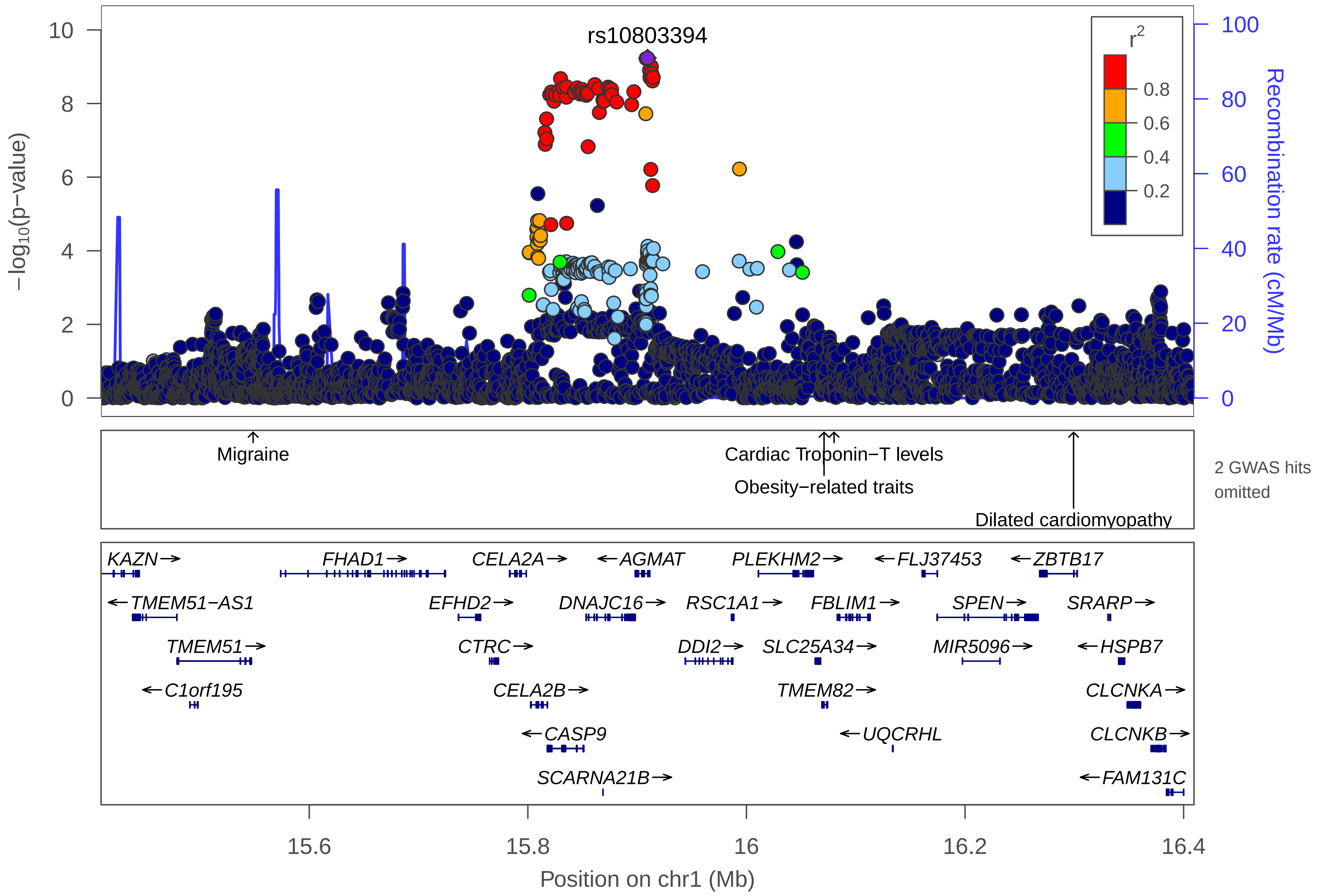
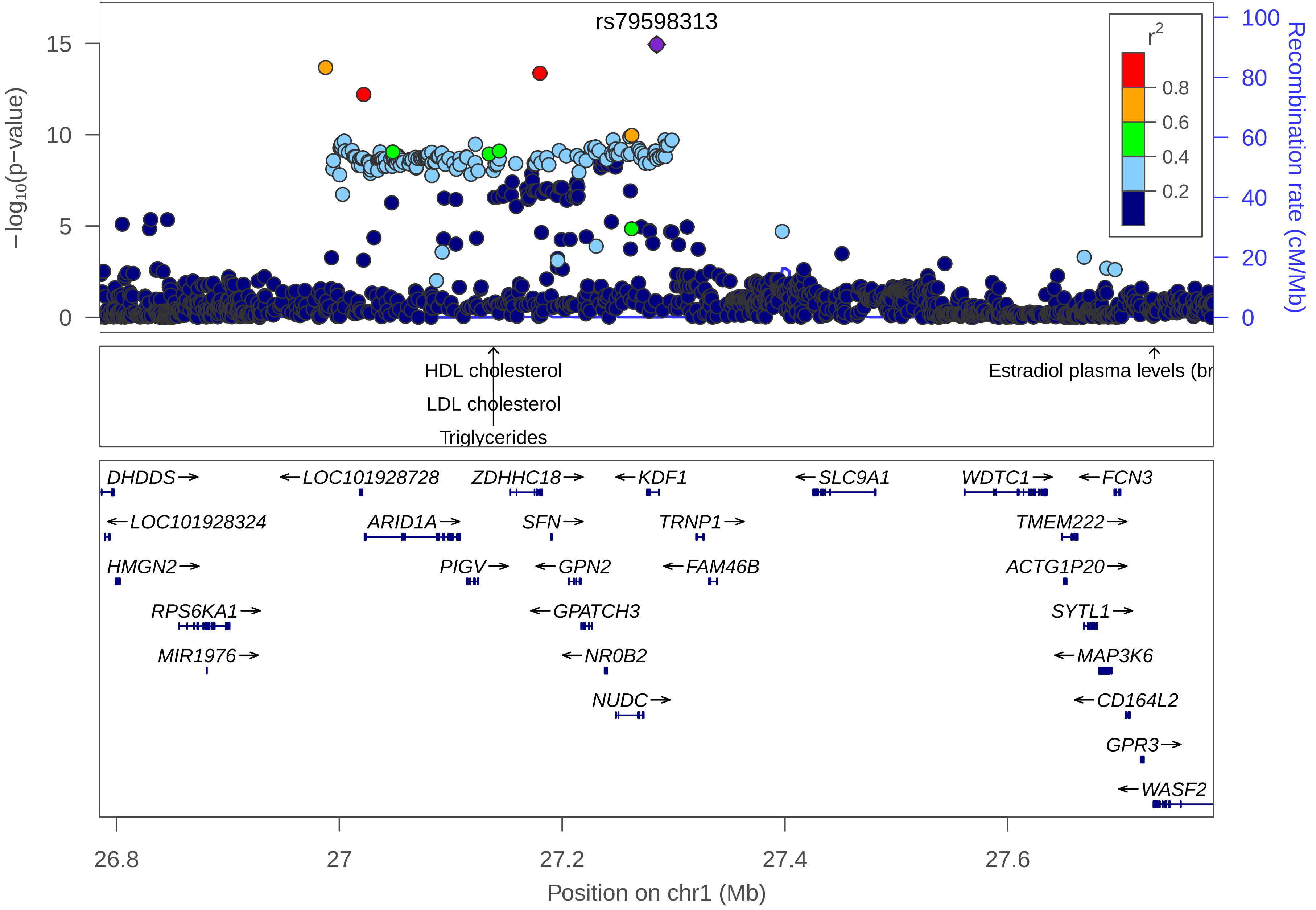
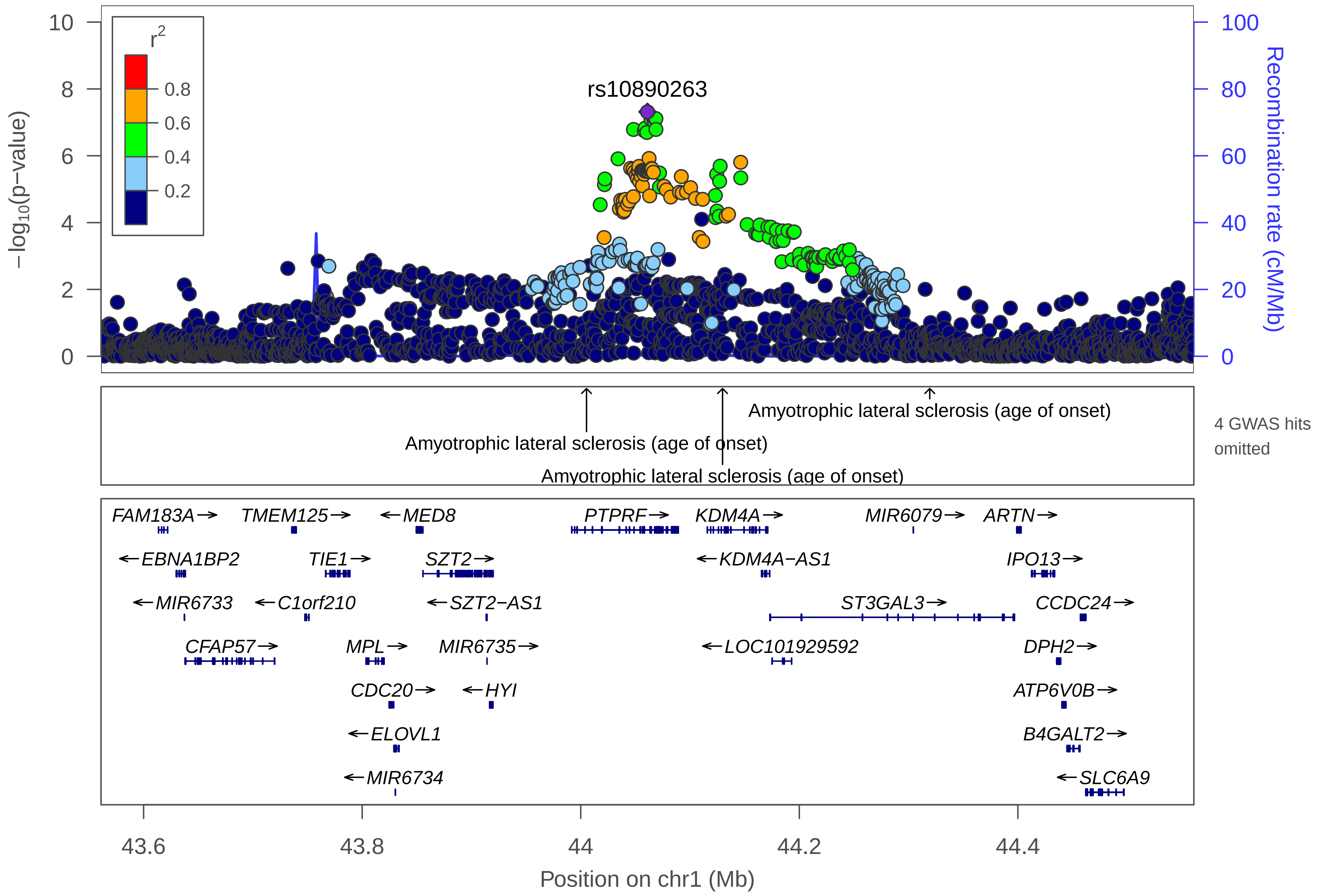
