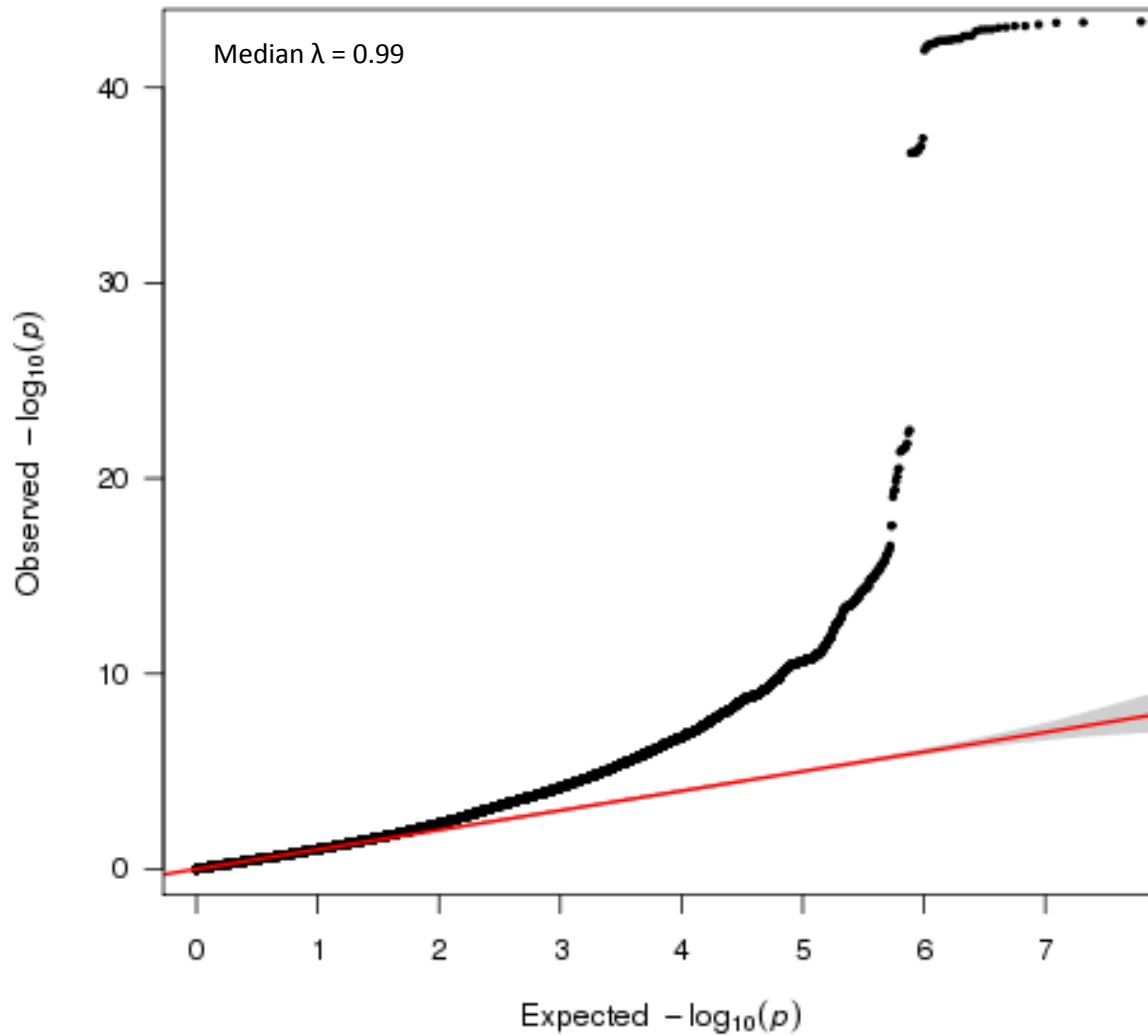
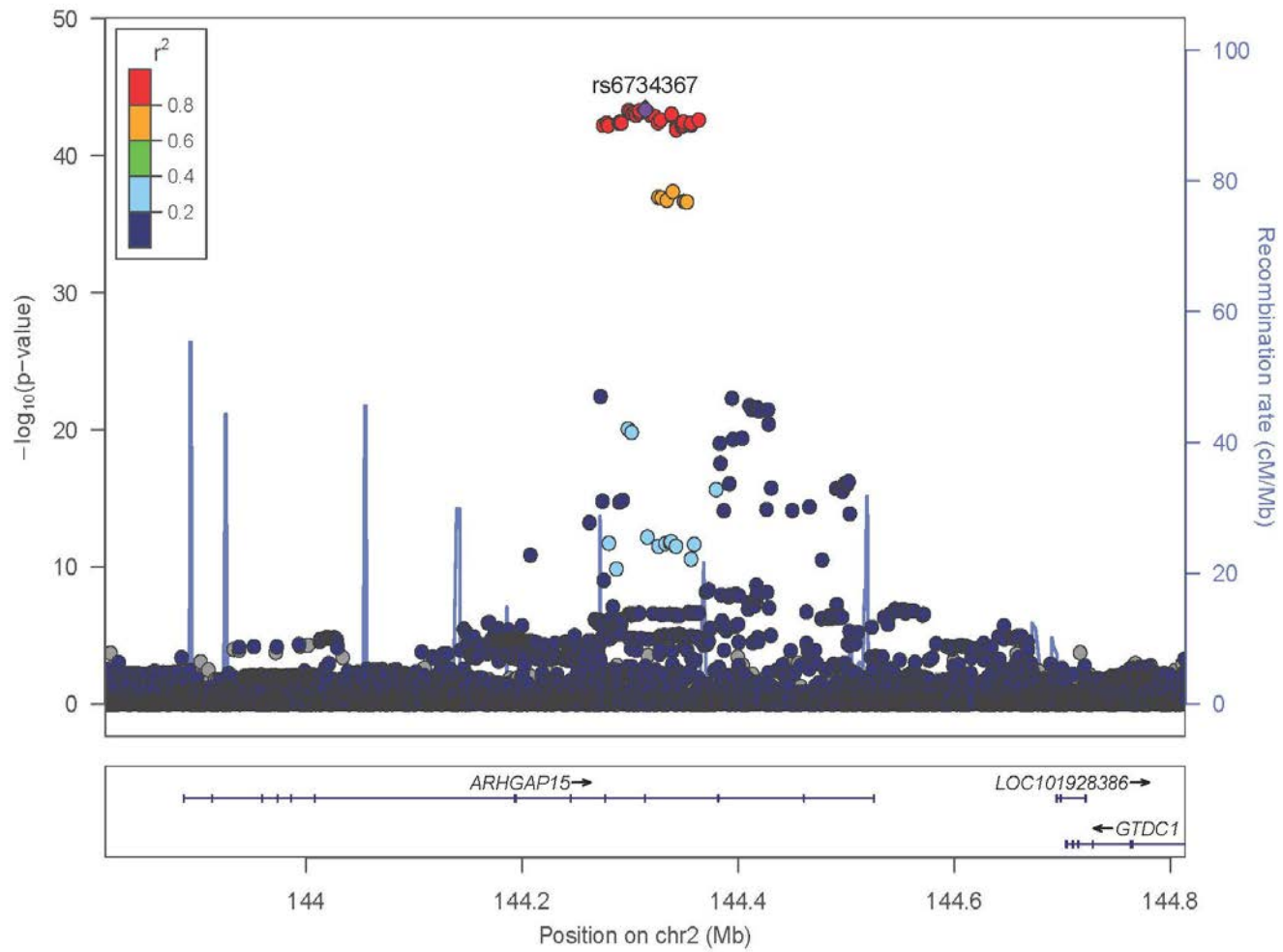


Supplementary Figure 1: Manhattan plot illustrating UK Biobank SNPs associated with diverticular disease (~30 million imputed SNPs). The x axis is chromosomal position and y axis is the significance of association for each SNP. Red line indicates genome-wide significance level ( $5 \times 10^{-8}$ ). Genes associated with 42 loci of interest are annotated. Loci replicating in MGI in bold. \* indicates locus replicated in prior GWAS.

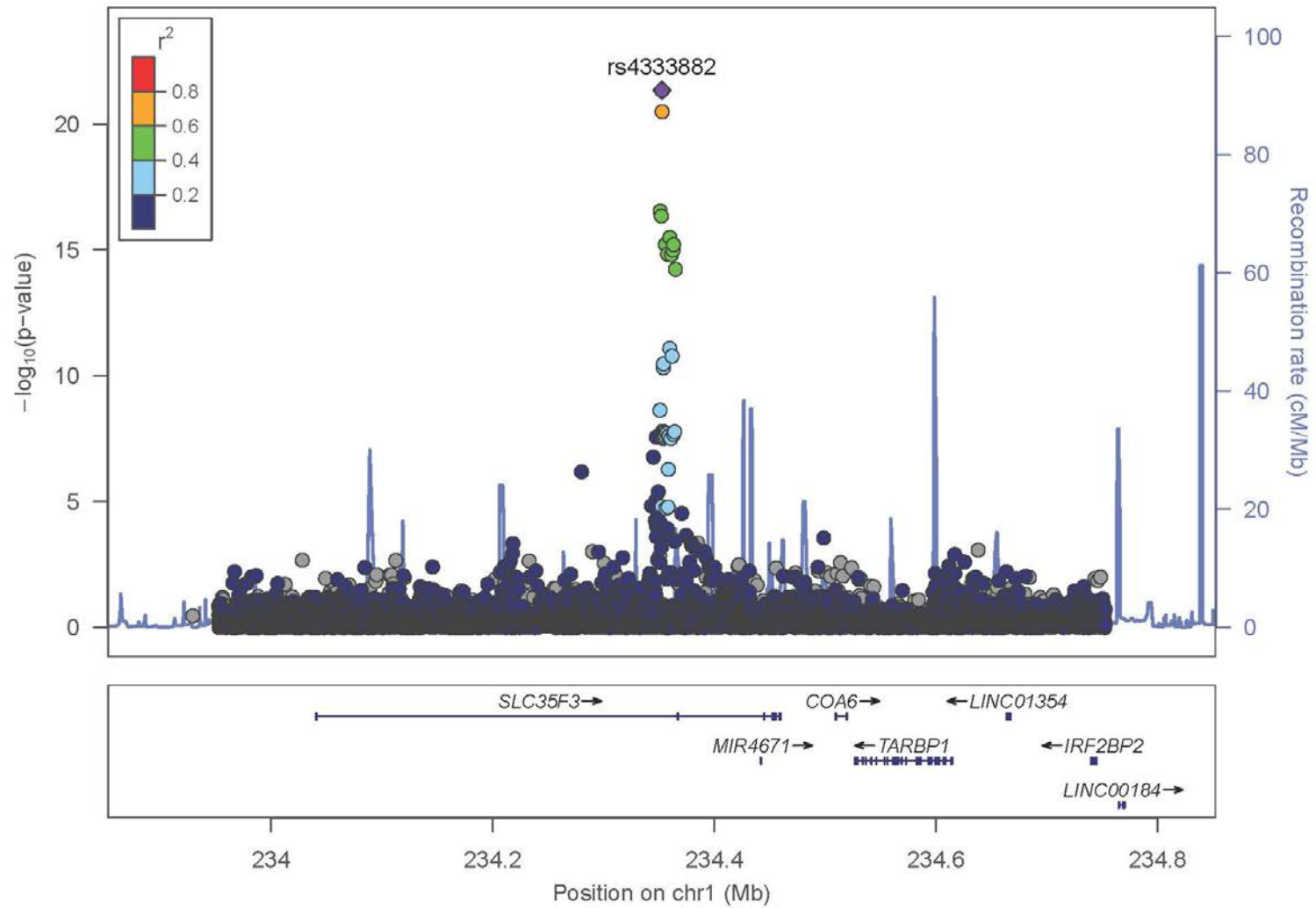


Supplementary Figure 2: Quantile-quantile (QQ) plot illustrating results of genome-wide association study (GWAS) for diverticular disease in European-descent participants in the UK Biobank (27,444 cases/382,284 controls). Illustrates deviation of observed values (black dots) from expected values (null hypothesis [red line]).

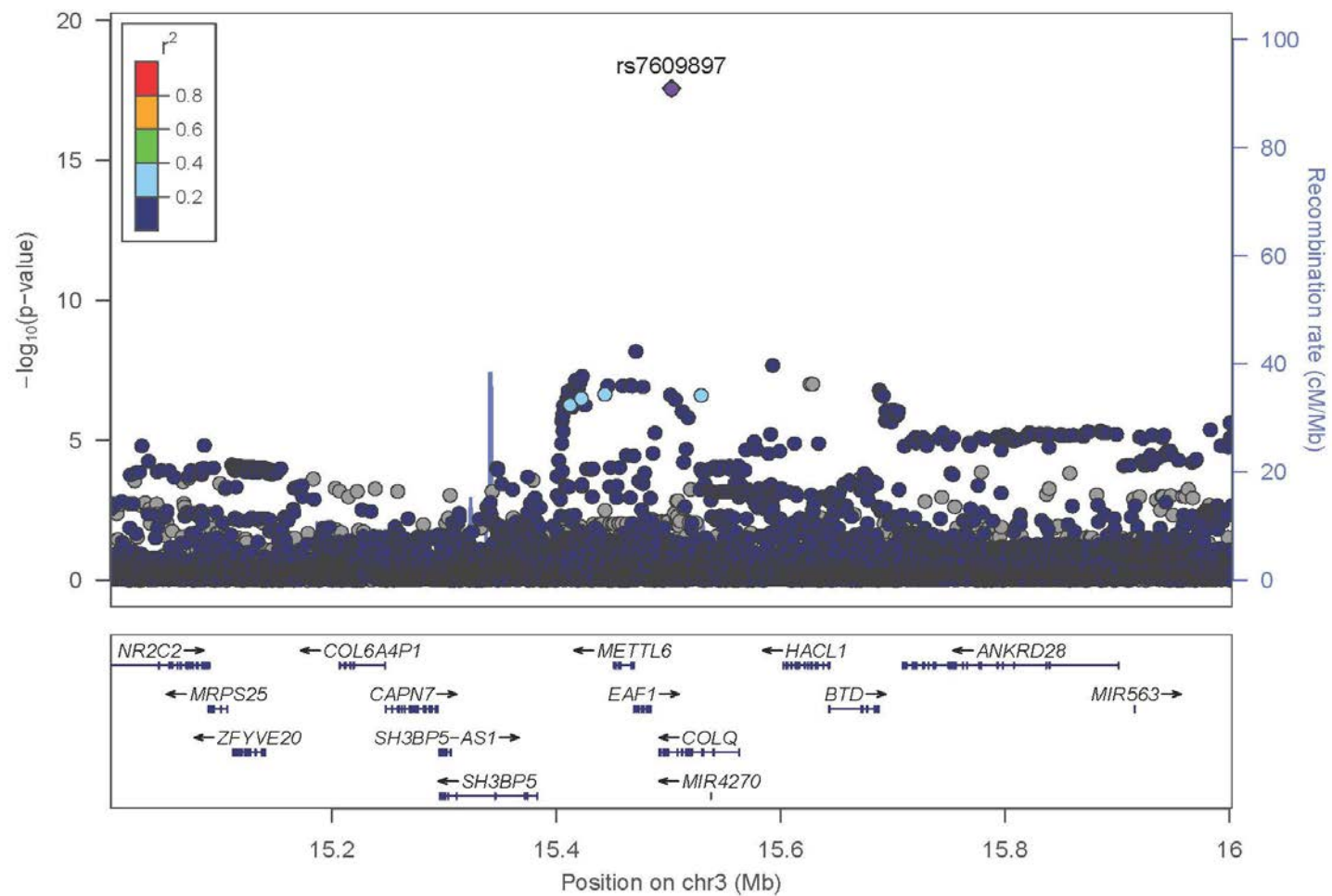
Supplementary Figures 3A-3Z, 3A1-3A16: Individual LocusZoom plots for 42 individual loci of interest identified in genome-wide association study of diverticular disease in the UK Biobank (27,444 cases/382,284 controls; approximately 30 million imputed SNPs). Horizontal axis demonstrates nearby genes. Vertical axis is  $-\log_{10}$  of two-sided p-value for association with diverticular disease. Colors indicate  $r^2$  level between SNPs.



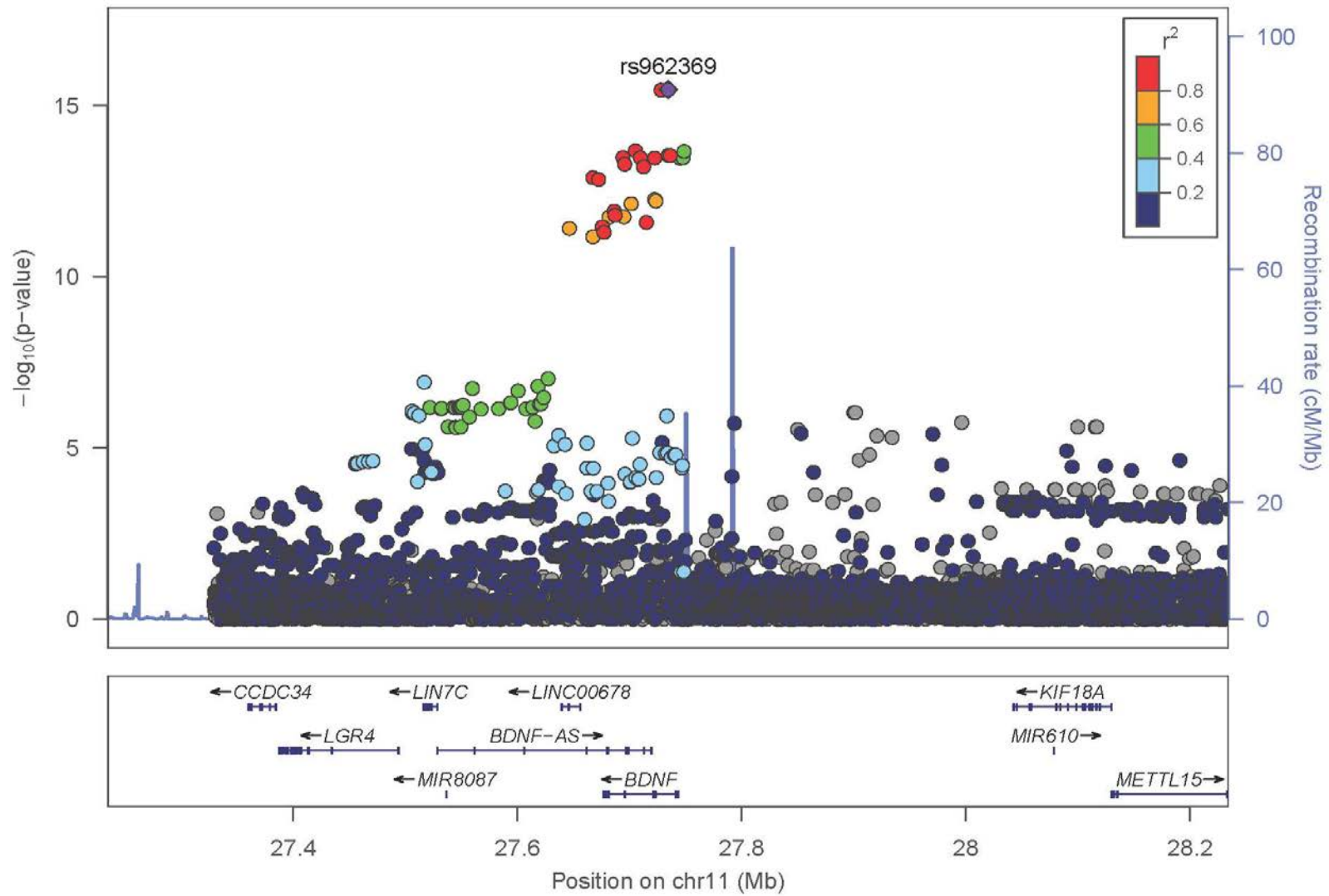
Supplementary Figure 3A: Locus 1 – Nearest Gene: *ARHGAP15*



