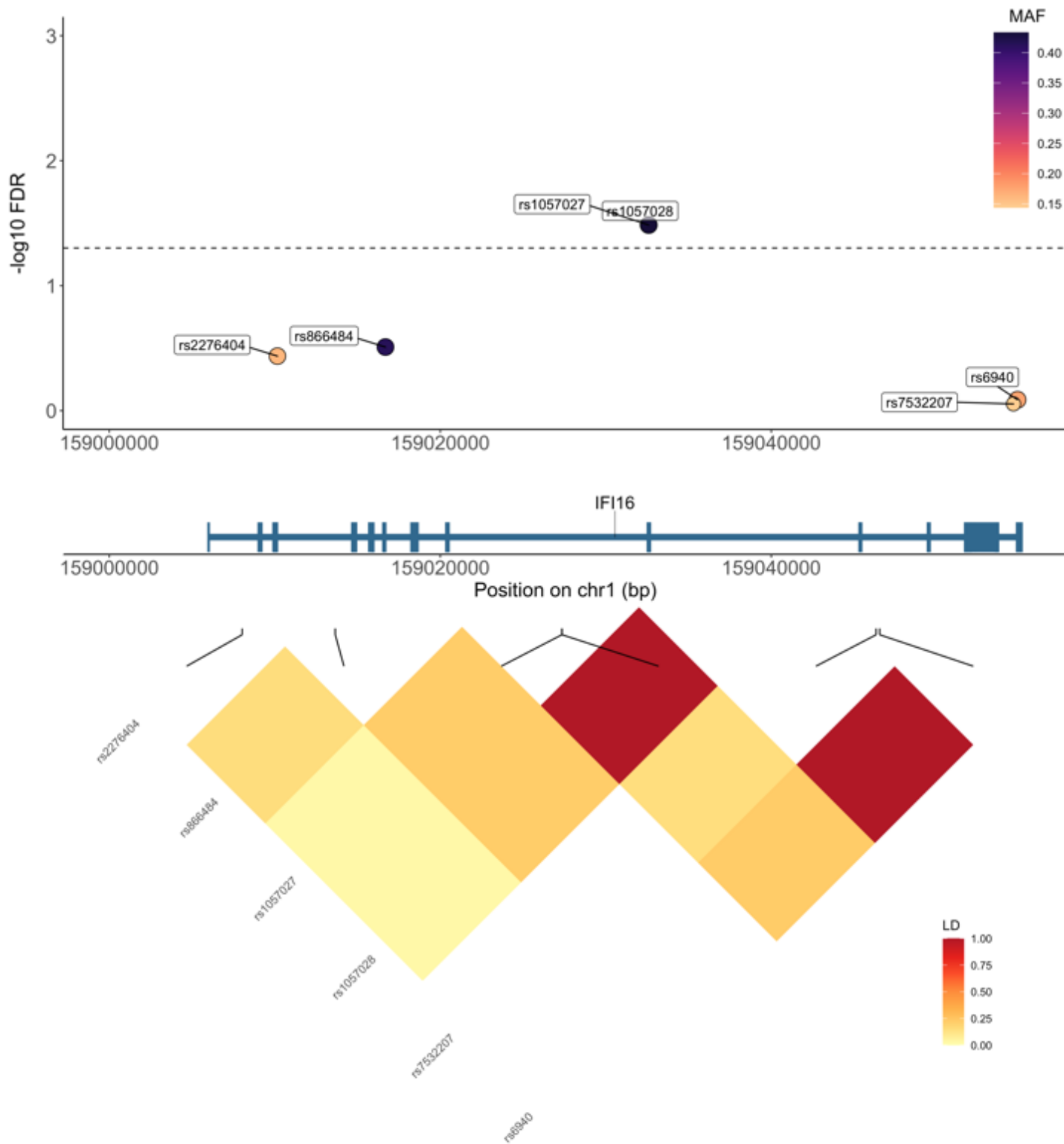