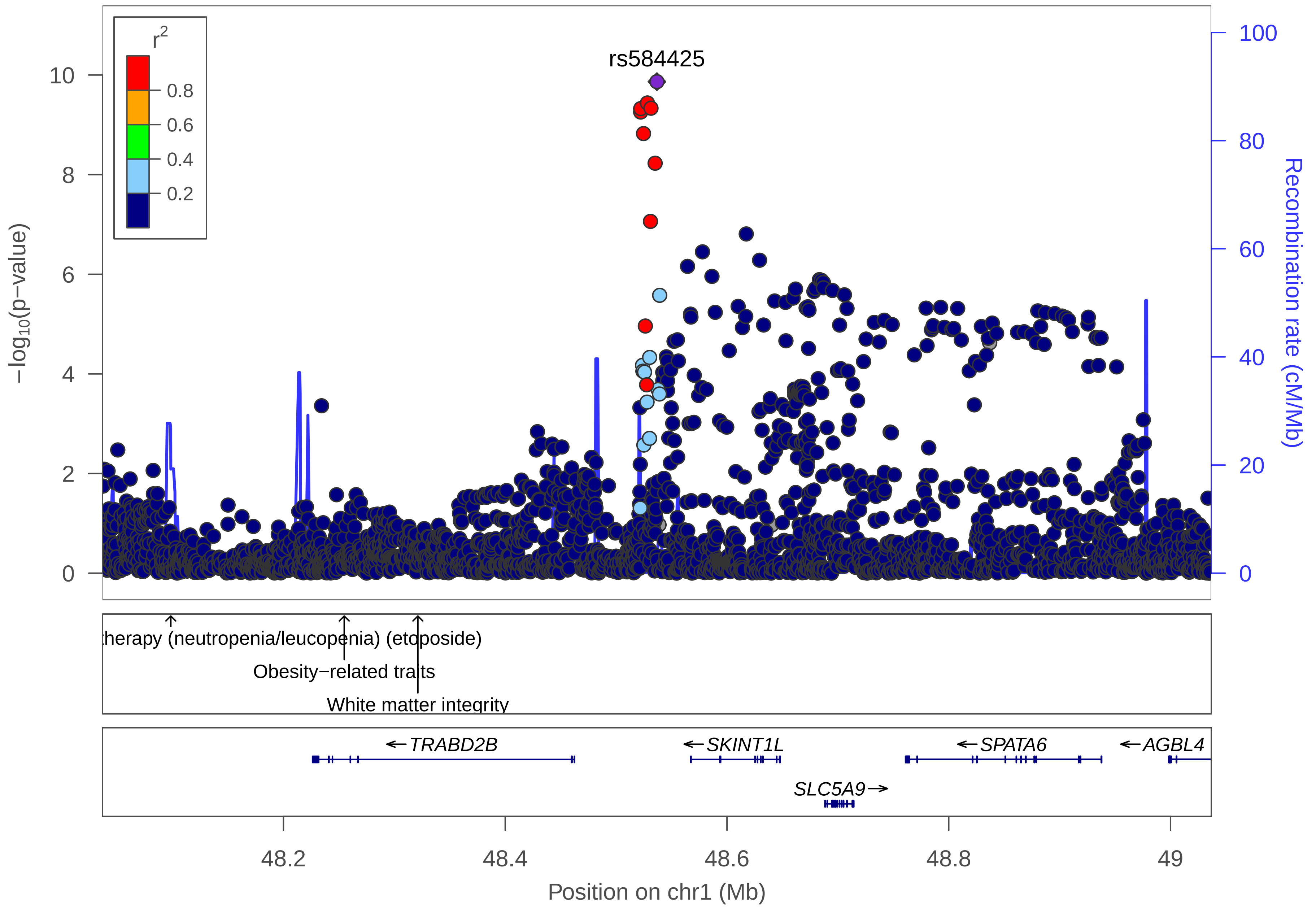
Supplementary Data Set: Regional association plots of 183 genome-wide significant loci from trans-ethnic meta-analysis.