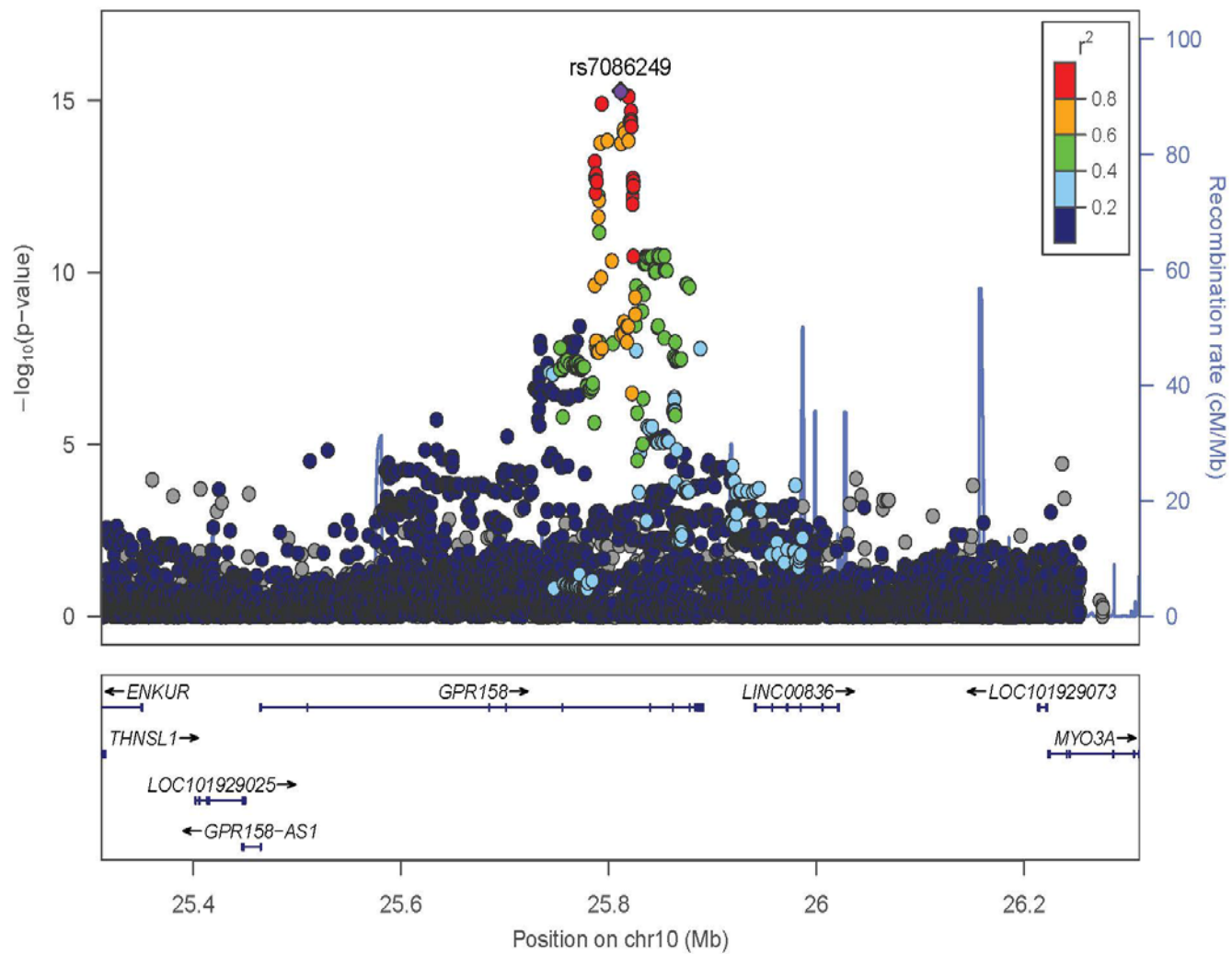
Supplementary Figure 3B: Locus 2 – Nearest Gene: *SLC35F3*



Supplementary Figure 3C: Locus 3 – Nearest Gene: *COLQ*/*METTL6*

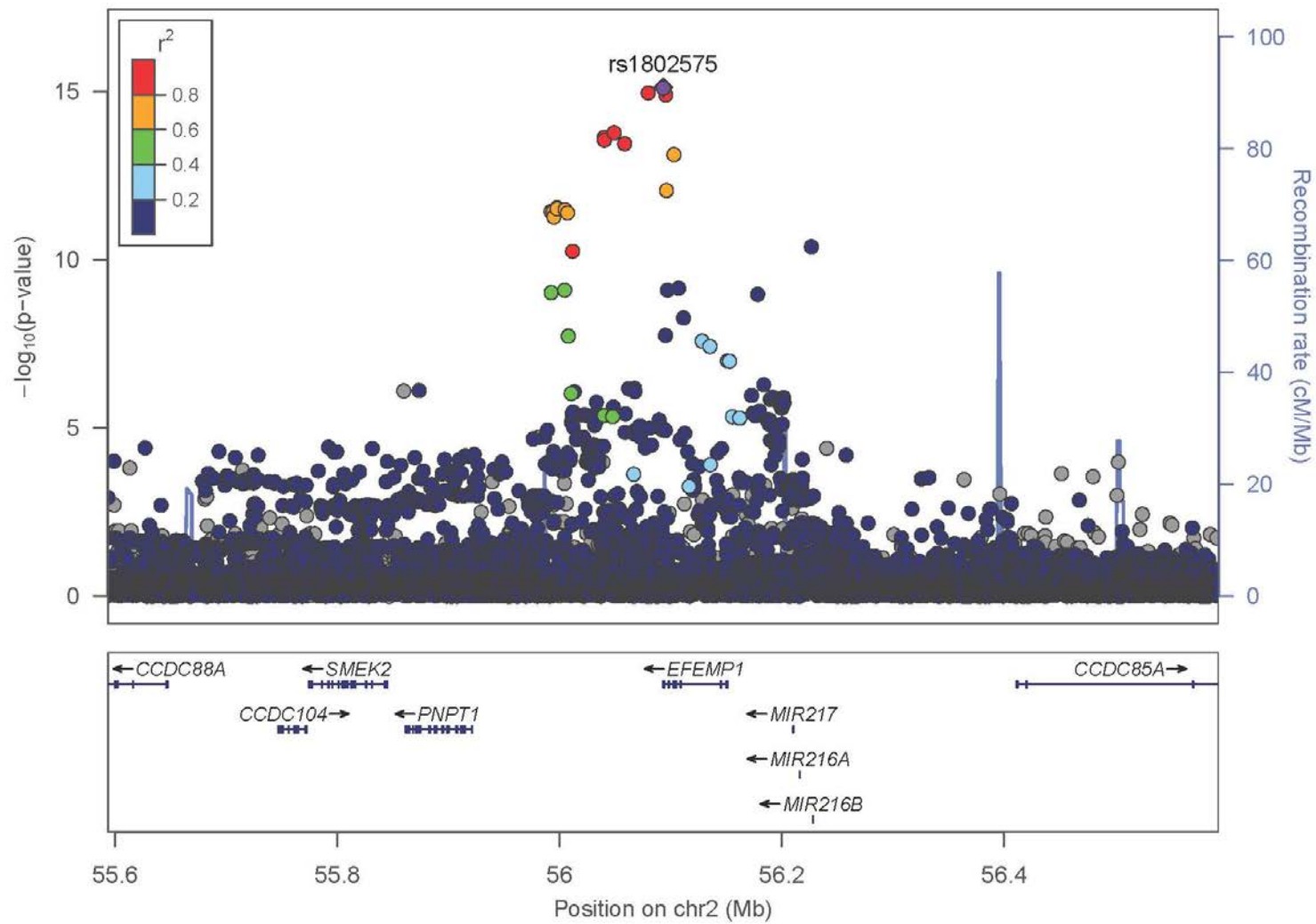


Supplementary Figure 3D: Locus 4 – Nearest Gene: *BDNF*

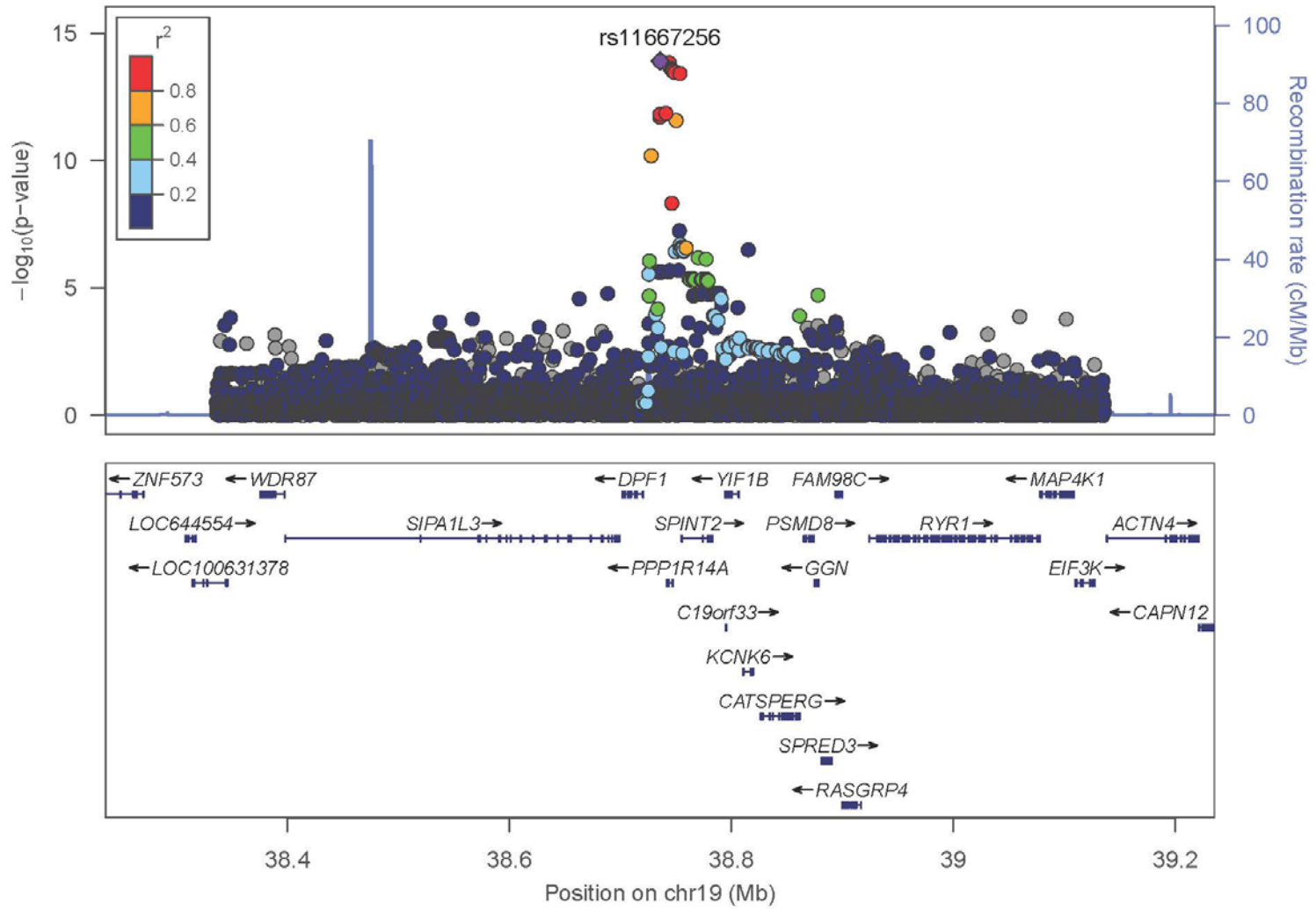


Supplementary Figure 3E: Locus 5 – Nearest Gene: *GPR158*

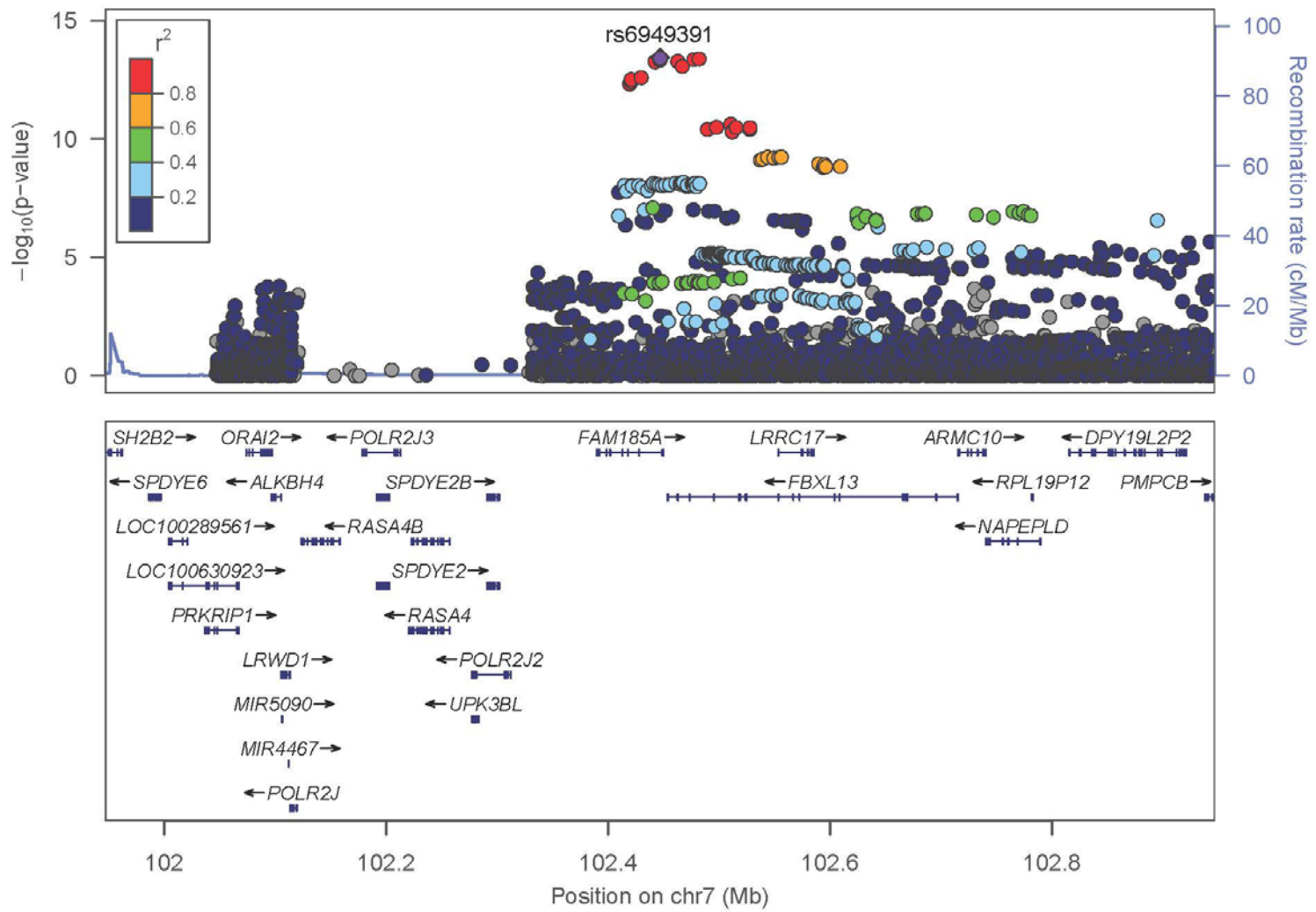




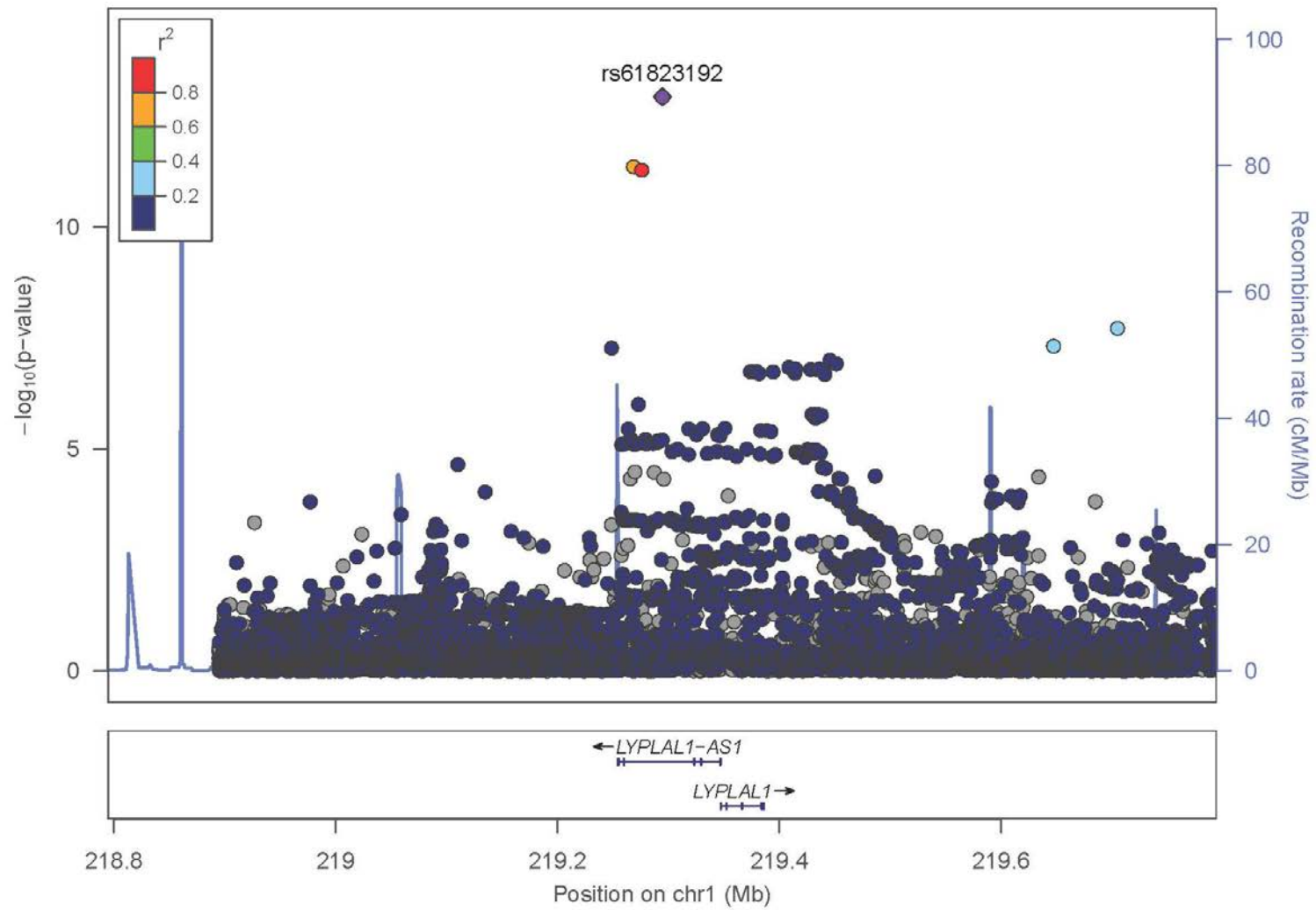
Supplementary Figure 3F: Locus 6 – Nearest Gene: *EFEMP1*