Figure 5

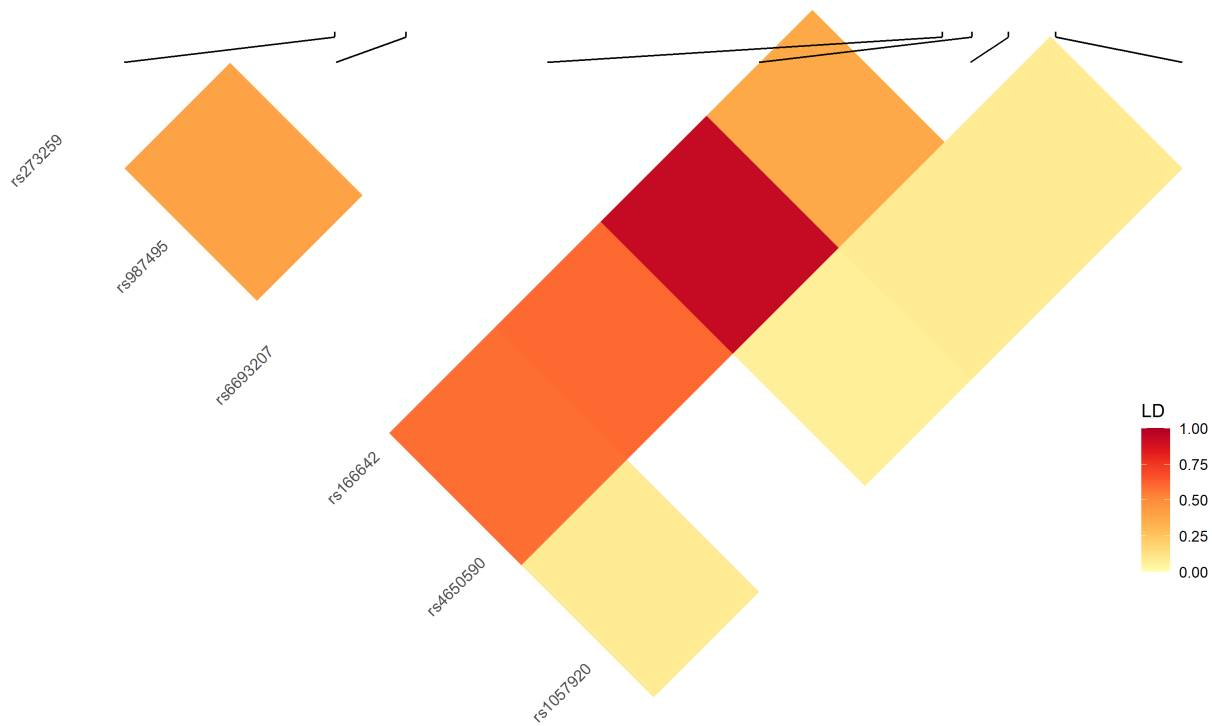