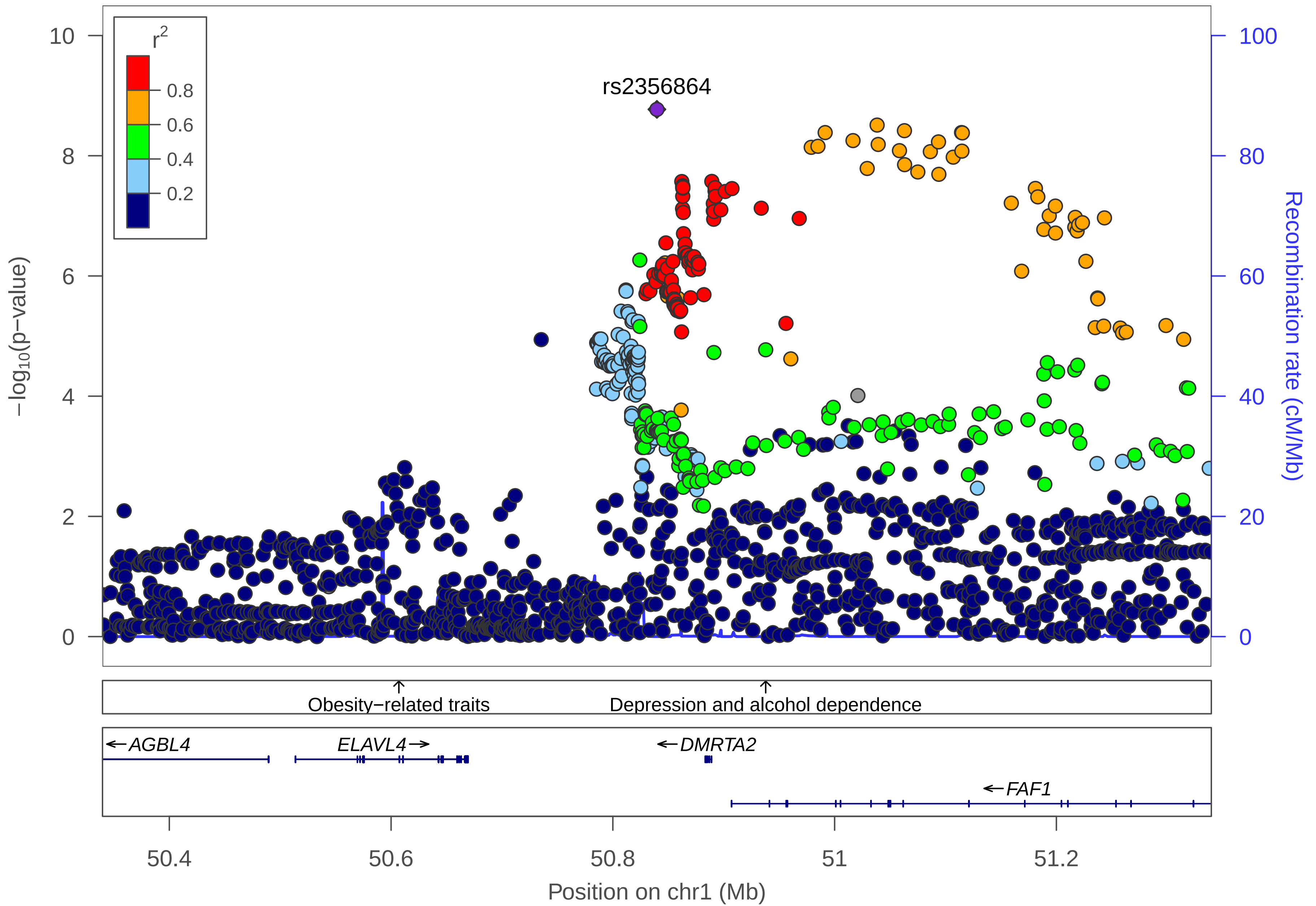
Regional association plots are shown for all genome-wide significant loci from trans-ethnic meta-analysis (n=457,690). The y-axis shows –log10(two-sided nominal p-value) from the meta-analysis using inverse variance weighted fixed effect method. Correlation (r^2) with the index SNP was estimated based on the 1000 Genomes EUR reference samples. Plots were generated using the stand-alone version 1.3 of LocusZoom (Pruim, R.J. *et al. Bioinformatics* 26, 2336-7, 2010). Genetic positions refer to GRCh37/hg19 coordinates. Zoomed in versions of pages 19, 21, 52, 54, 57, 69, 71, 93, 115, and 119 are appended at the end of the document.