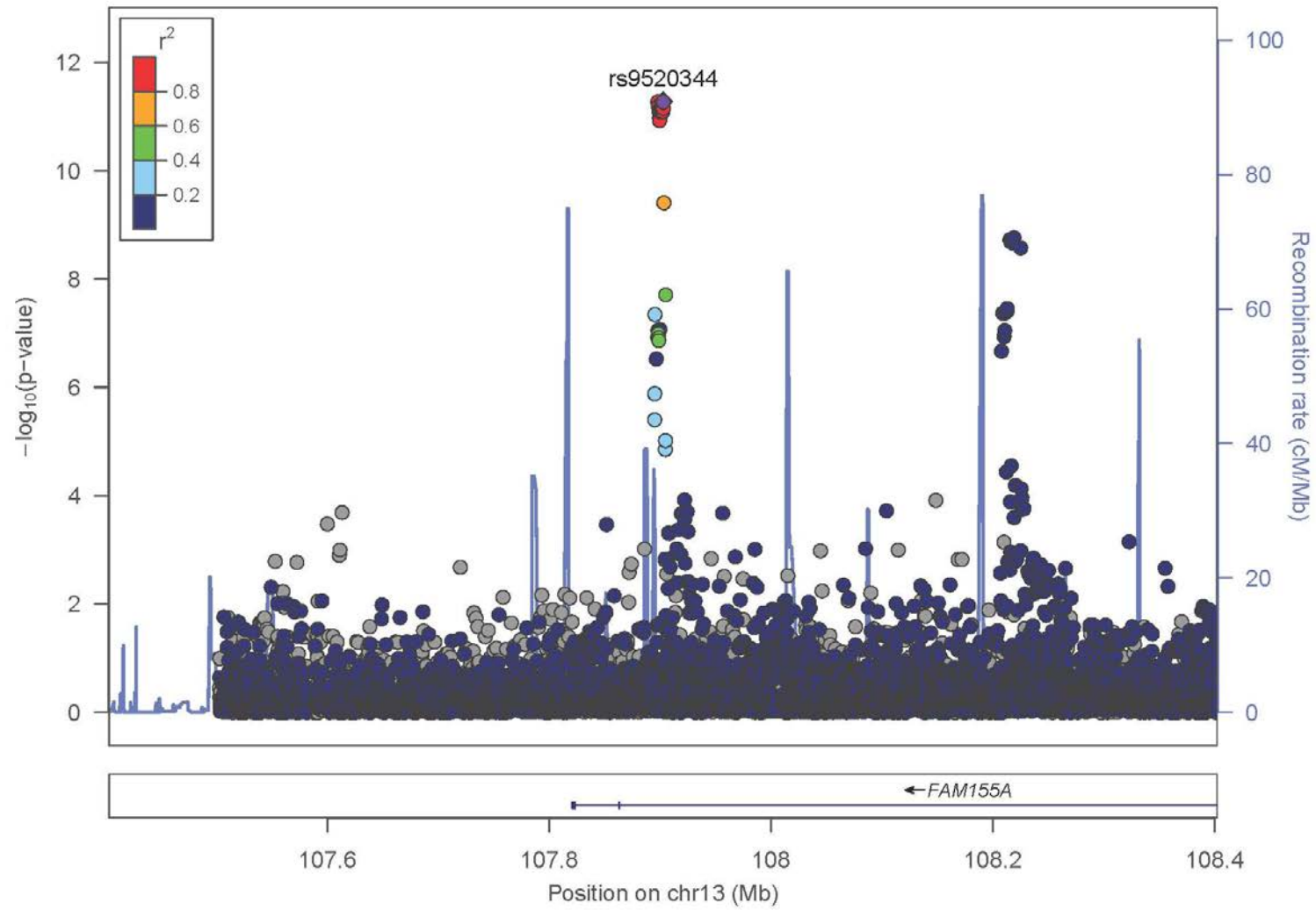
Supplementary Figure 3G: Locus 7 – Nearest Gene: *PPP1R14A*



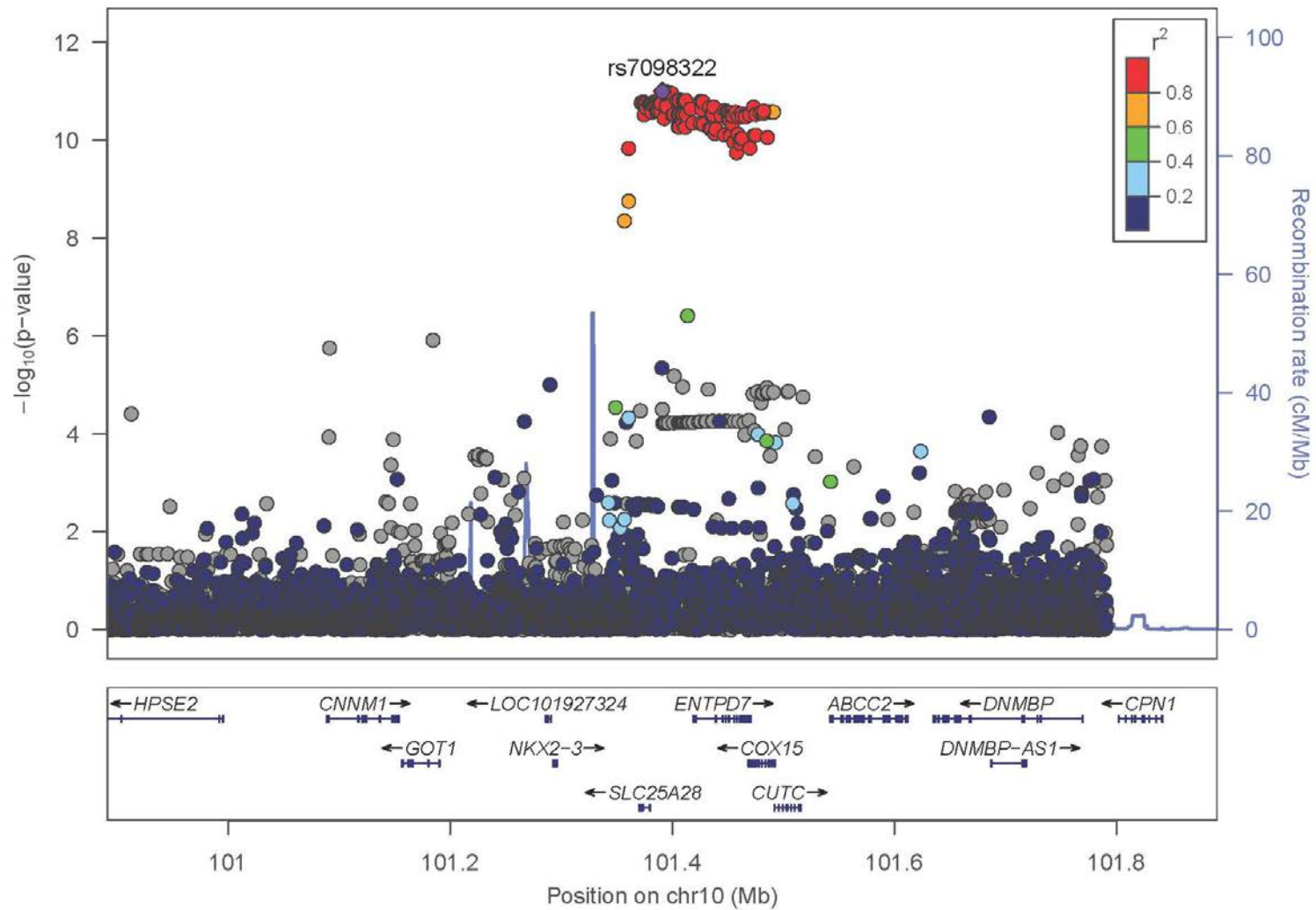
Supplementary Figure 3H: Locus 8 – Nearest Gene: *FAM185A*



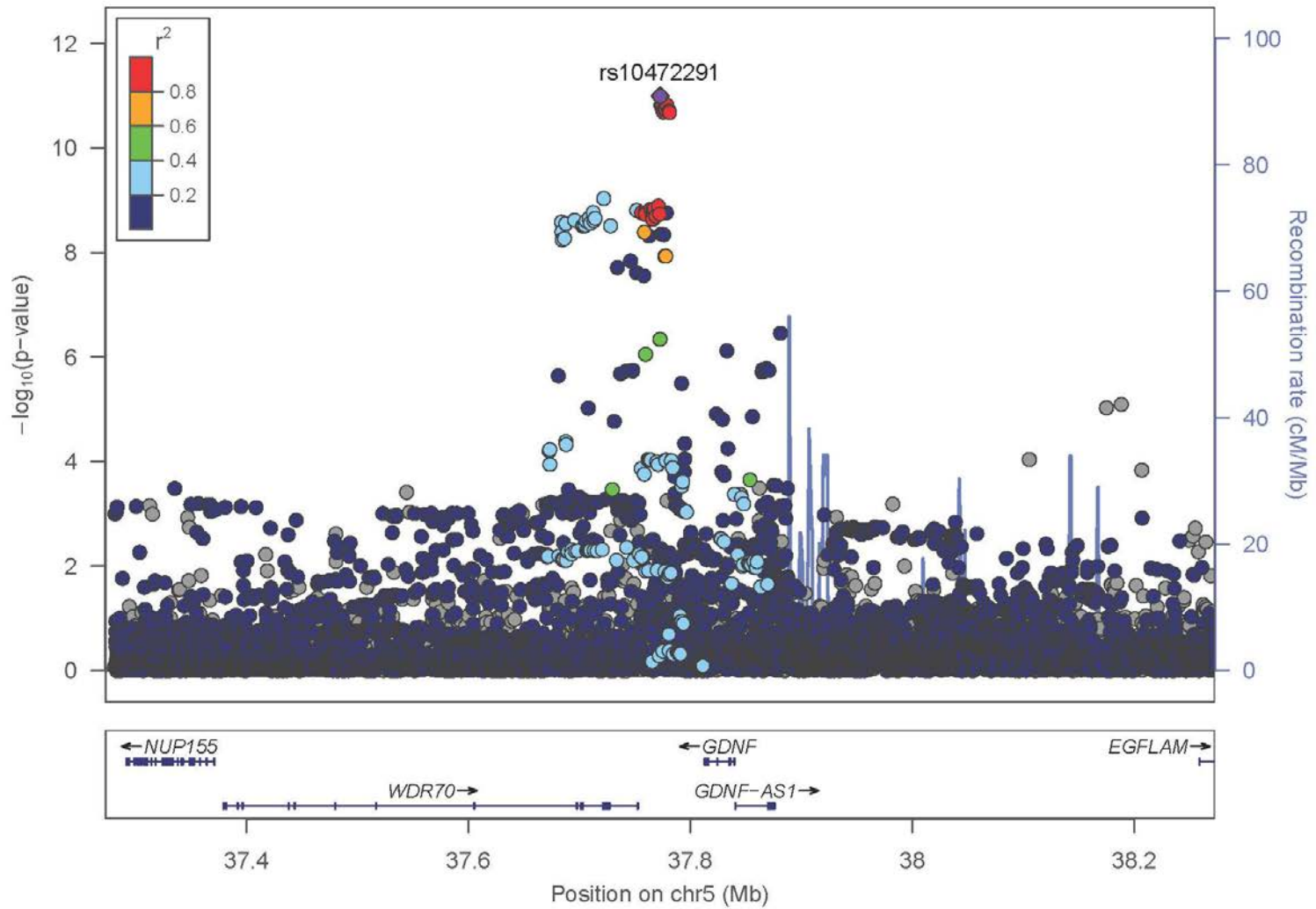
Supplementary Figure 31: Locus 9 – Nearest Gene: *LYPLAL1*



Supplementary Figure 3J: Locus 10 – Nearest Gene: *FAM155A*

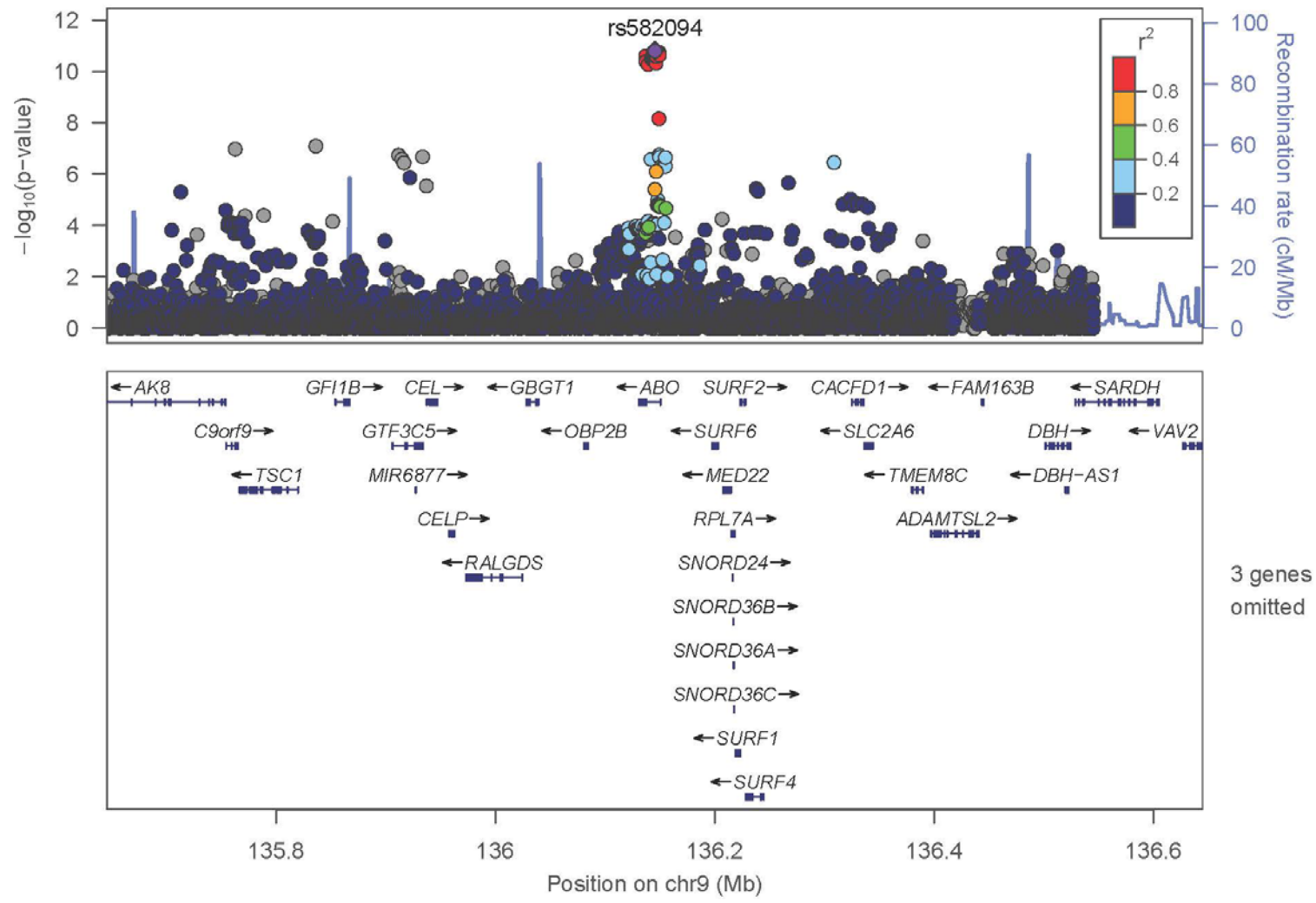


Supplementary Figure 3K: Locus 11 – Nearest Gene: *SLC25A28*



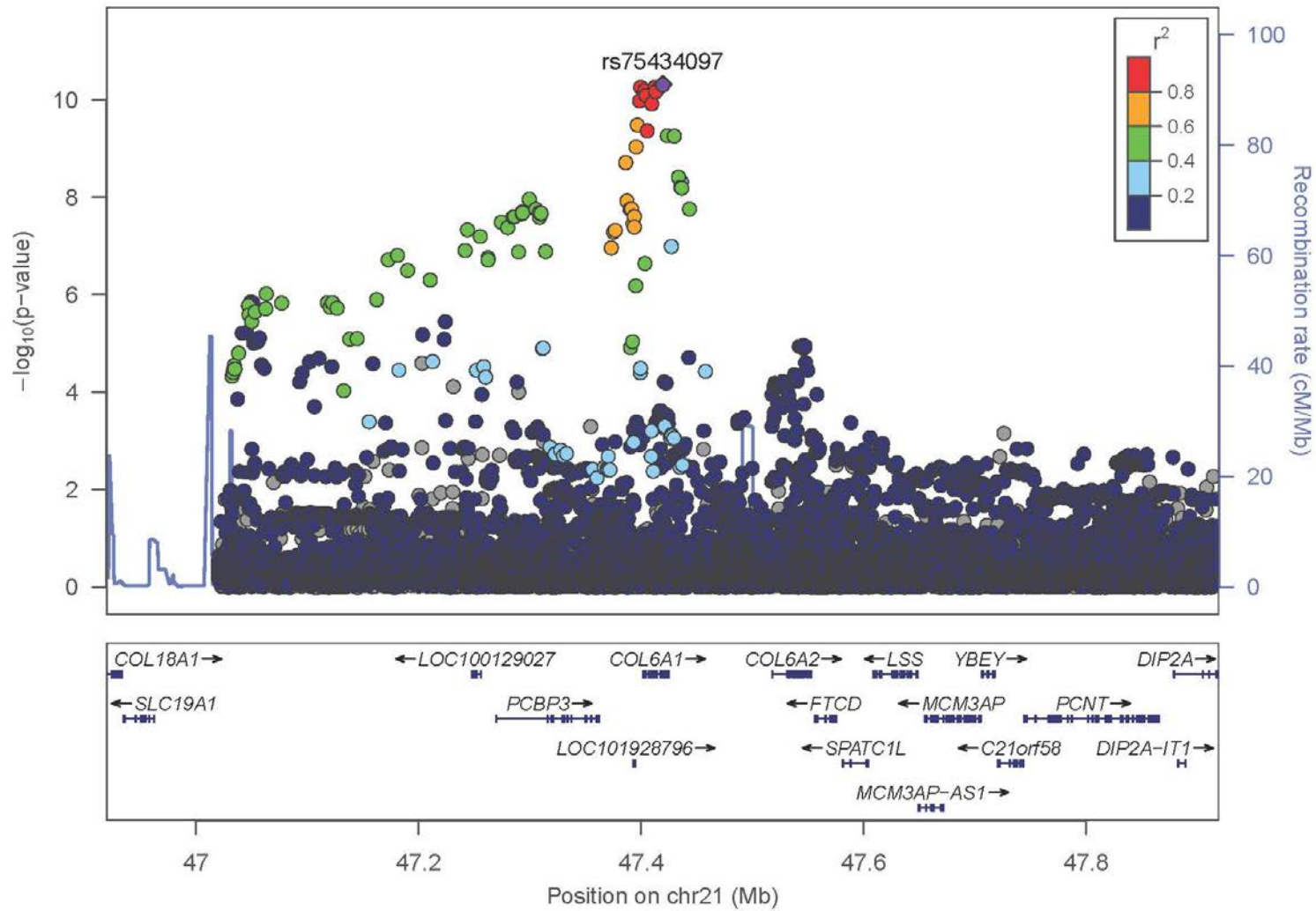
Supplementary Figure 3L: Locus 12 – Nearest Gene: *WDR70*