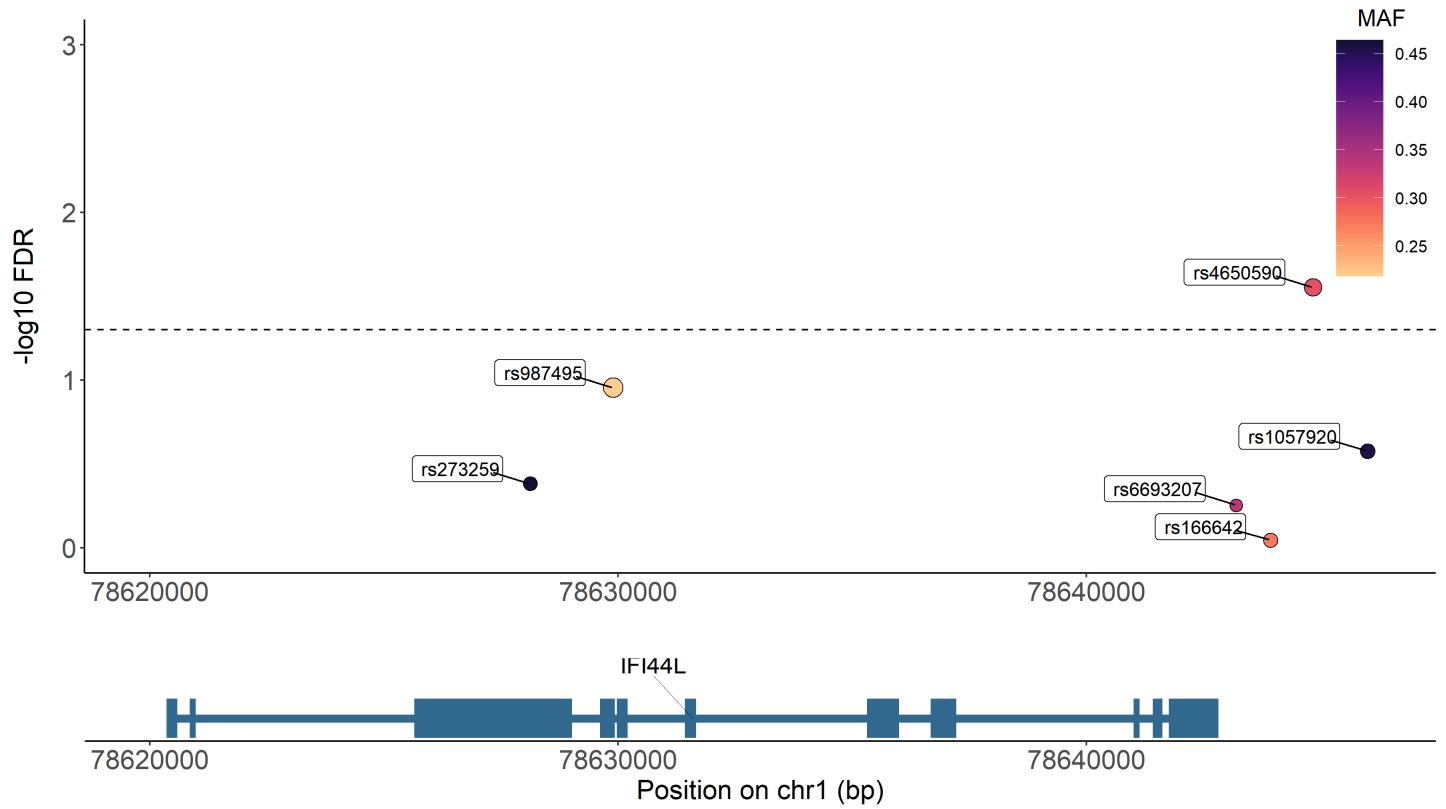