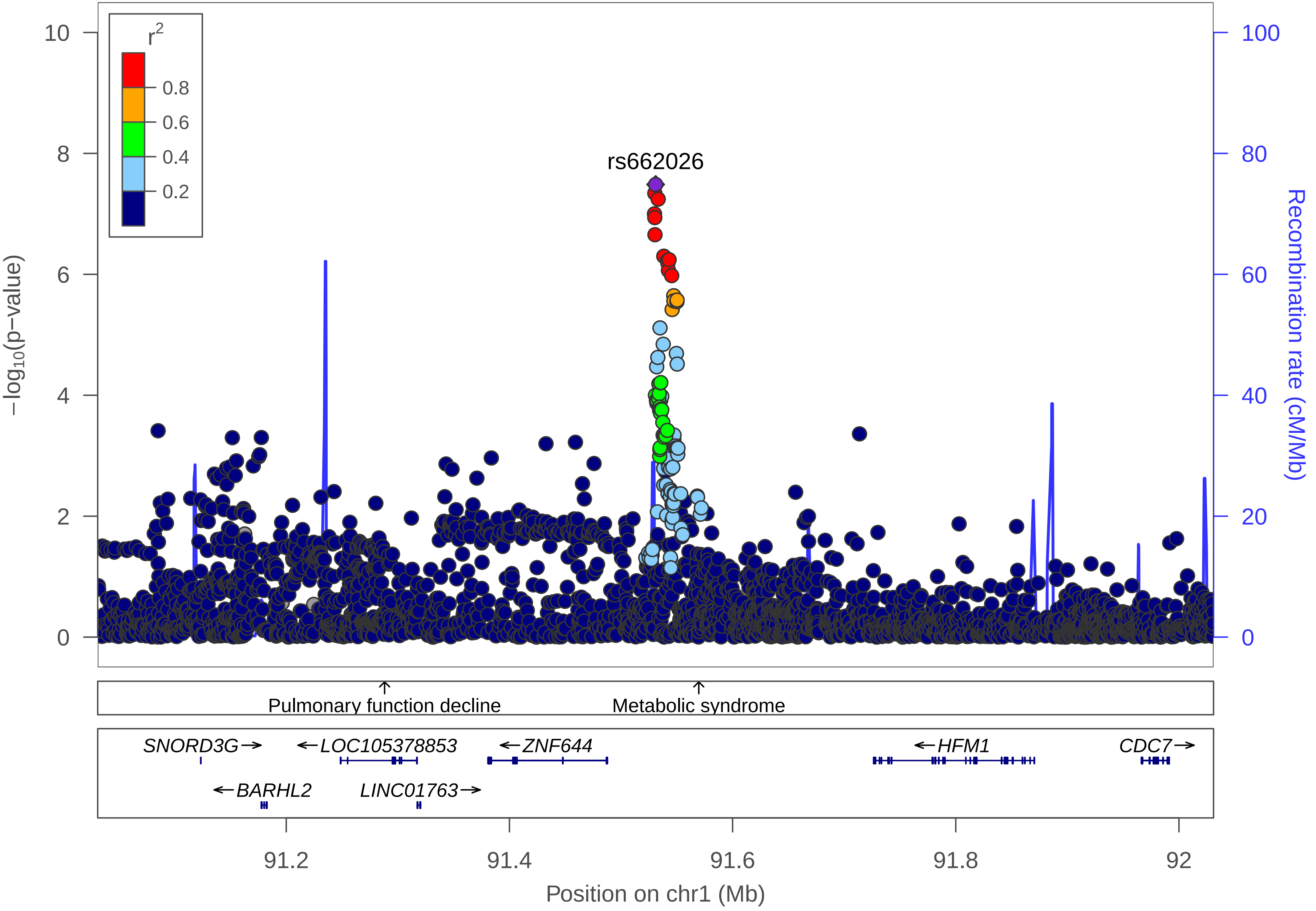

rs10803394
r²
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Migraine
Cardiac Troponin−T levels
Obesity−related traits
Dilated cardiomyopathy
2 GWAS hits omitted
KAZN→
FHAD1→
CELA2A→
←AGMAT
PLEKHM2→
←FLJ37453
←ZBTB17
←TMEM51−AS1
EFHD2→
DNAJC16→
RSC1A1→
FBLIM1→
SPEN→
SRARP→
TMEM51→
CTRC→
DDI2→
SLC25A34→
MIR5096→
←HSPB7
←C1orf195
CELA2B→
TMEM82→
CLCNKA→
←CASP9
←UQCRHL
CLCNKB→
SCARNA21B→
←FAM131C
15.6
15.8
16
16.2
16.4
Position on chr1 (Mb)


rs79598313
r^2
0.8
0.6
0.4
0.2
−log$_{10}$(p−value)
15
10
5
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
HDL cholesterol
LDL cholesterol
Triglycerides
Estradiol plasma levels (br
DHDDS→
←LOC101928728
ZDHHC18→
←KDF1
←SLC9A1
WDTC1→
←FCN3
←LOC101928324
ARID1A→
SFN→
TRNP1→
TMEM222→
HMGN2→
PIGV→
←GPN2
←FAM46B
ACTG1P20→
RPS6KA1→
←GPATCH3
SYTL1→
MIR1976→
←NR0B2
←MAP3K6
NUDC→
←CD164L2
GPR3→
←WASF2
26.8
27
27.2
27.4
27.6
Position on chr1 (Mb)

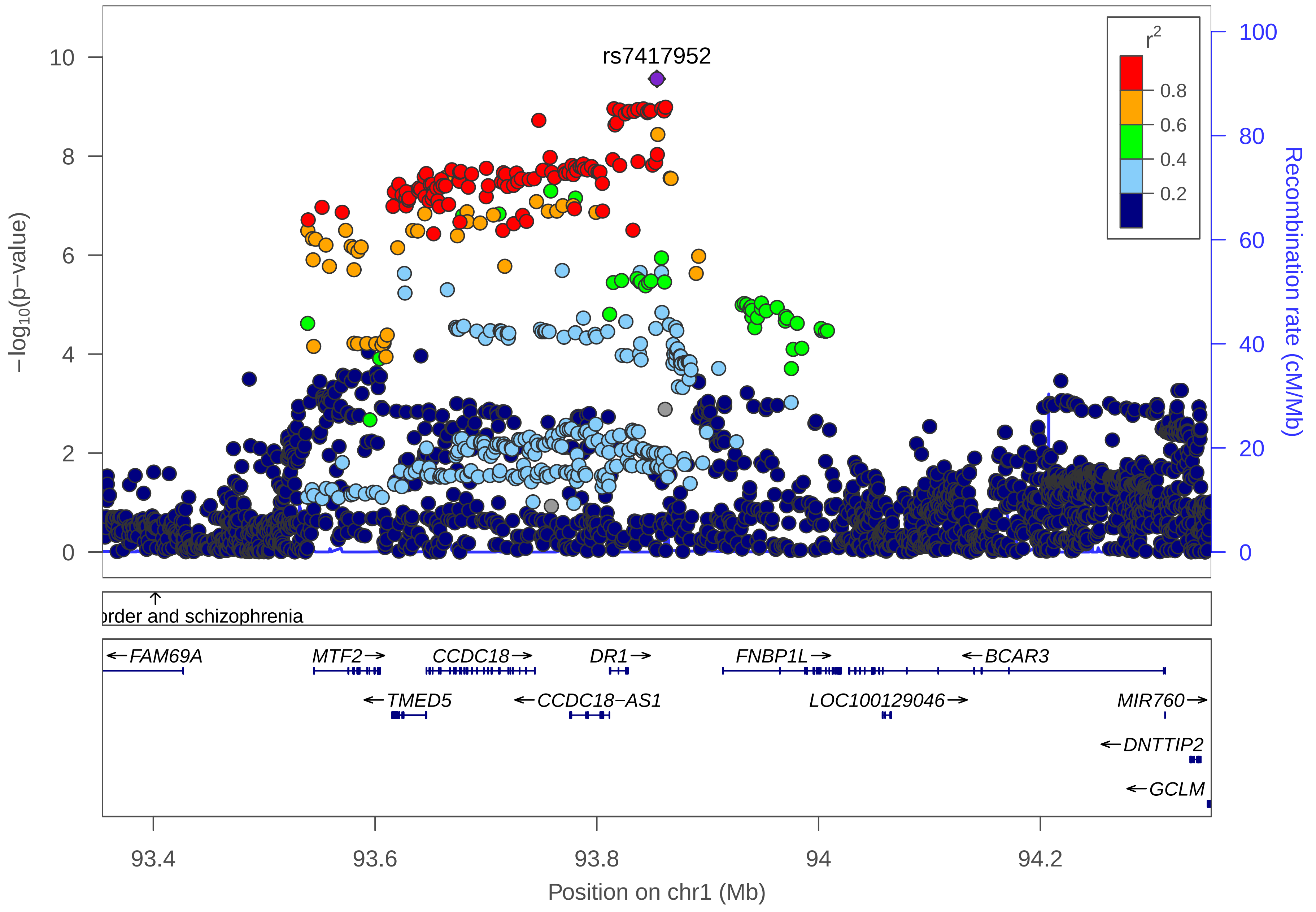

rs10890263
r2
0.8
0.6
0.4
0.2
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
Amyotrophic lateral sclerosis (age of onset)
Amyotrophic lateral sclerosis (age of onset)
Amyotrophic lateral sclerosis (age of onset)
4 GWAS hits omitted
FAM183A→
TMEM125→
←MED8
PTPRF→
KDM4A→
MIR6079→
ARTN→
←EBNA1BP2
TIE1→
SZT2→
←KDM4A−AS1
IPO13→
←MIR6733
←C1orf210
←SZT2−AS1
ST3GAL3→
CCDC24→
CFAP57→
MPL→
MIR6735→
←LOC101929592
DPH2→
CDC20→
←HYI
ATP6V0B→
←ELOVL1
B4GALT2→
←MIR6734
←SLC6A9
43.6
43.8
44
44.2
44.4
Position on chr1 (Mb)