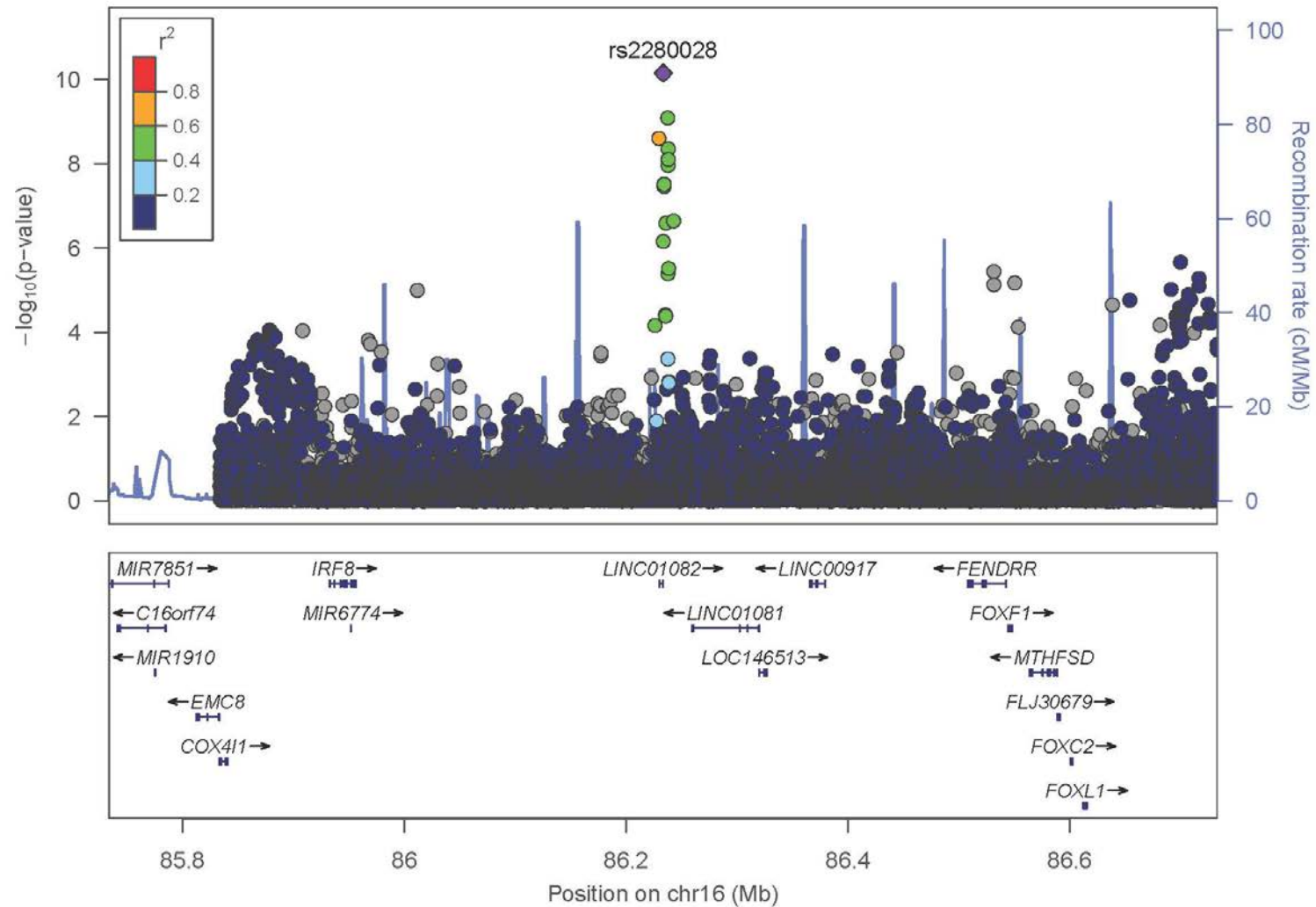


Supplementary Figure 3M: Locus 13 – Nearest Gene: ABO

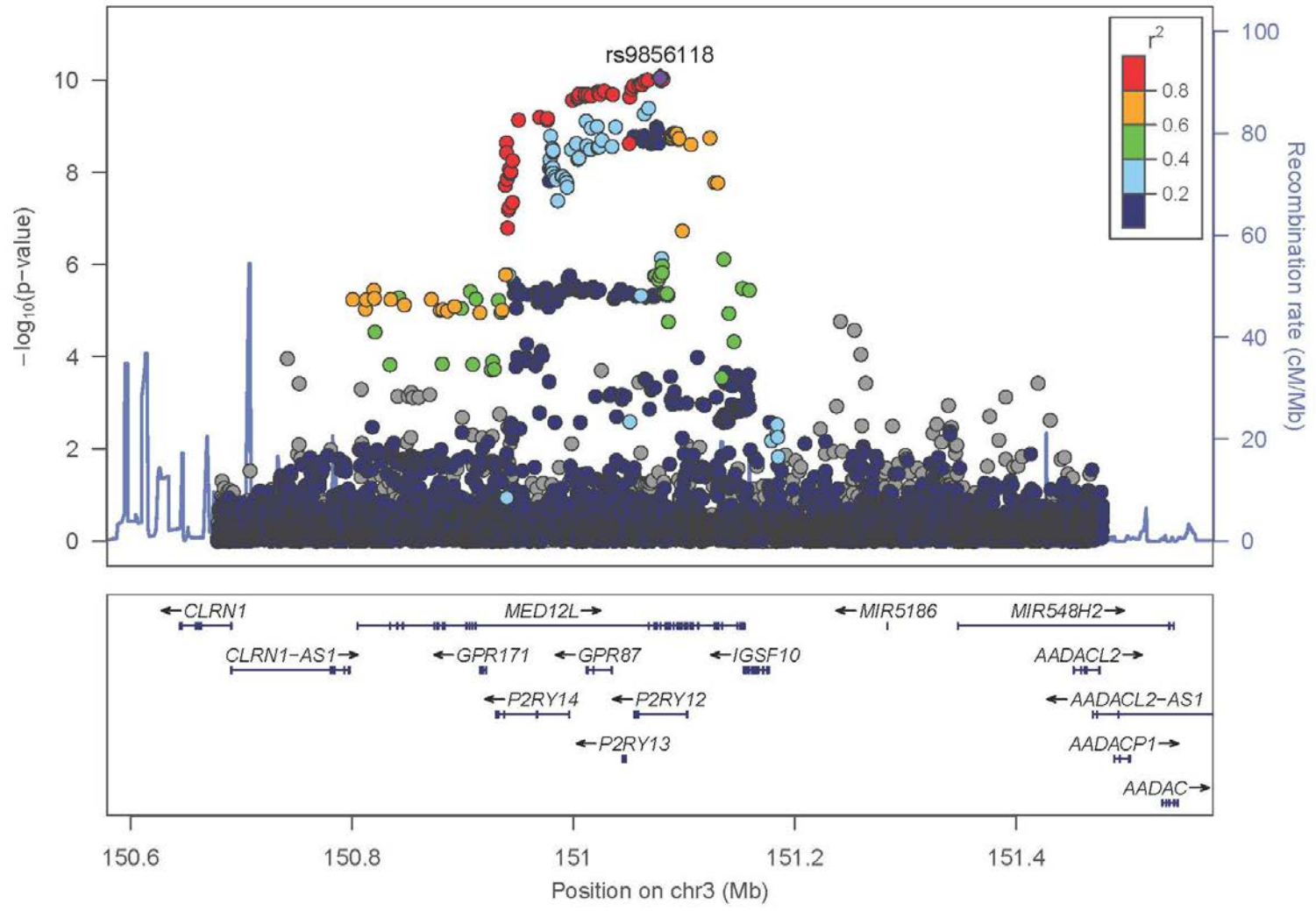




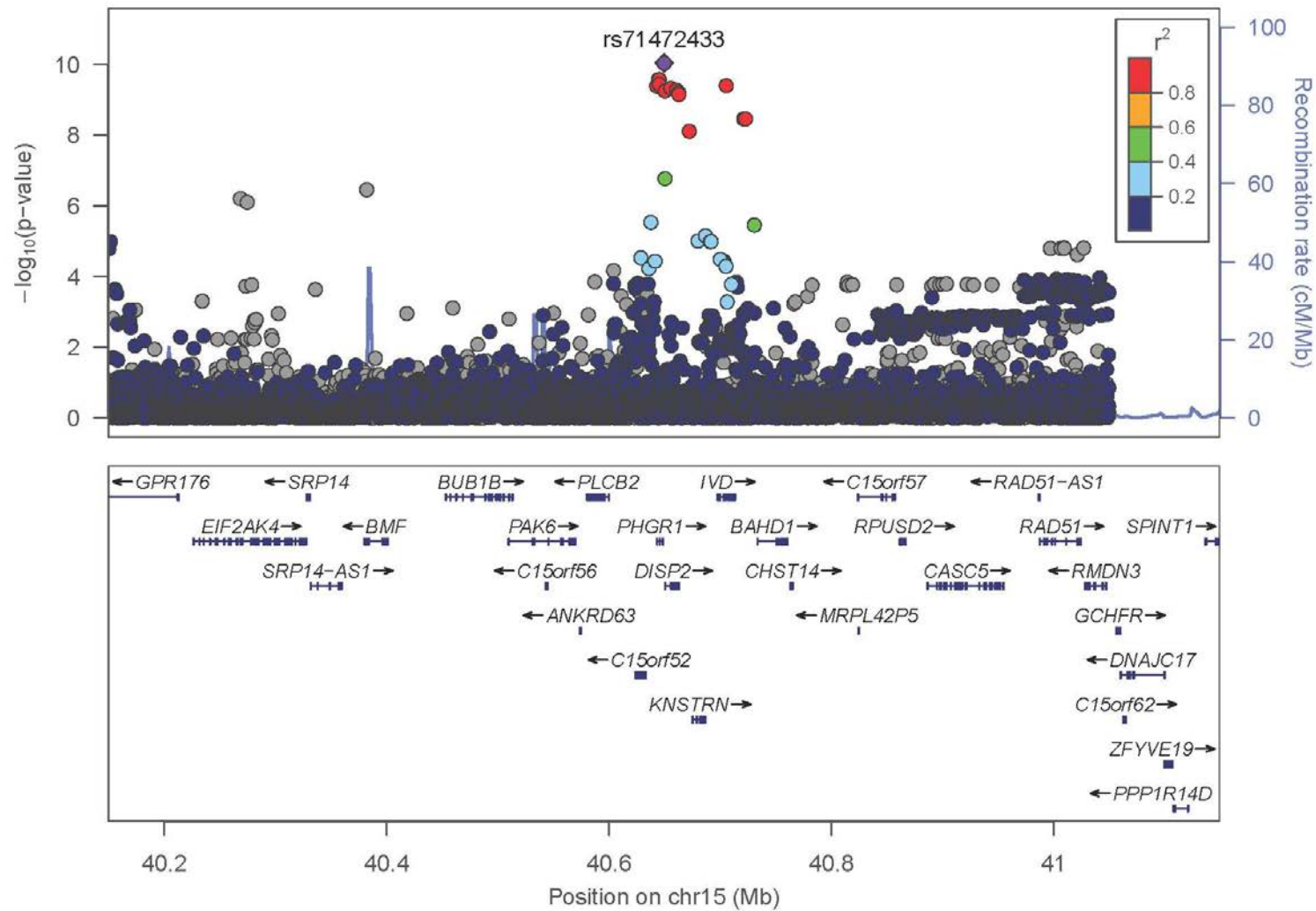
Supplementary Figure 3N: Locus 14 – Nearest Gene: *COL6A1*



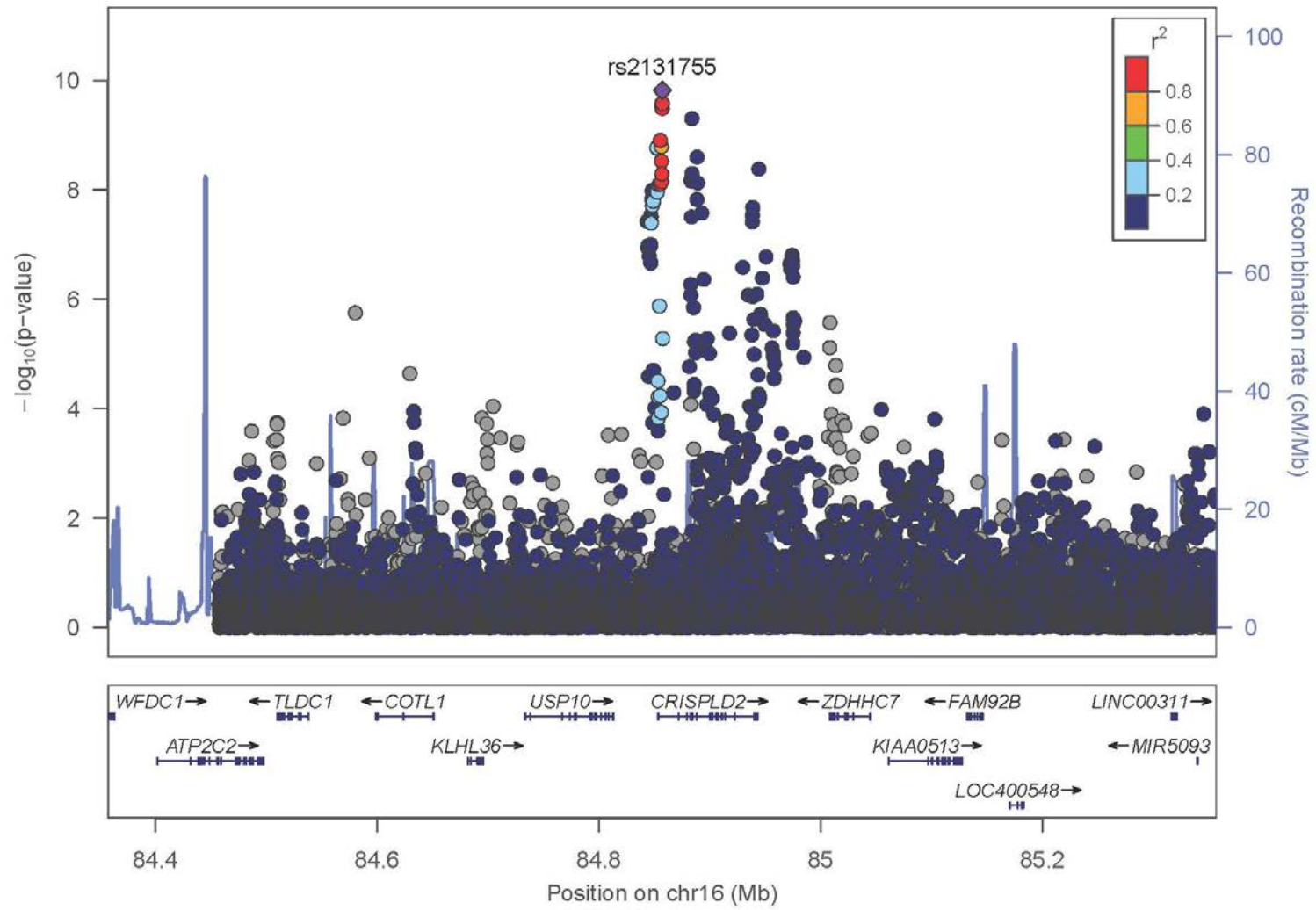
Supplementary Figure 30: Locus 15 – Nearest Gene: *LINC01082*



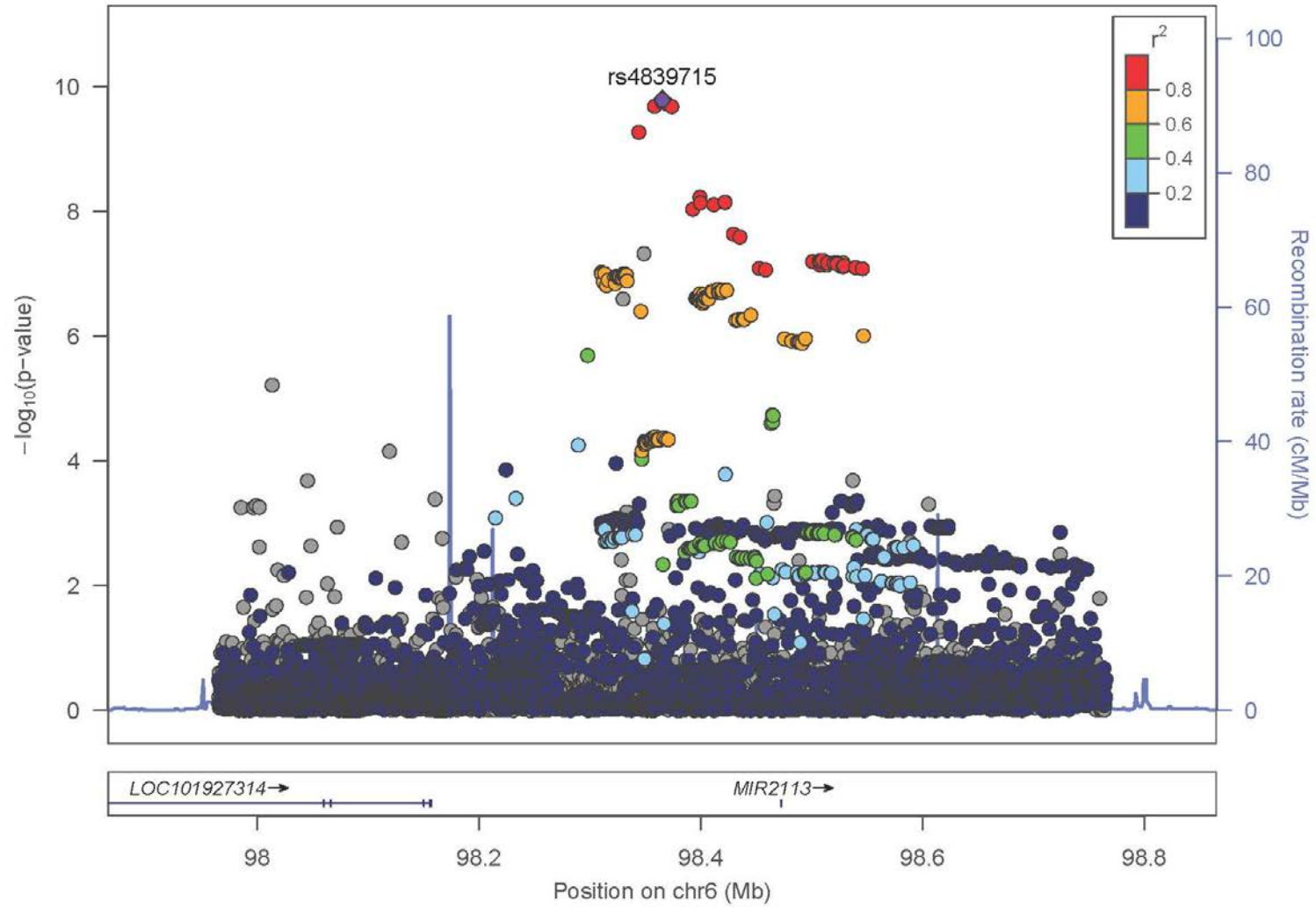
Supplementary Figure 3P: Locus 16 – Nearest Gene: *P2RY12/P2RY14*