Figure 6

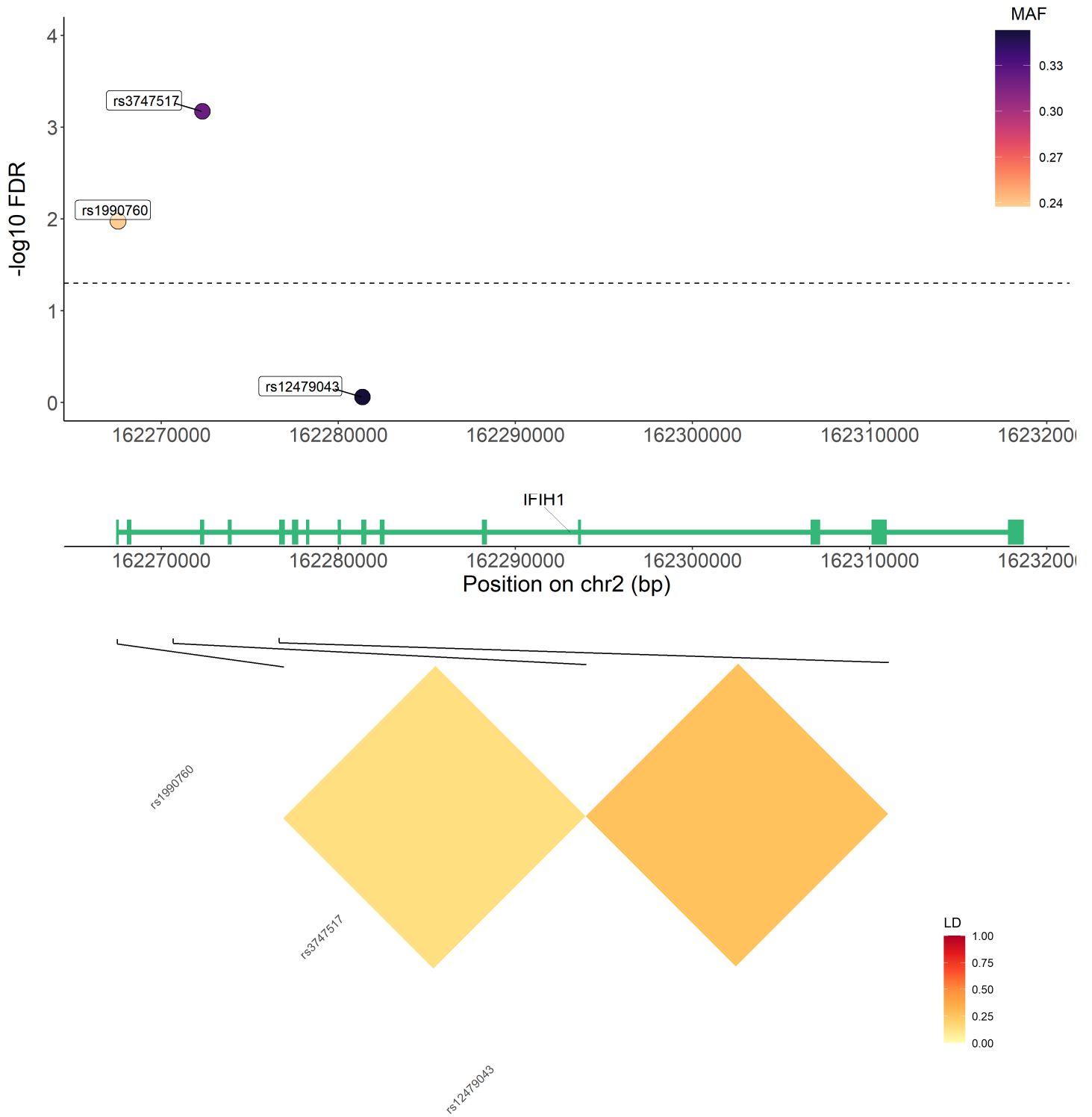


Table 3

IFI16 Linkage
Disequilibrium Matrix

	rs1057027	rs1057028	rs2276404	rs6940	rs7532207	rs866484
rs1057027		1	0.029	0.224	0.144	0.219
rs1057028	1		0.029	0.224	0.144	0.219
rs2276404	0.029	0.029		0.003	0.026	0.147
rs6940	0.224	0.224	0.003		1	0.416
rs7532207	0.144	0.144	0.026	1		0.334
rs866484	0.219	0.219	0.147	0.416	0.334	

Table 4

IFI44L Linkage
Disequilibrium Matrix

	rs4650590	rs1057920	rs166642	rs273259	rs6693207	rs987495
rs4650590		0.085	0.374	0.588	0.934	0.603
rs1057920	0.085		0.088	0.086	0.069	0.027
rs166642	0.374	0.088		0.277	0.211	0.146
rs273259	0.588	0.086	0.277		0.760	0.404
rs6693207	0.934	0.069	0.211	0.760		0.747
rs987495	0.603	0.027	0.146	0.404	0.747	

Table 5

IFIH1 Linkage
Disequilibrium Matrix

	rs12479043	rs1990760	rs3747517
rs12479043		0.158	0.265
rs1990760	0.158		0.139
rs3747517	0.265	0.139	