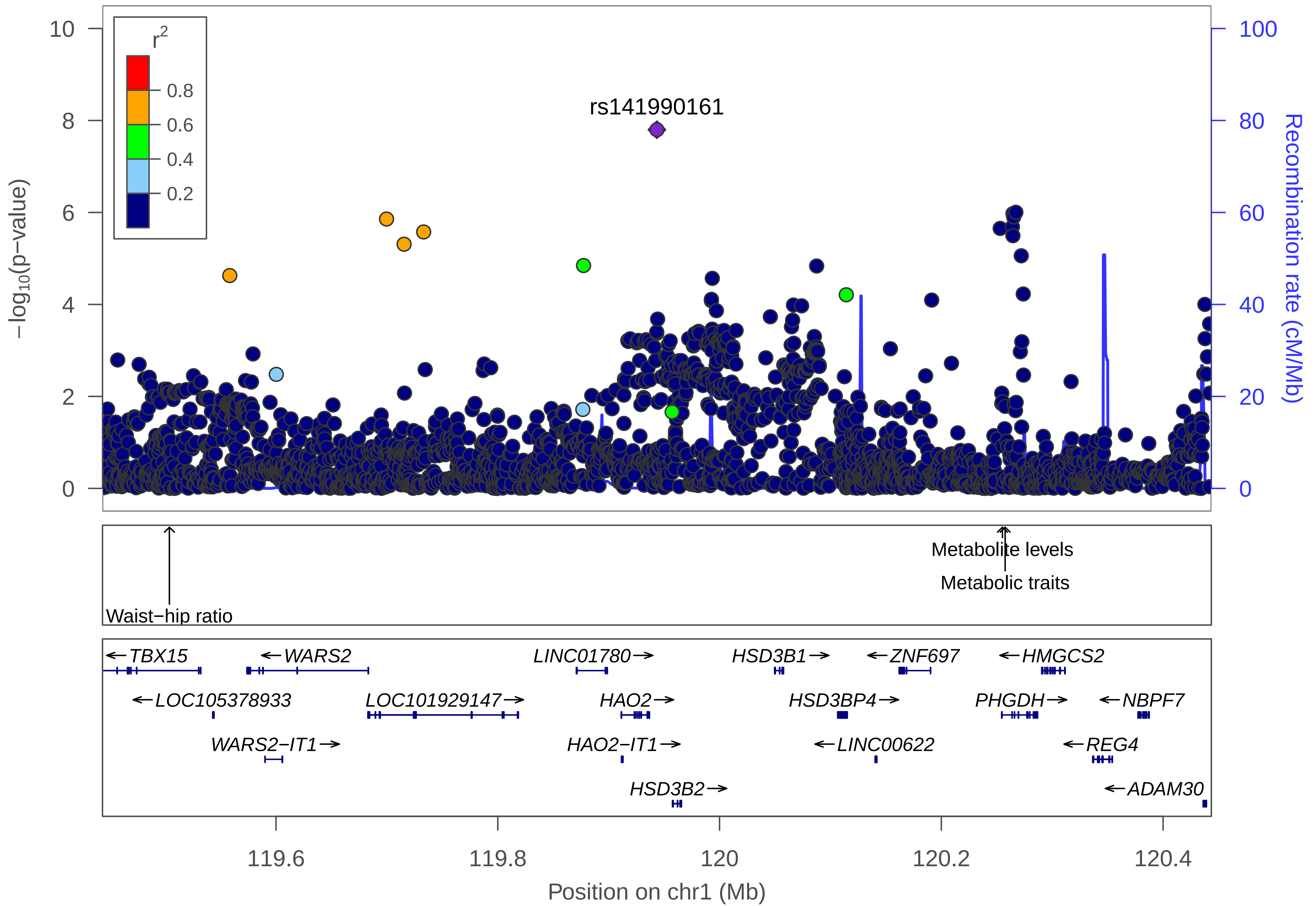

r2
0.8
0.6
0.4
0.2
rs584425
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
herapy (neutropenia/leucopenia) (etoposide)
Obesity−related traits
White matter integrity
←TRABD2B
←SKINT1L
←SPATA6
←AGBL4
SLC5A9→
48.2
48.4
48.6
48.8
49
Position on chr1 (Mb)

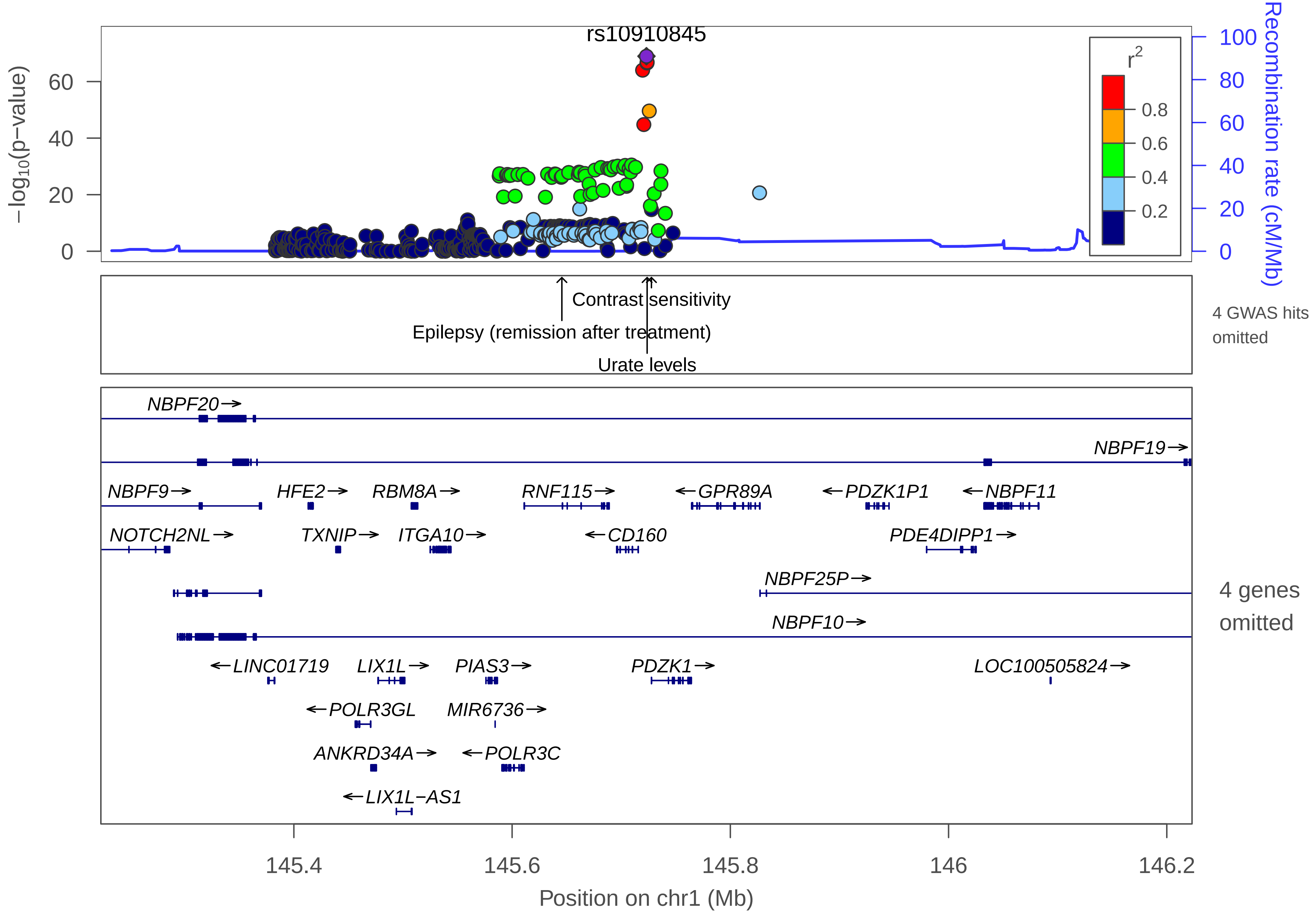

r^2
0.8
0.6
0.4
0.2
rs2356864
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Obesity−related traits
Depression and alcohol dependence
← AGBL4
ELAVL4 →
← DMRTA2
← FAF1
50.4
50.6
50.8
51
51.2
Position on chr1 (Mb)