Supplementary Figure 3Q: Locus 17 – Nearest Gene: *DISP2*

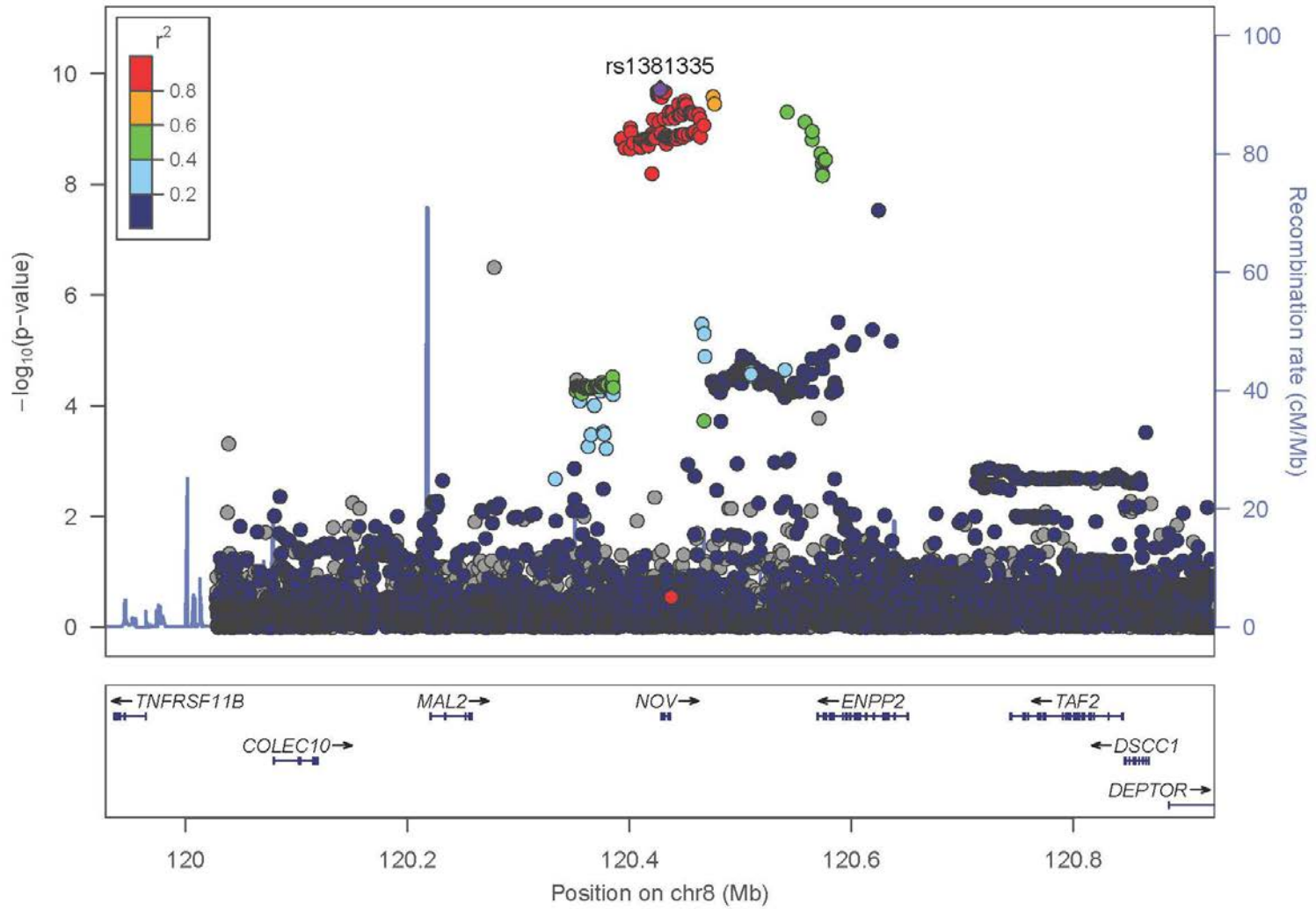


Supplementary Figure 3R: Locus 18 – Nearest Gene: *CRISPLD2*

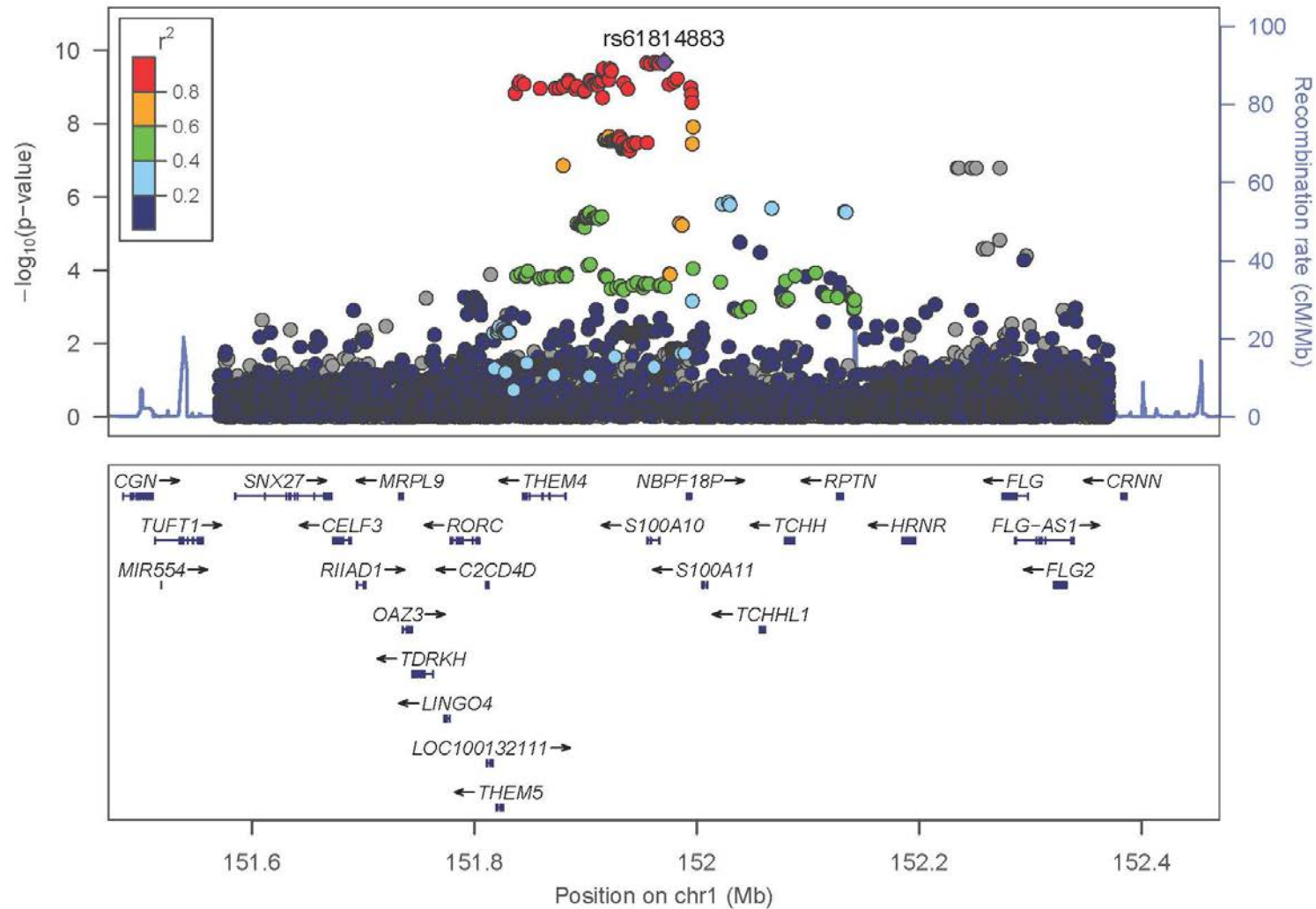


Supplementary Figure 3S: Locus 19 – Nearest Gene: ENSG00000224849



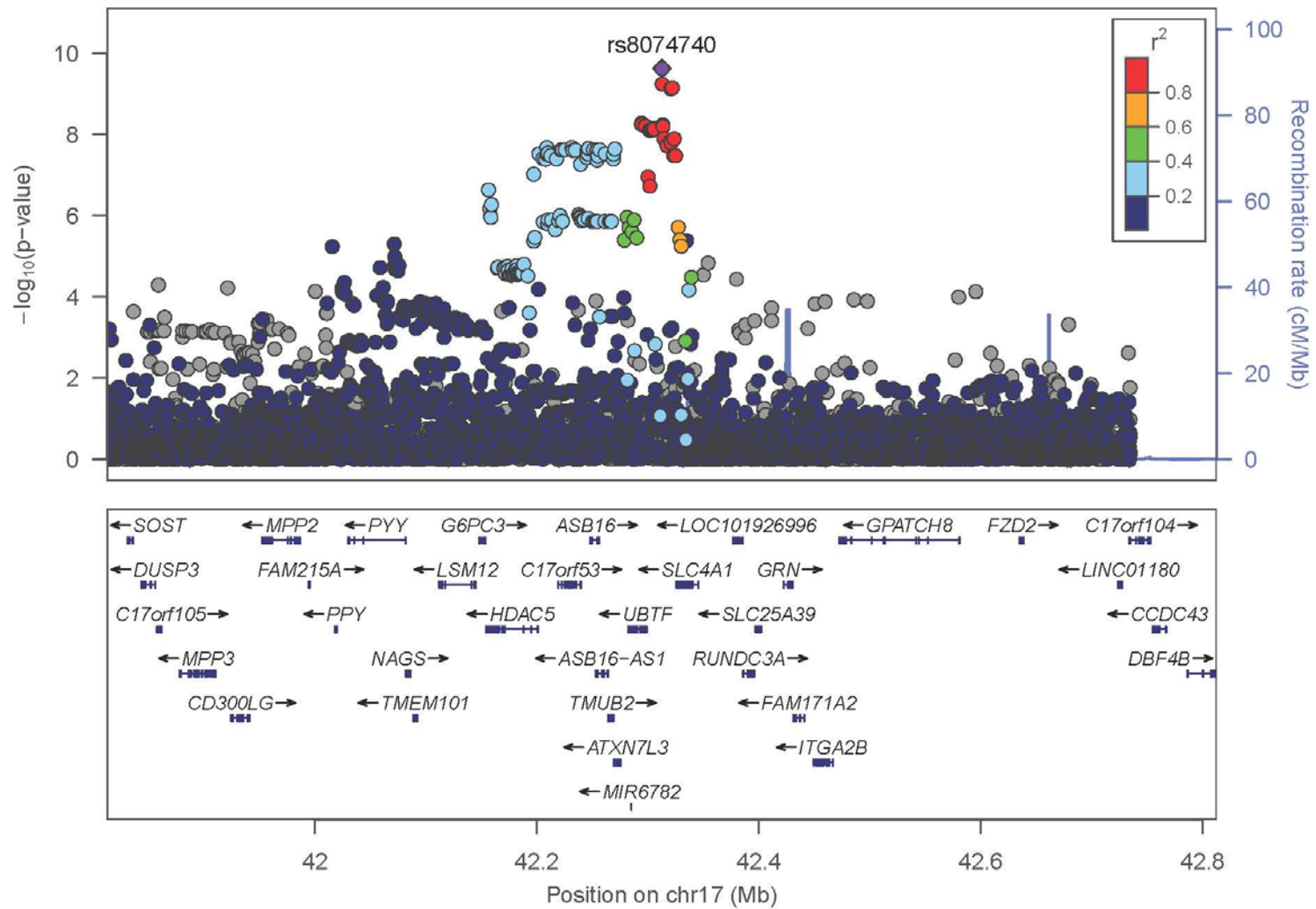


Supplementary Figure 3T: Locus 21 – Nearest Gene: *NOV*

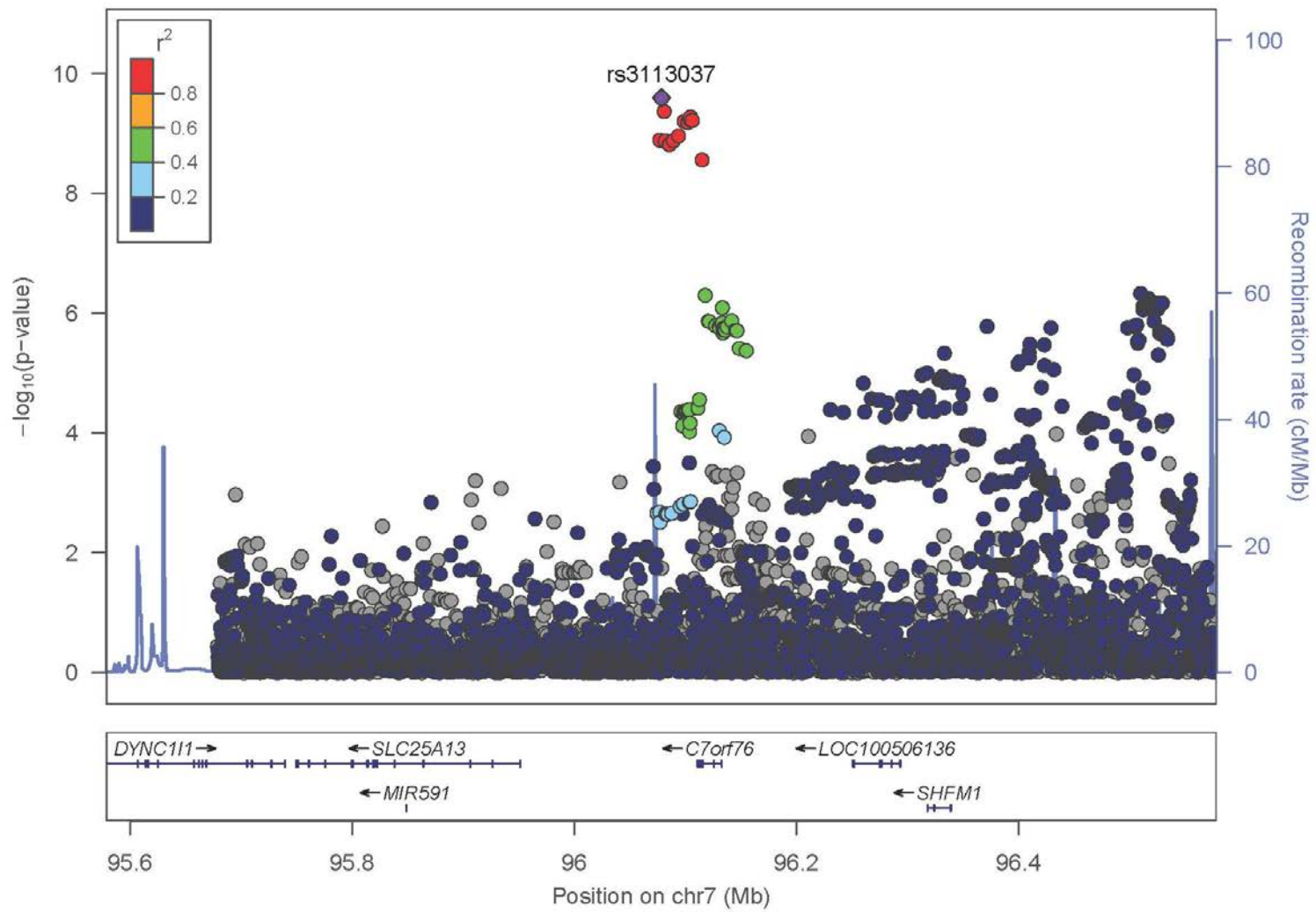


Supplementary Figure 3U: Locus 22 – Nearest Gene: *S100A10*

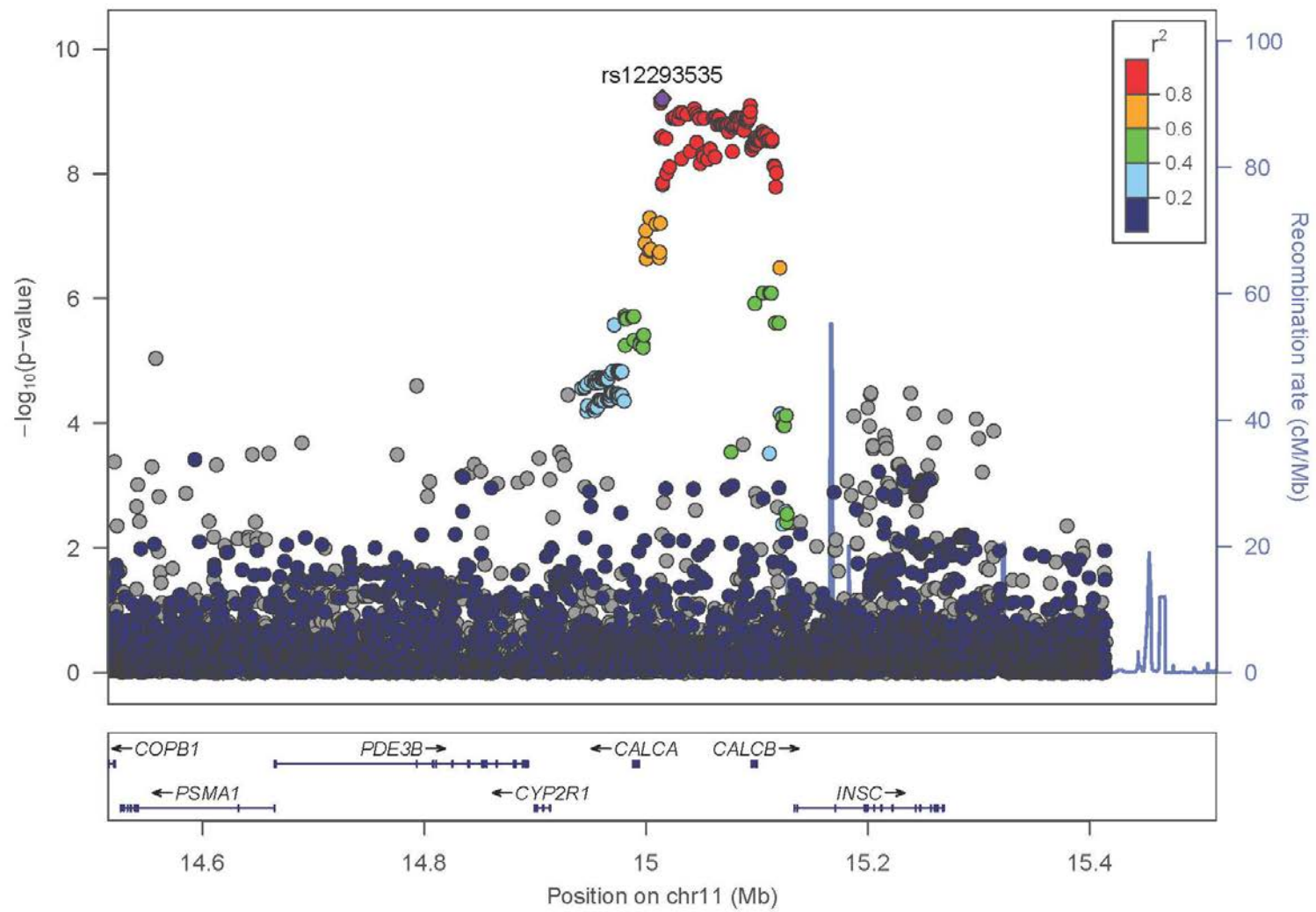




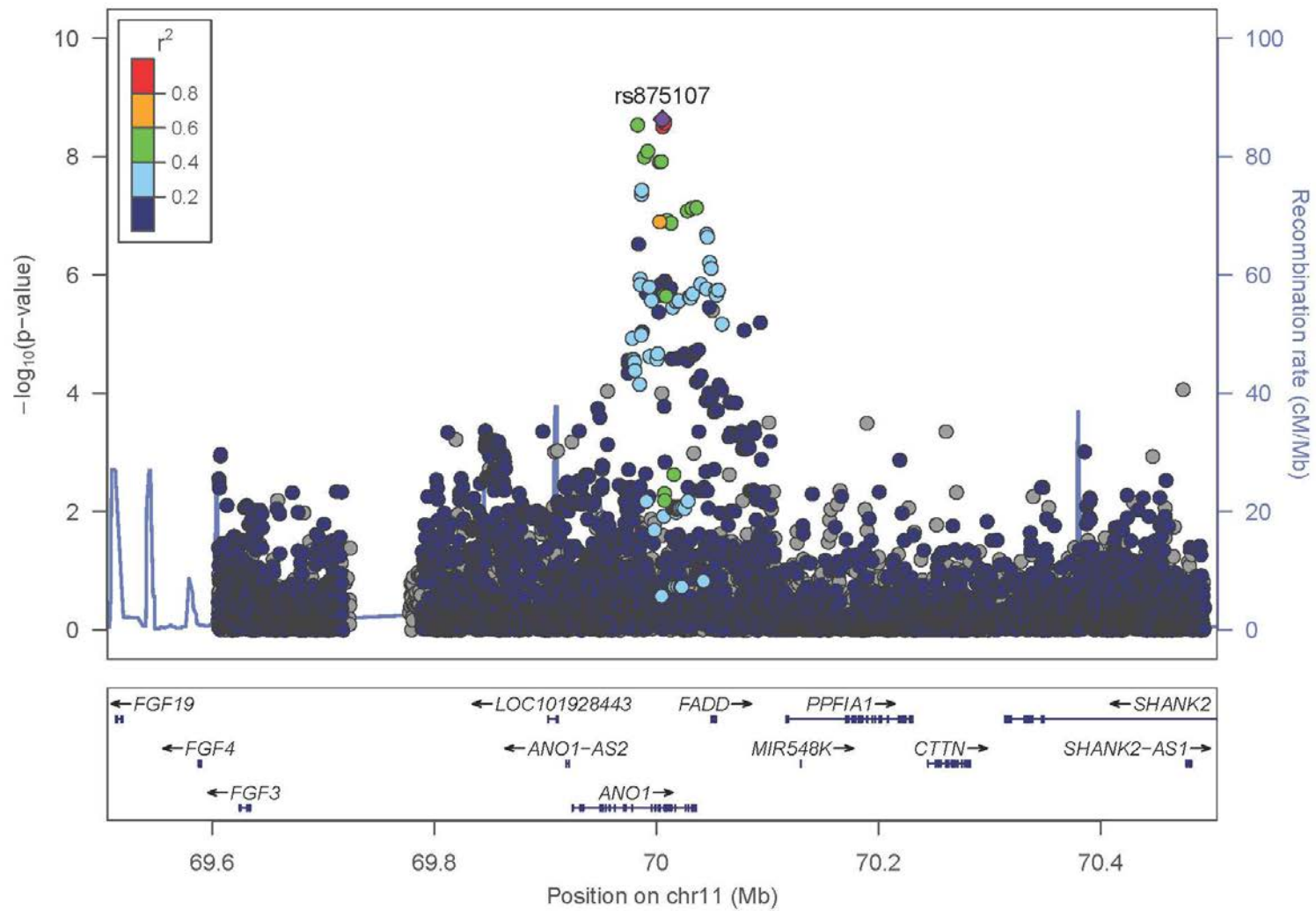
Supplementary Figure 3V: Locus 23 – Nearest Gene: *UBTF*



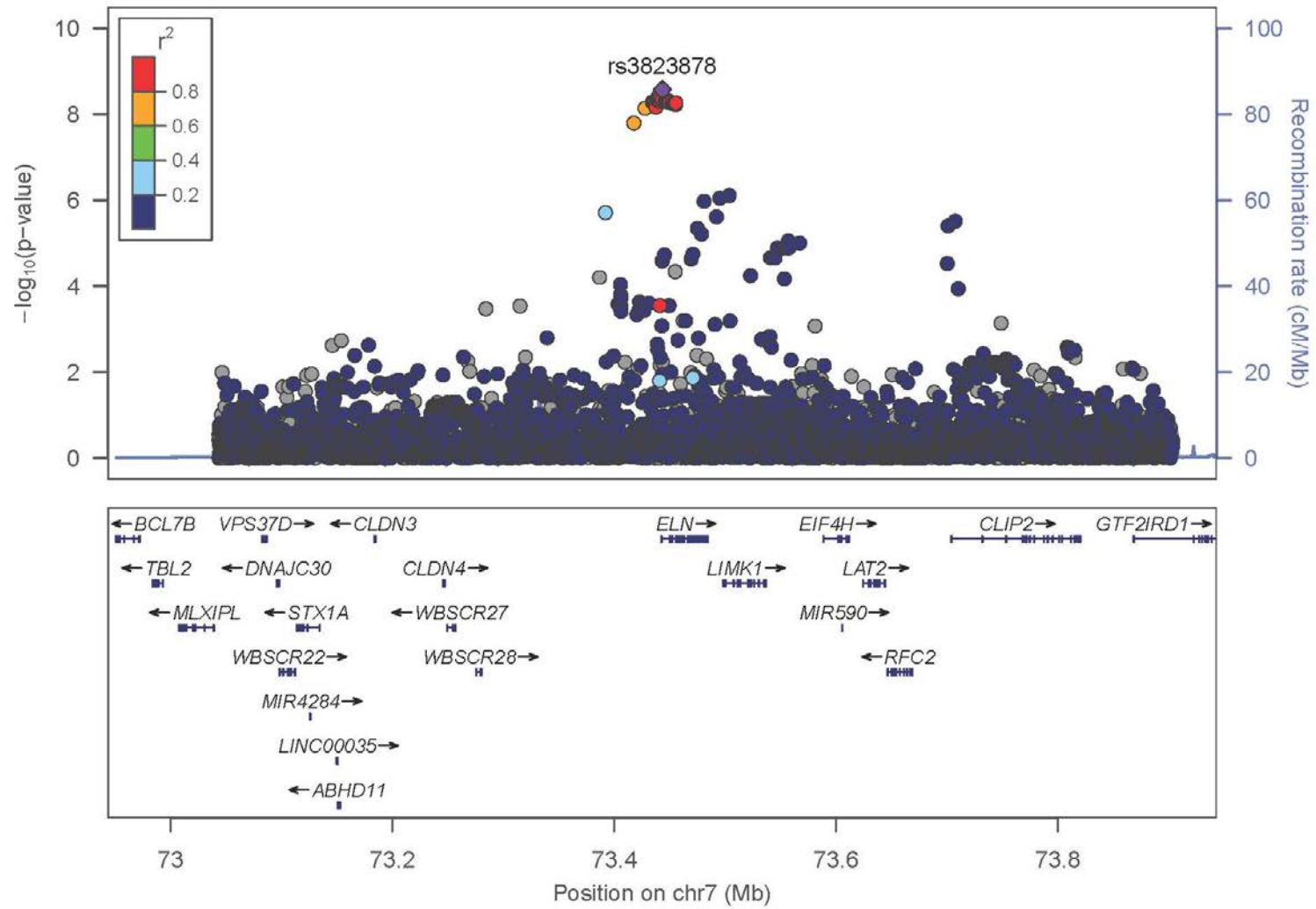
Supplementary Figure 3W: Locus 24. Nearest Gene – *SHFM1*



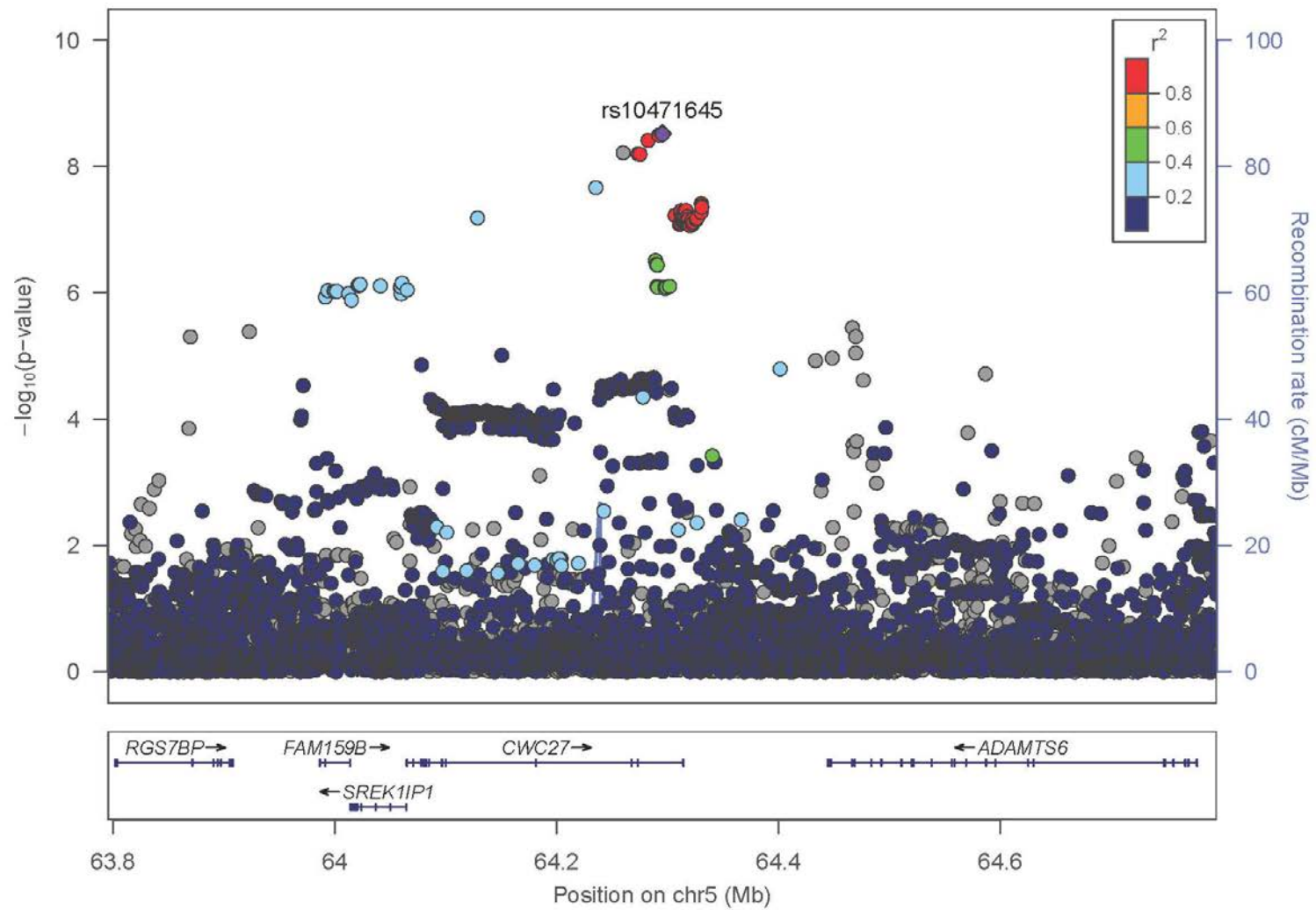
Supplementary Figure 3X: Locus 25 – Nearest Gene: CALCA/CALCB