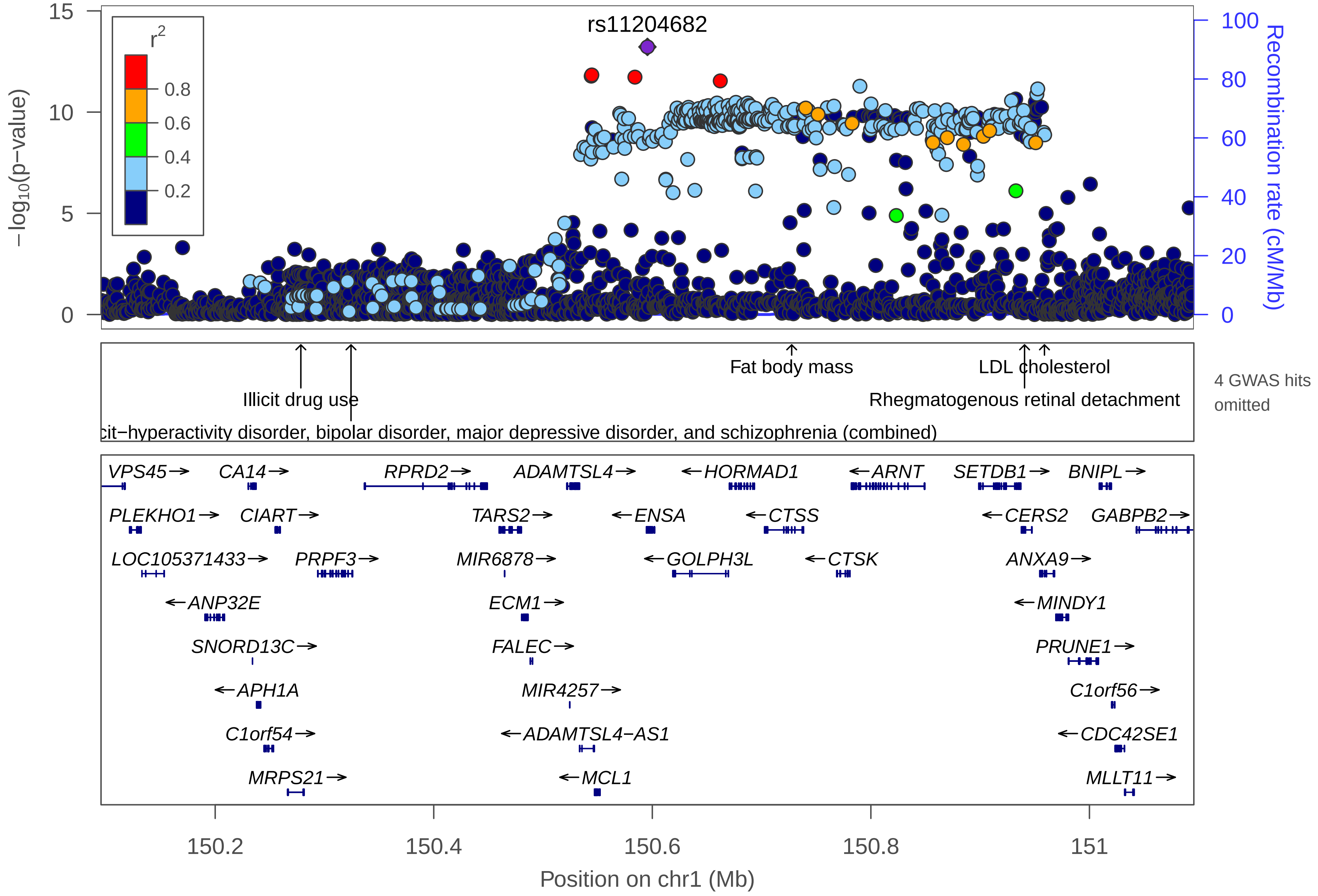


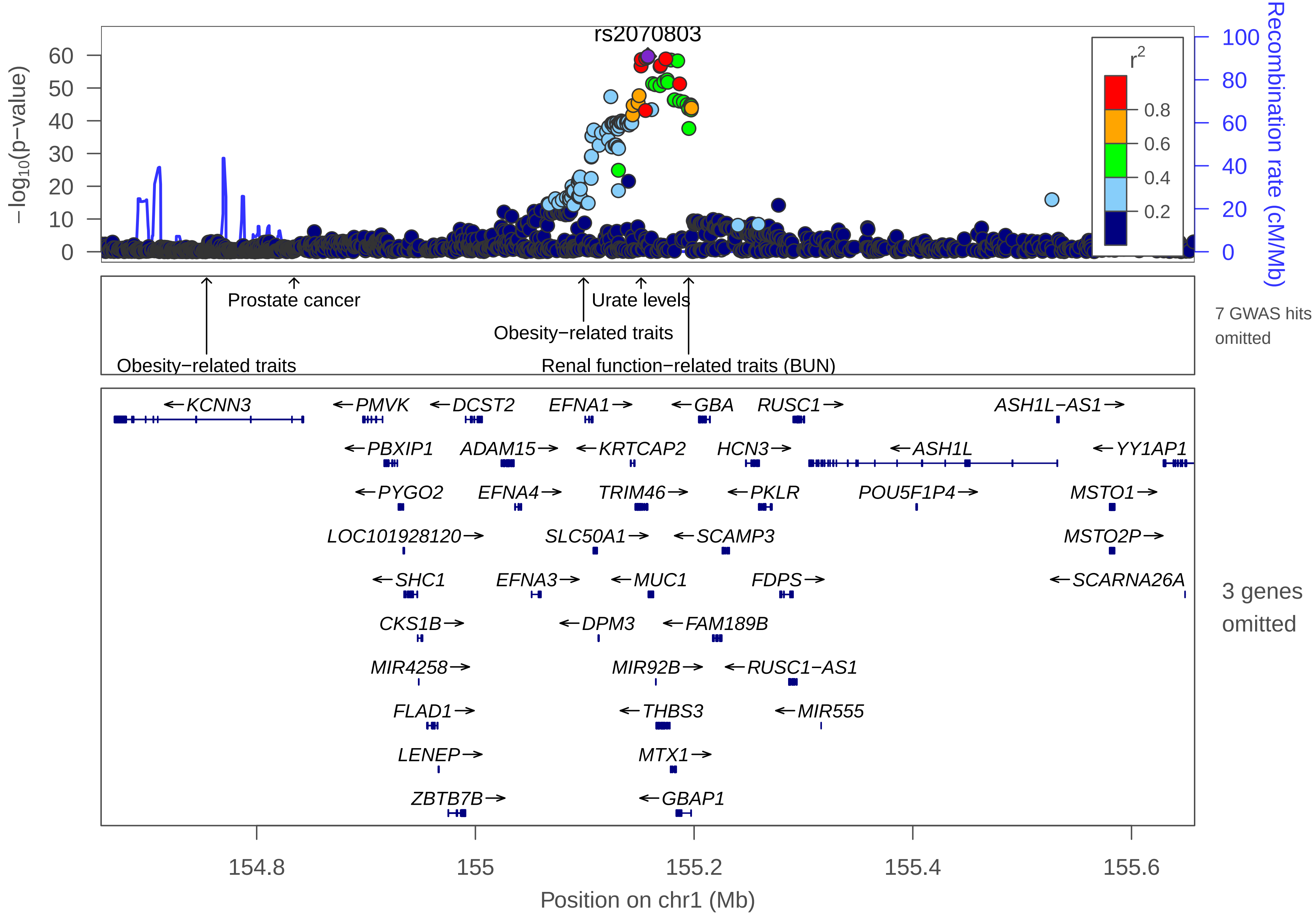
rs662026
r²
0.8
0.6
0.4
0.2
−log₁₀(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Pulmonary function decline
Metabolic syndrome
SNORD3G→
←LOC105378853
←ZNF644
←HFM1
CDC7→
←BARHL2
LINC01763→
91.2
91.4
91.6
91.8
92
Position on chr1 (Mb)