Supplementary Figure 3Y: Locus 26 – Nearest Genes: *FADD/ANO1*

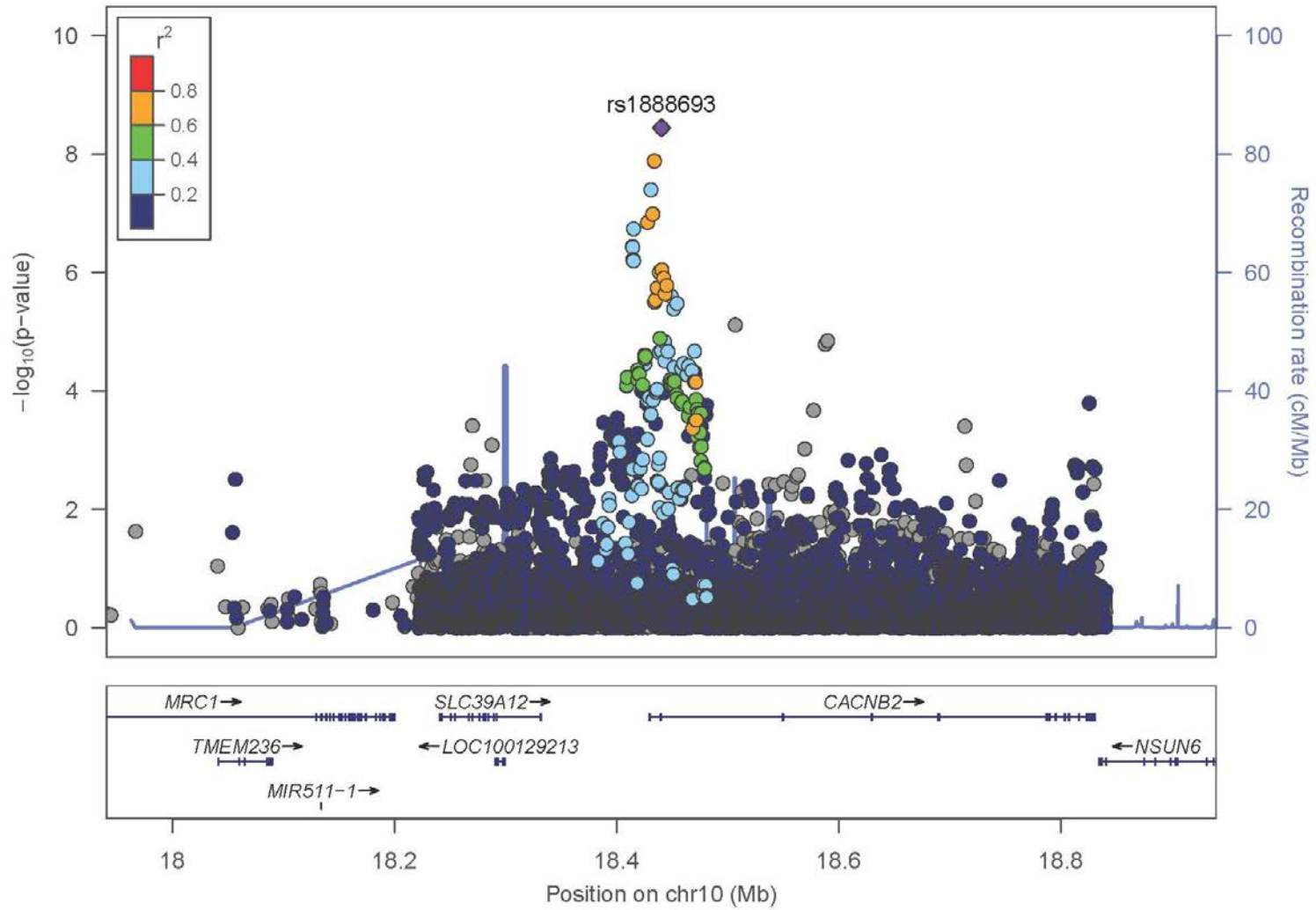


Supplementary Figure 3Z: Locus 27 – Nearest Gene: *ELN*

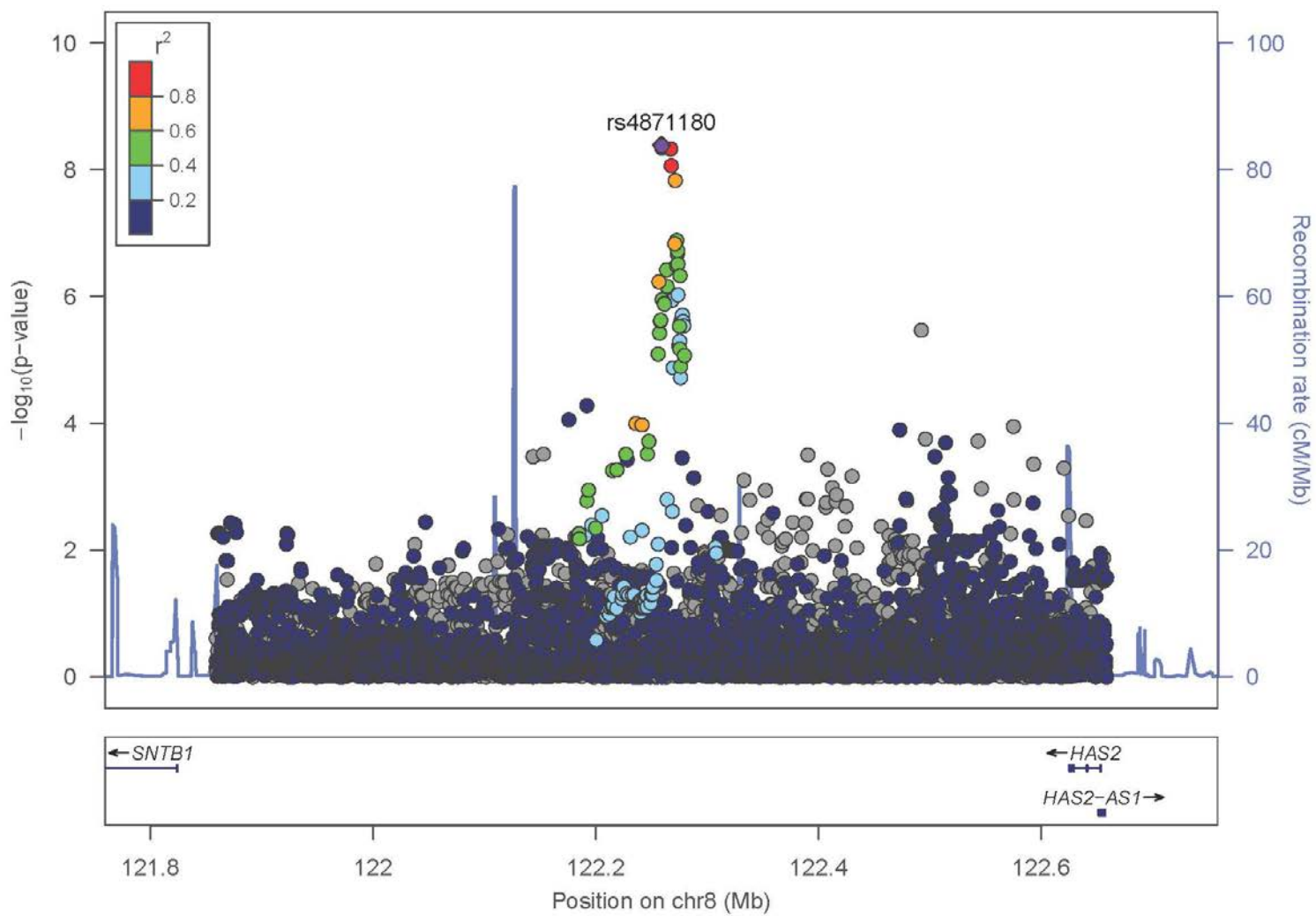


Supplementary Figure 3A-1: Locus 28 – Nearest Gene: *CWC27*



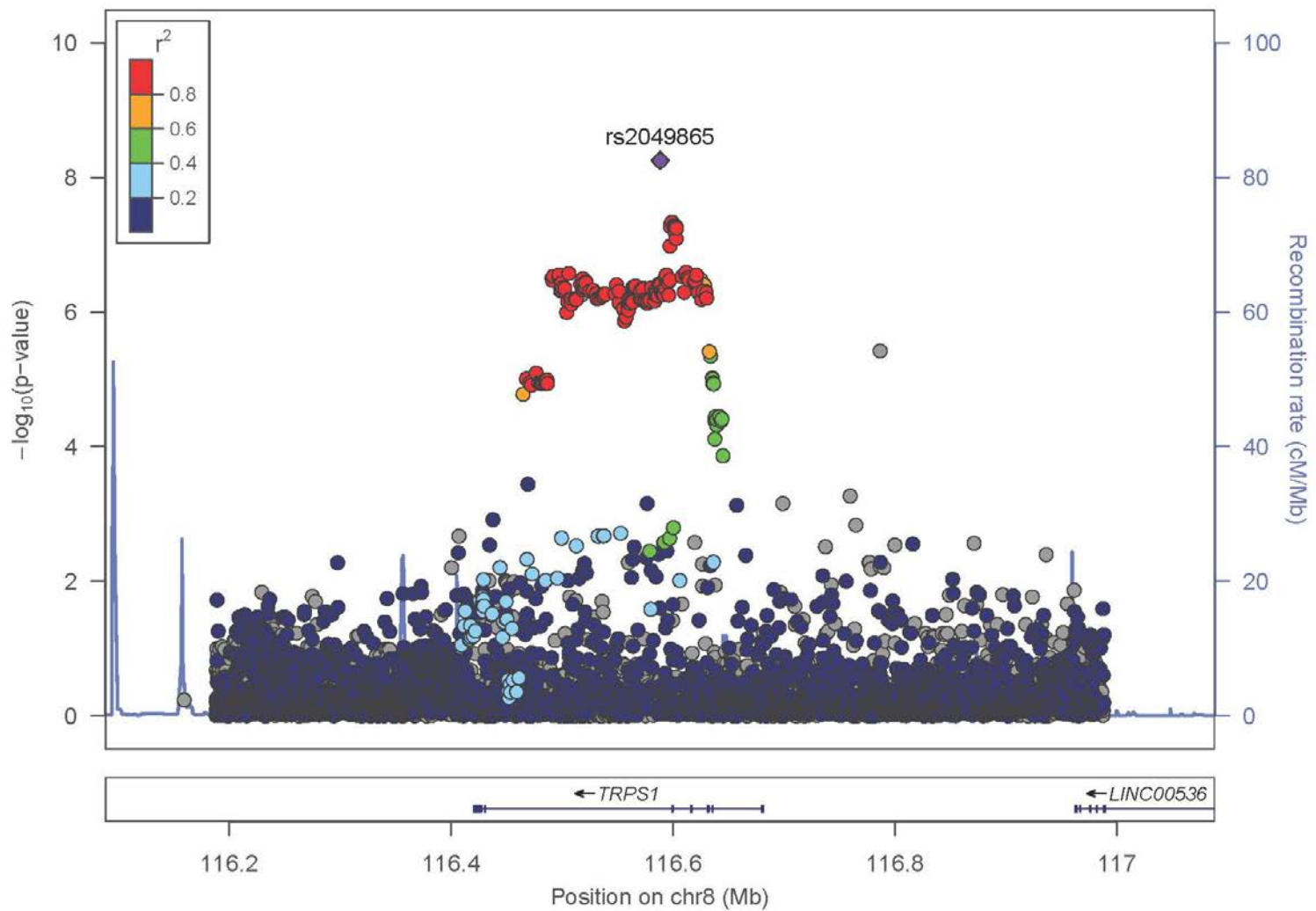


Supplementary Figure 3A-2: Locus 29 – Nearest Gene: *CACNB2*

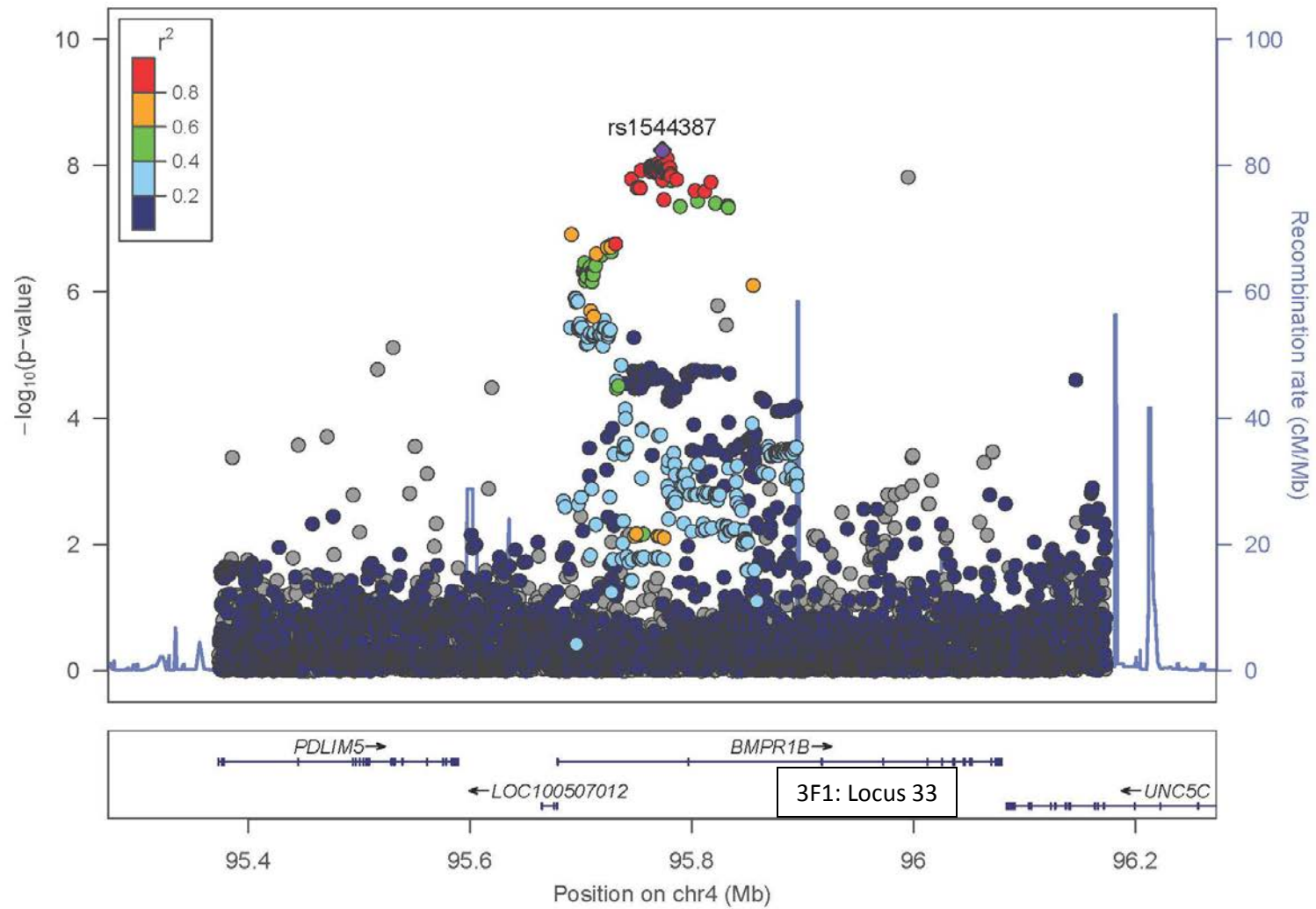


Supplementary Figure 3A-3: Locus 30 – Nearest Gene: *HAS2*

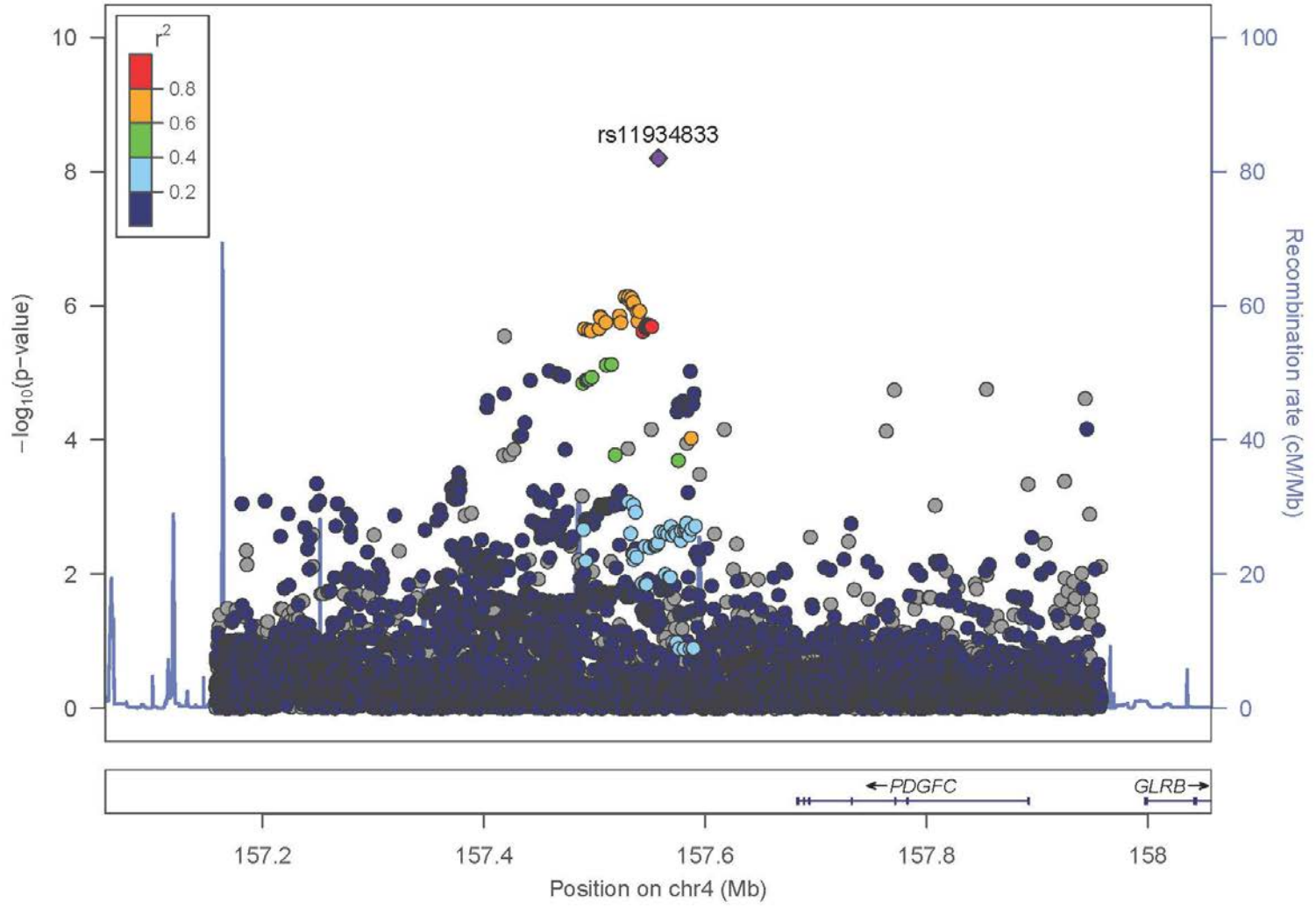




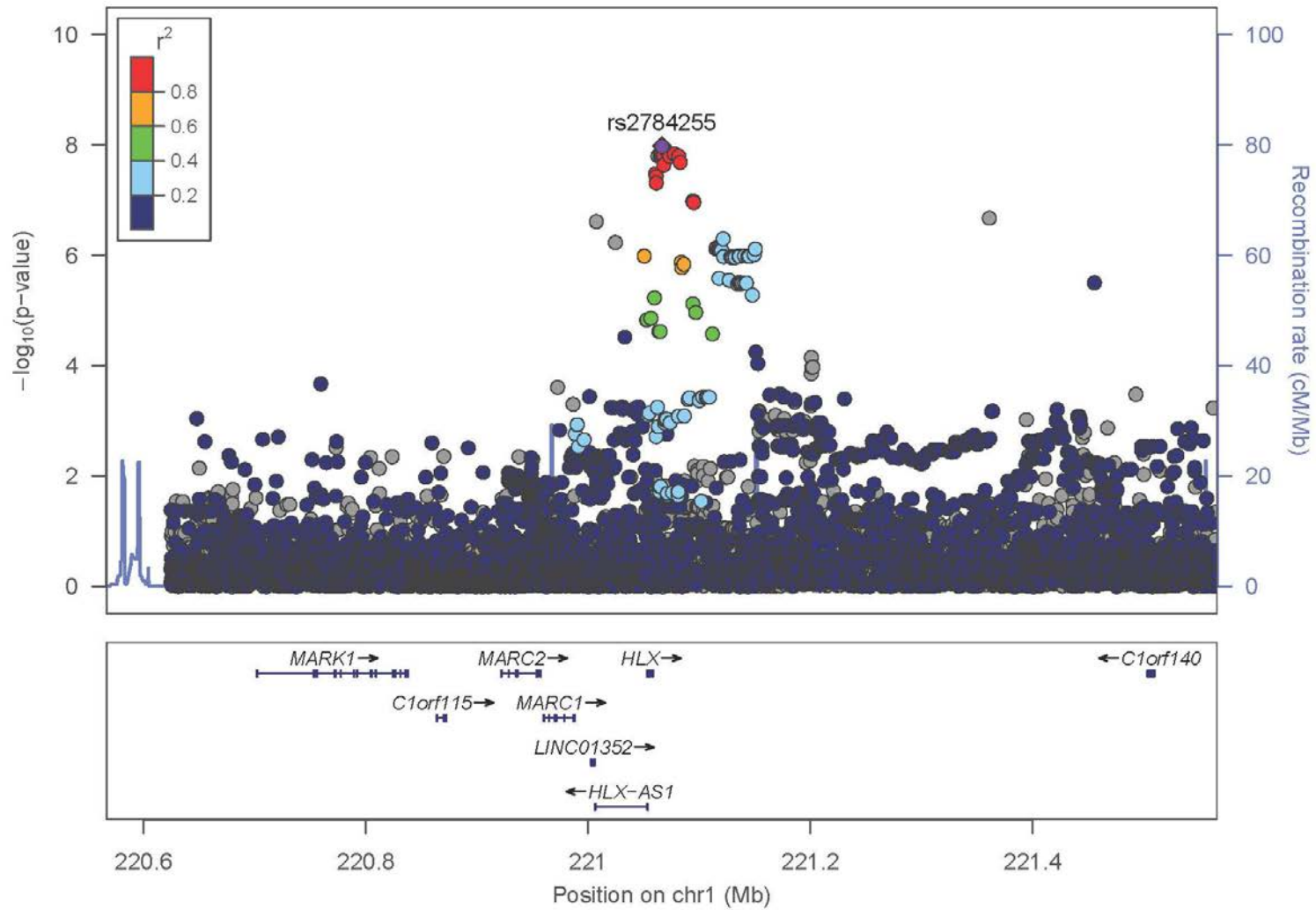
Supplementary Figure 3A-4: Locus 31 – Nearest Gene: *TRPS1*



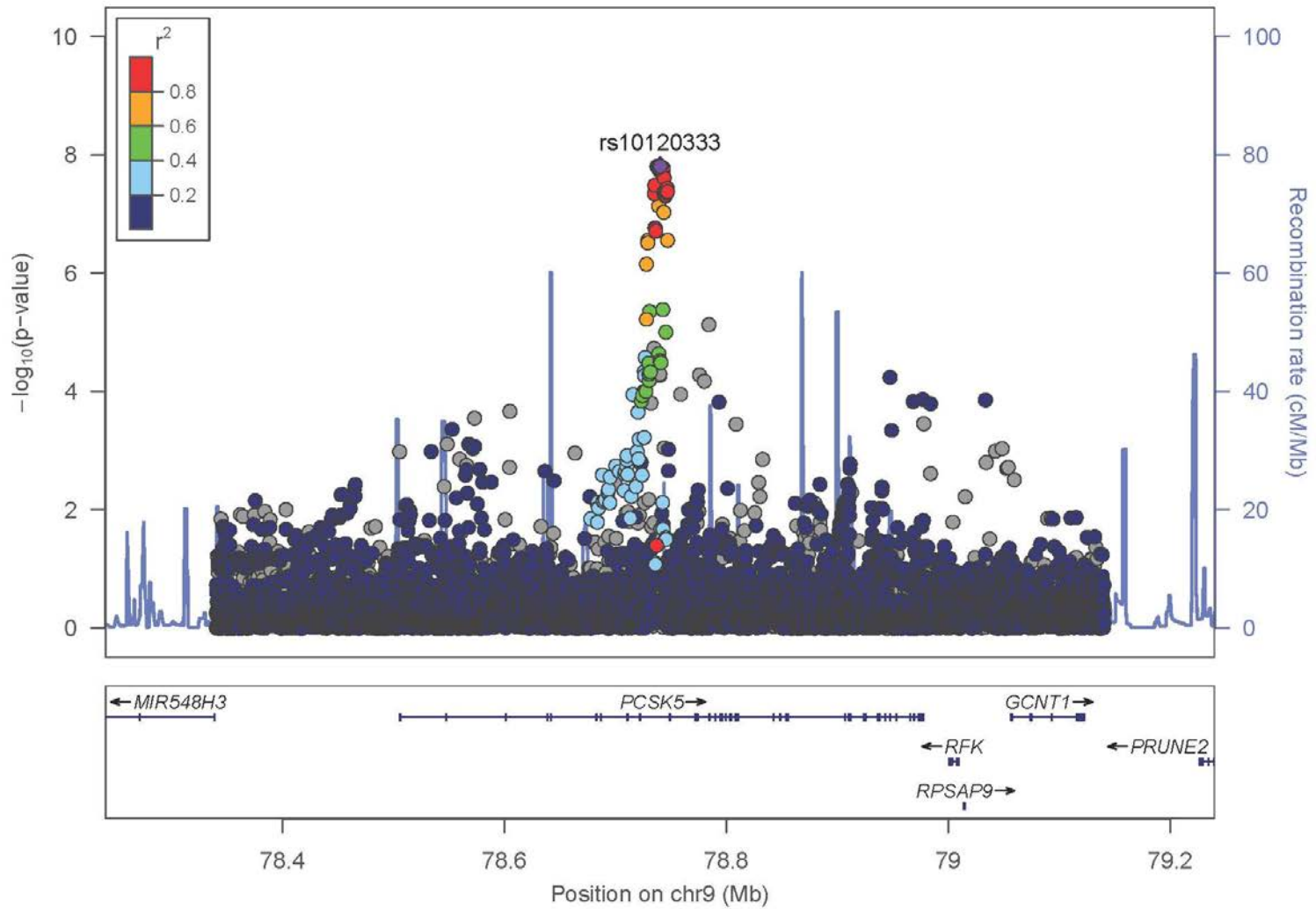
Supplementary Figure 3A-5: Locus 32 – Nearest Gene: *BMPR1B*



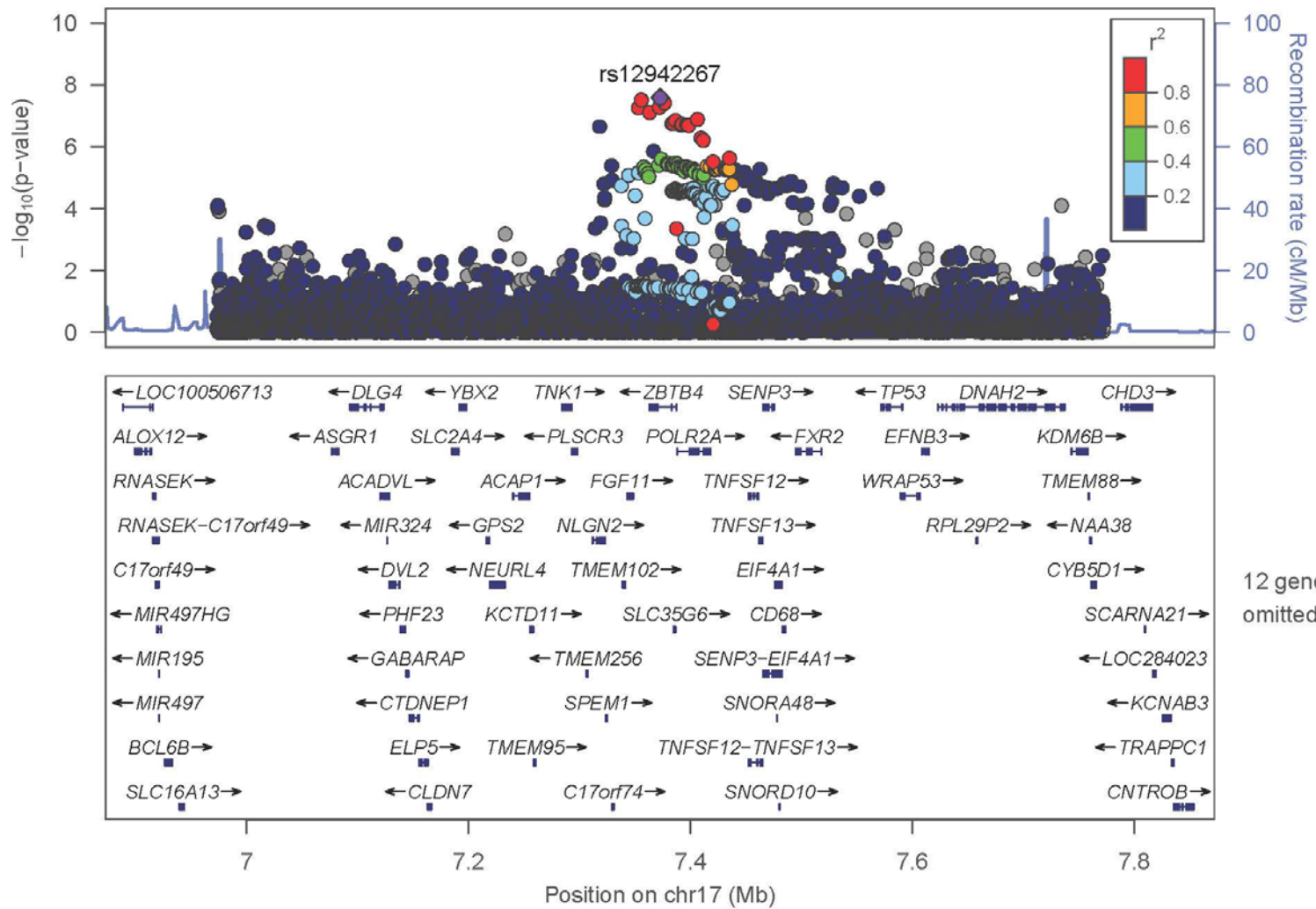
Supplementary Figure 3A-6: Locus 33 – Nearest Gene: *ENSG0000251283*



Supplementary Figure 3A-7: Locus 34 – Nearest Gene: *HLX*

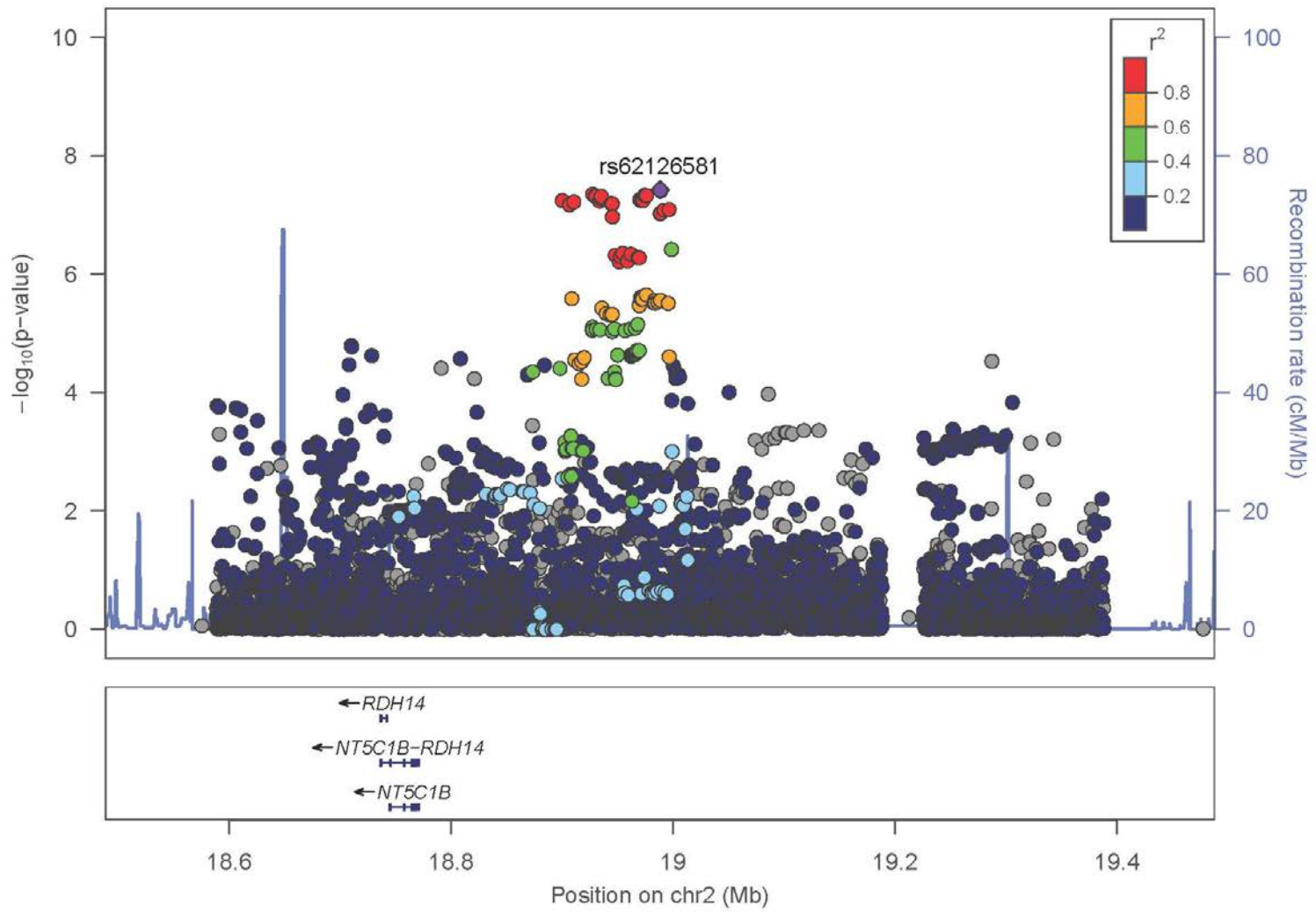


Supplementary Figure 3A-8: Locus 35 – Nearest Gene: *PCSK5*

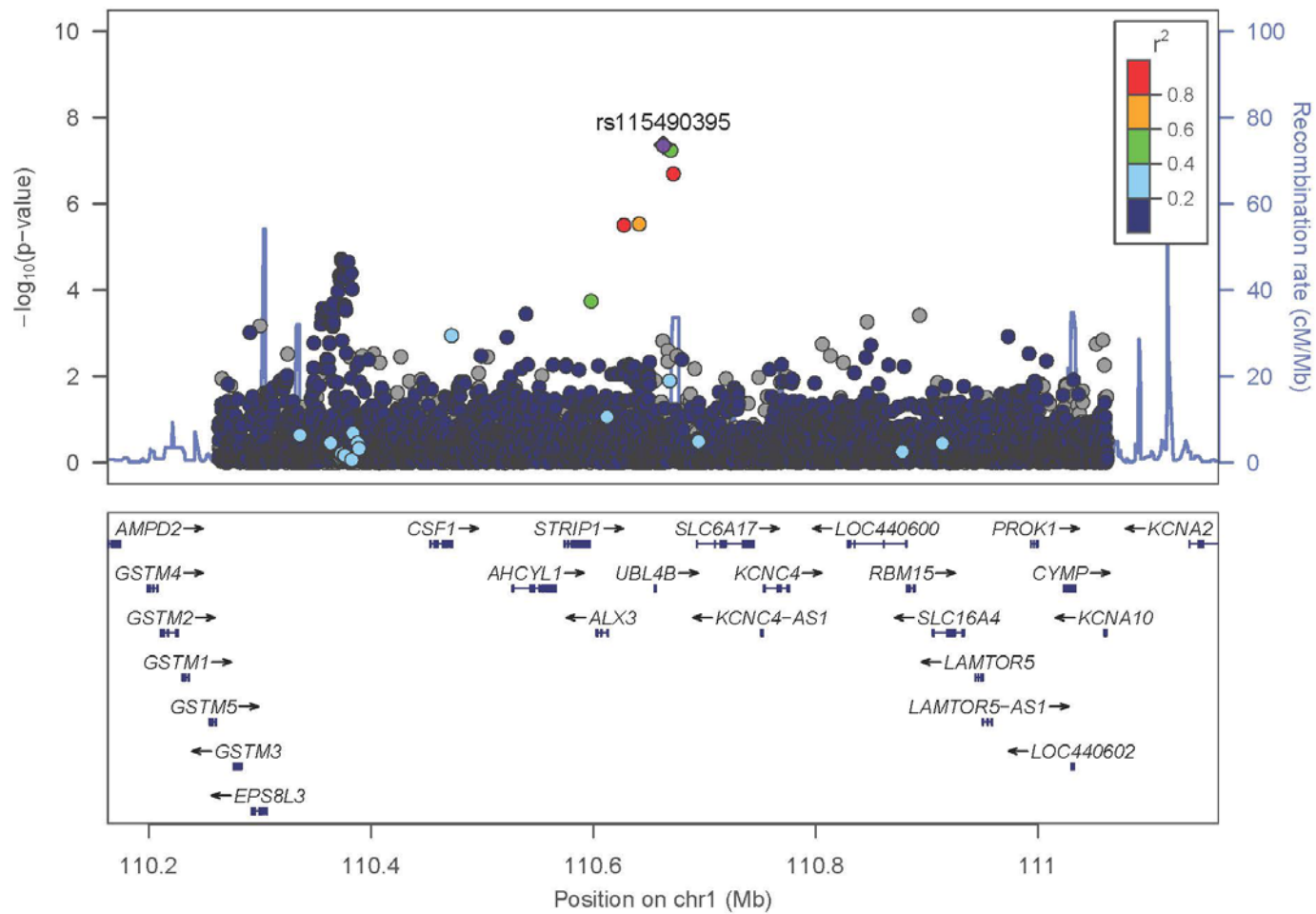


Supplementary Figure 3A-9: Locus 36 – Nearest Gene: ZBTB4



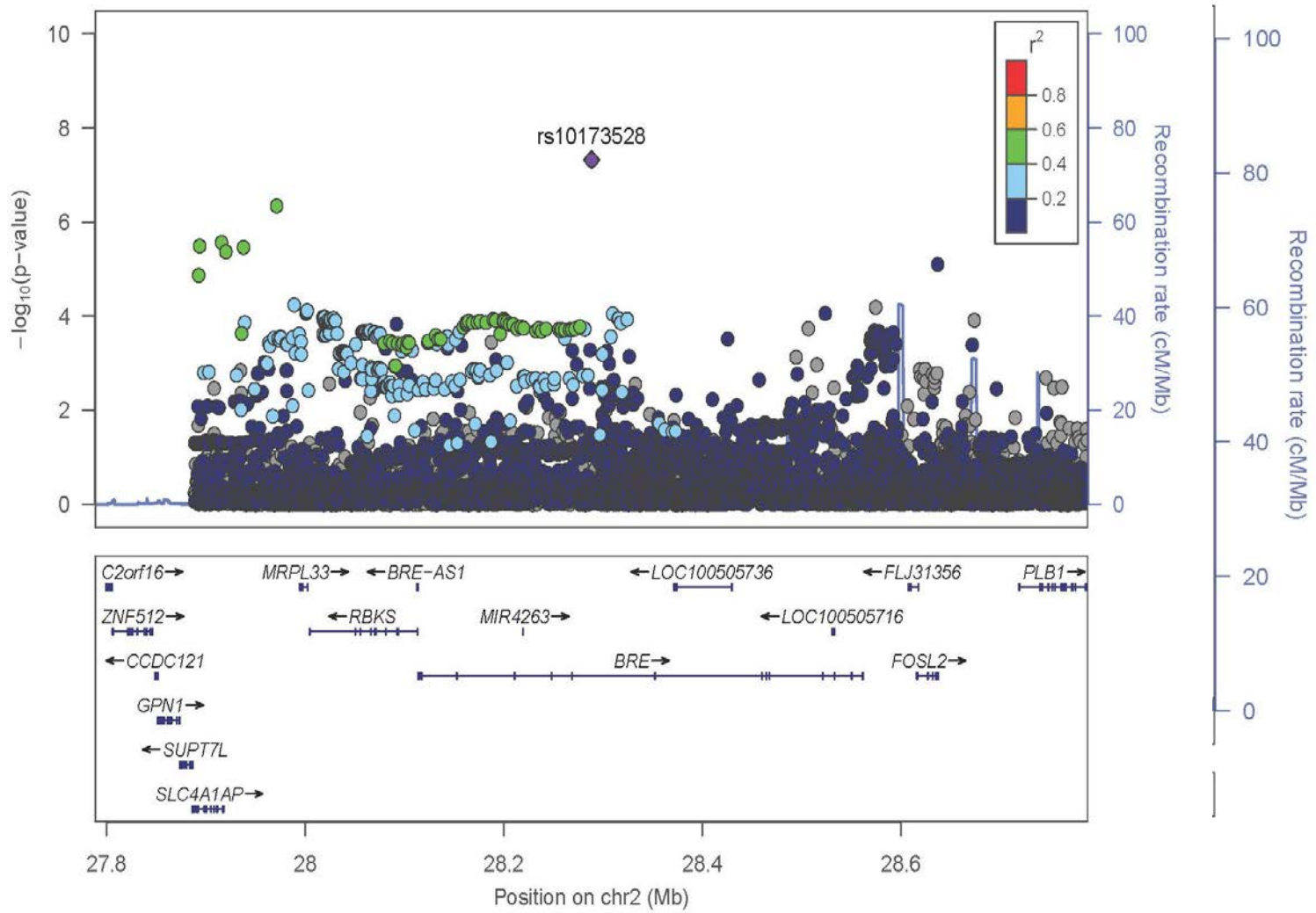


Supplementary Figure 3A-10: Locus 37 – Nearest Gene: *NT5C1B*

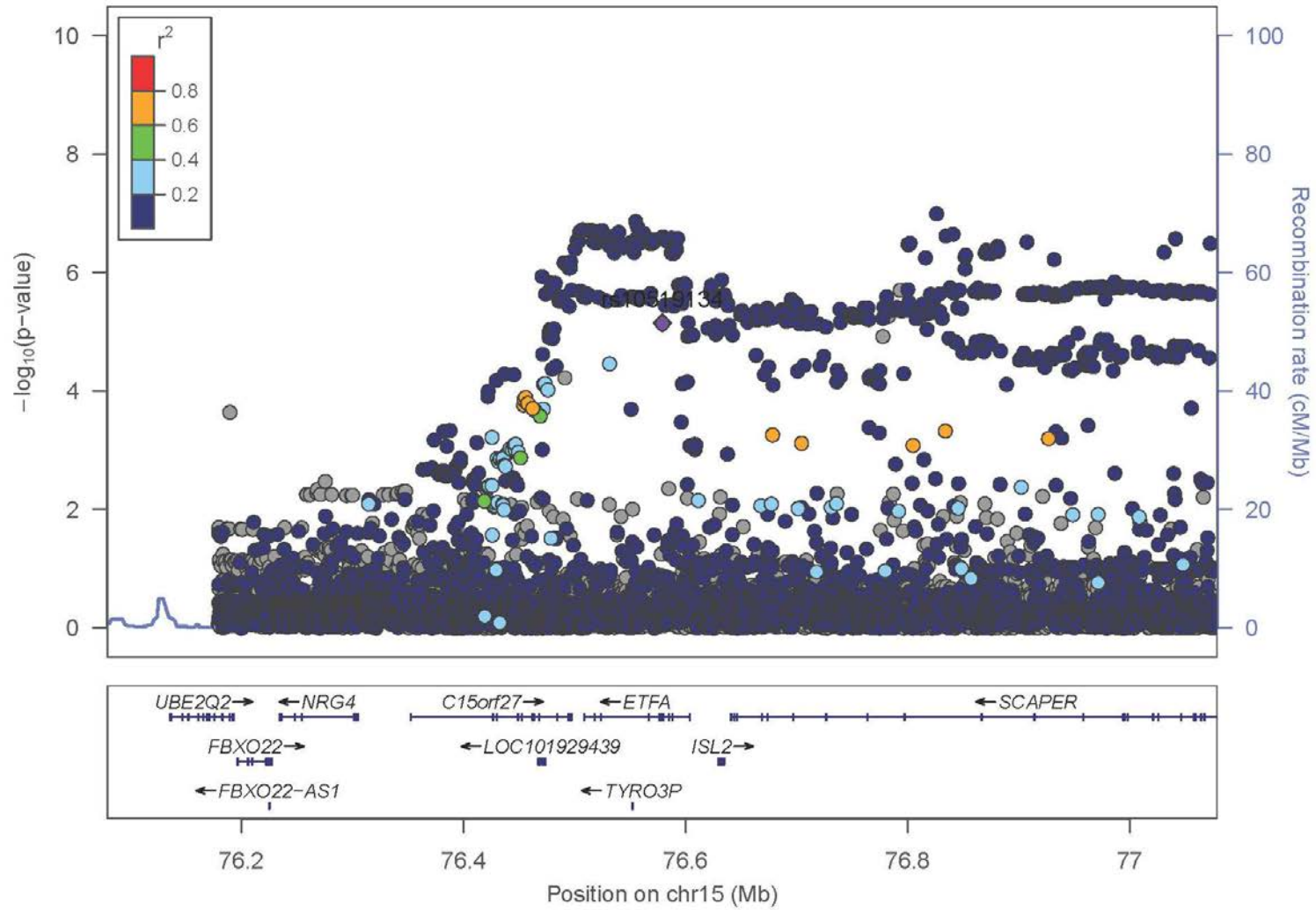


Supplementary Figure 3A-11: Locus 38 – Nearest Gene: *UBL4B*

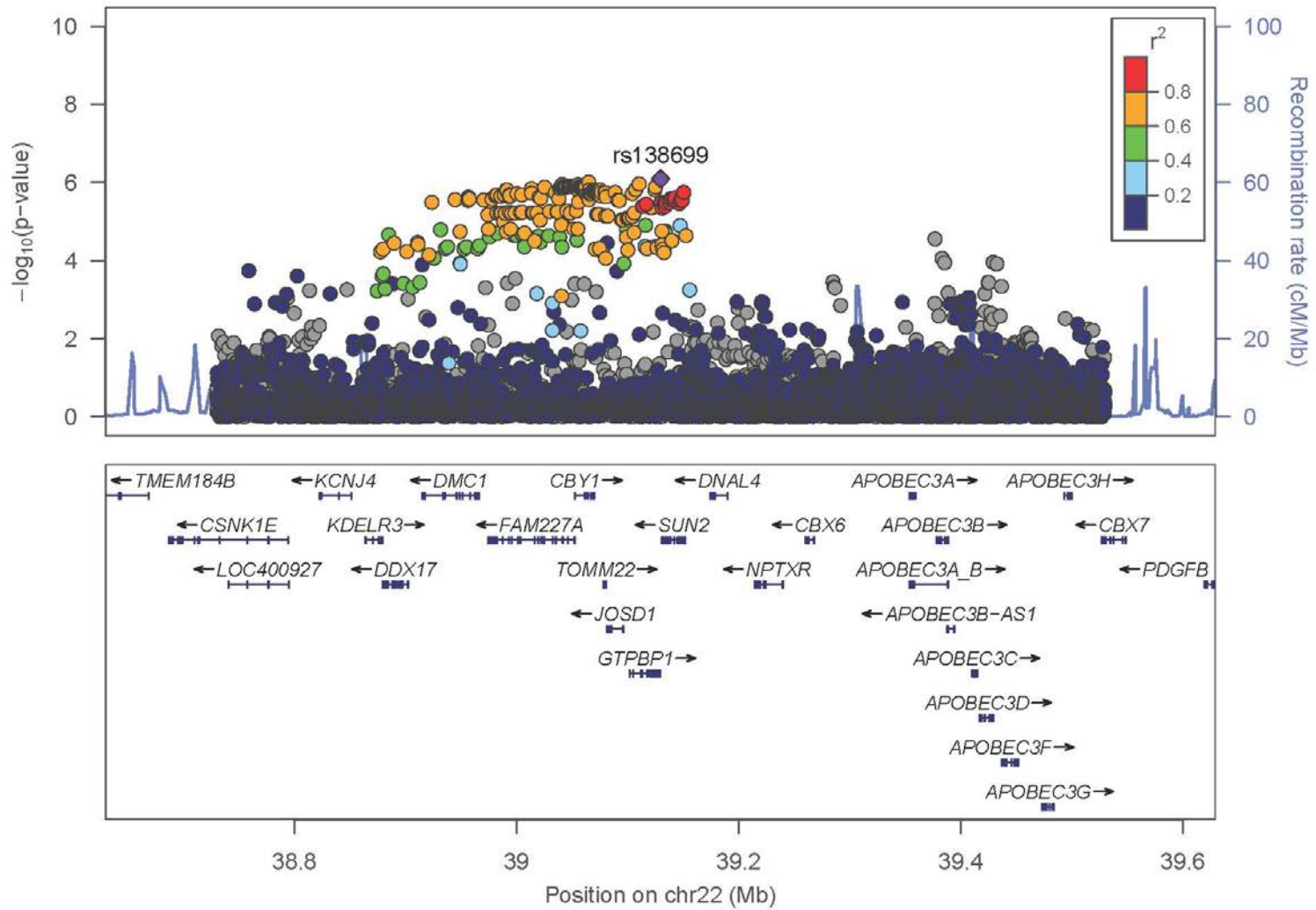




Supplementary Figure 3A-12: Locus 39 – Nearest Gene: *RBKS*



Supplementary Figure 3A-15: Locus 47- Nearest Gene: *ETF A*



Supplementary Figure 3A-16: Locus 68- Nearest Gene: *GTPBP1*