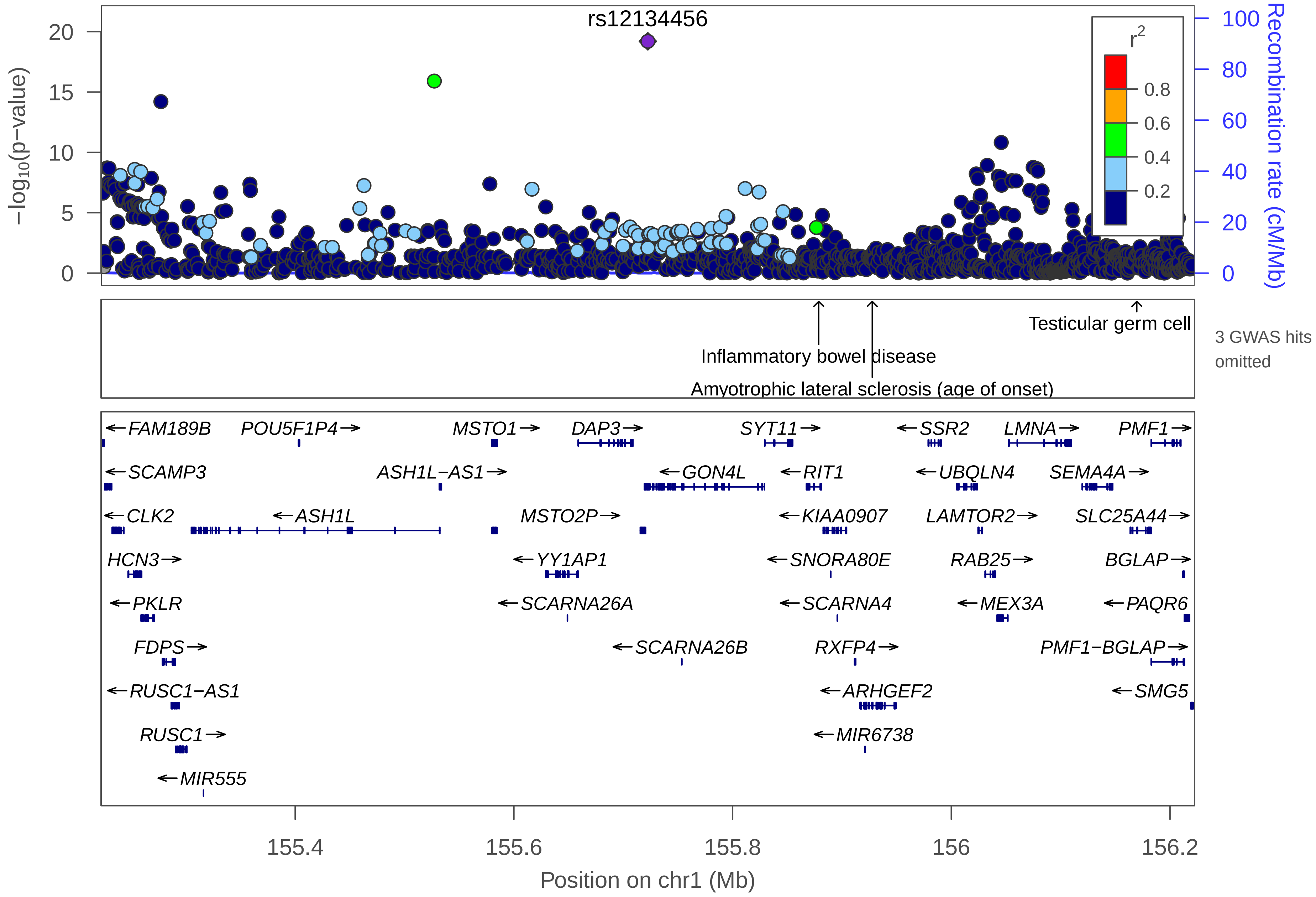

rs7417952
r2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
rder and schizophrenia
←FAM69A
MTF2→
CCDC18→
DR1→
FNBP1L→
←BCAR3
←TMED5
←CCDC18−AS1
LOC100129046→
MIR760→
←DNTTIP2
←GCLM
93.4
93.6
93.8
94
94.2
Position on chr1 (Mb)

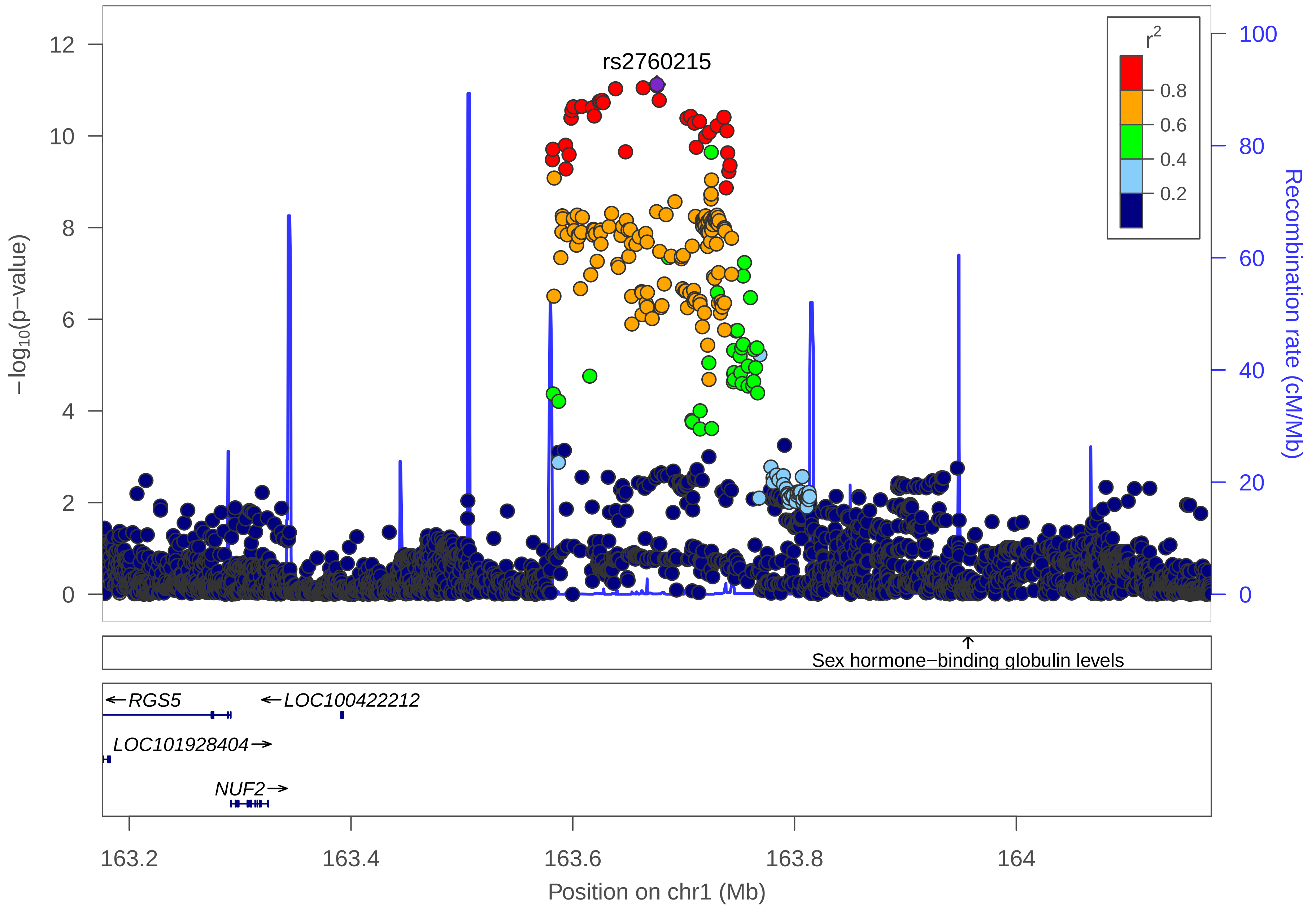

rs141990161
r2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Waist−hip ratio
Metabolite levels
Metabolic traits
←TBX15
←WARS2
LINC01780→
HSD3B1→
←ZNF697
←HMGCS2
←LOC105378933
LOC101929147→
HAO2→
HSD3BP4→
PHGDH→
←NBPF7
WARS2−IT1→
HAO2−IT1→
←LINC00622
←REG4
HSD3B2→
←ADAM30
119.6
119.8
120
120.2
120.4
Position on chr1 (Mb)

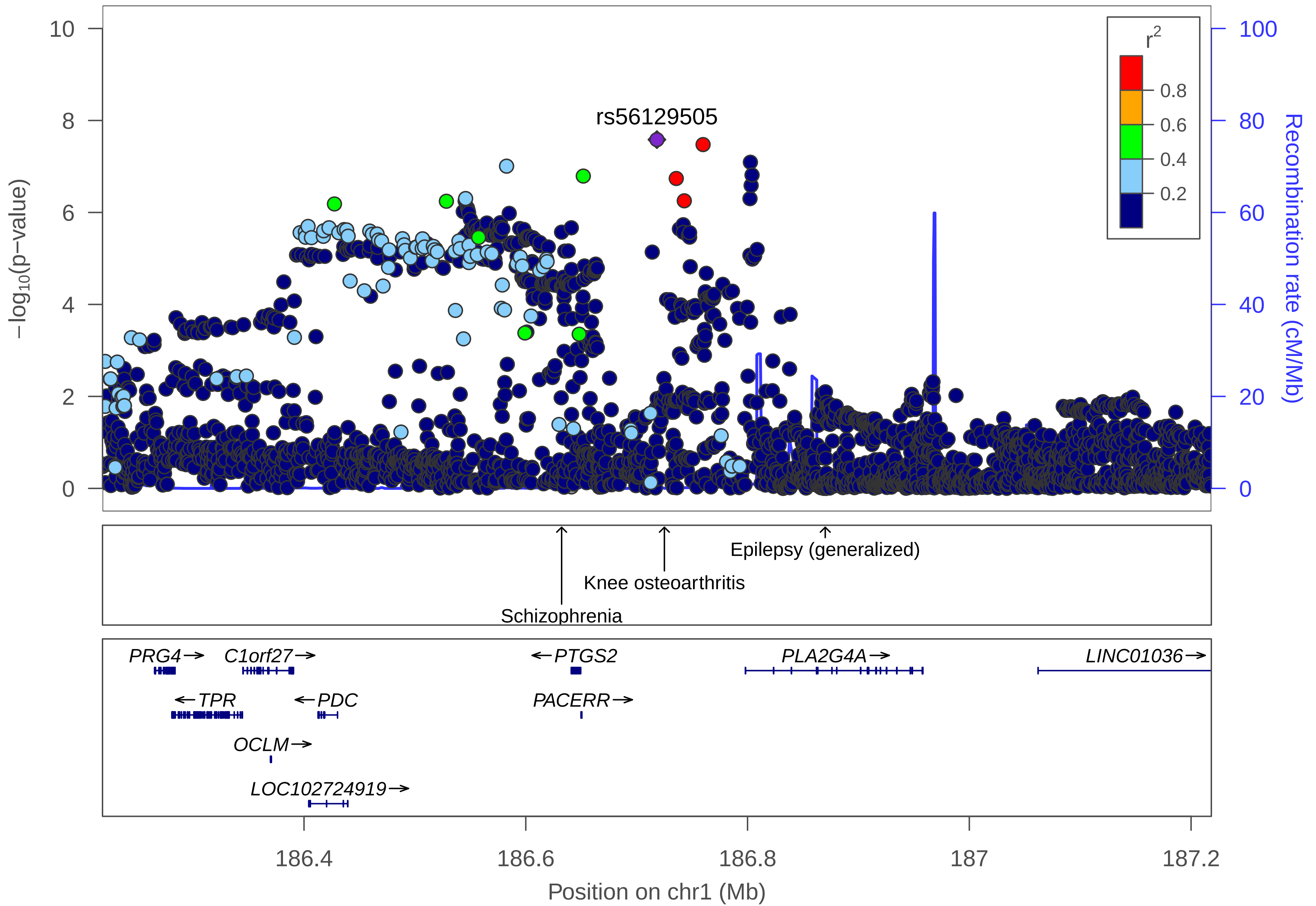

rs10910845
−log10(p−value)
0
20
40
60
Recombination rate (cM/Mb)
0
20
40
60
80
100
r²
0.2
0.4
0.6
0.8
Contrast sensitivity
Epilepsy (remission after treatment)
Urate levels
4 GWAS hits omitted
NBPF20→
NBPF19→
NBPF9→
HFE2→
RBM8A→
RNF115→
←GPR89A
←PDZK1P1
←NBPF11
NOTCH2NL→
TXNIP→
ITGA10→
←CD160
PDE4DIPP1→
NBPF25P→
NBPF10→
←LINC01719
LIX1L→
PIAS3→
PDZK1→
LOC100505824→
←POLR3GL
MIR6736→
ANKRD34A→
←POLR3C
←LIX1L−AS1
4 genes omitted
145.4
145.6
145.8
146
146.2
Position on chr1 (Mb)

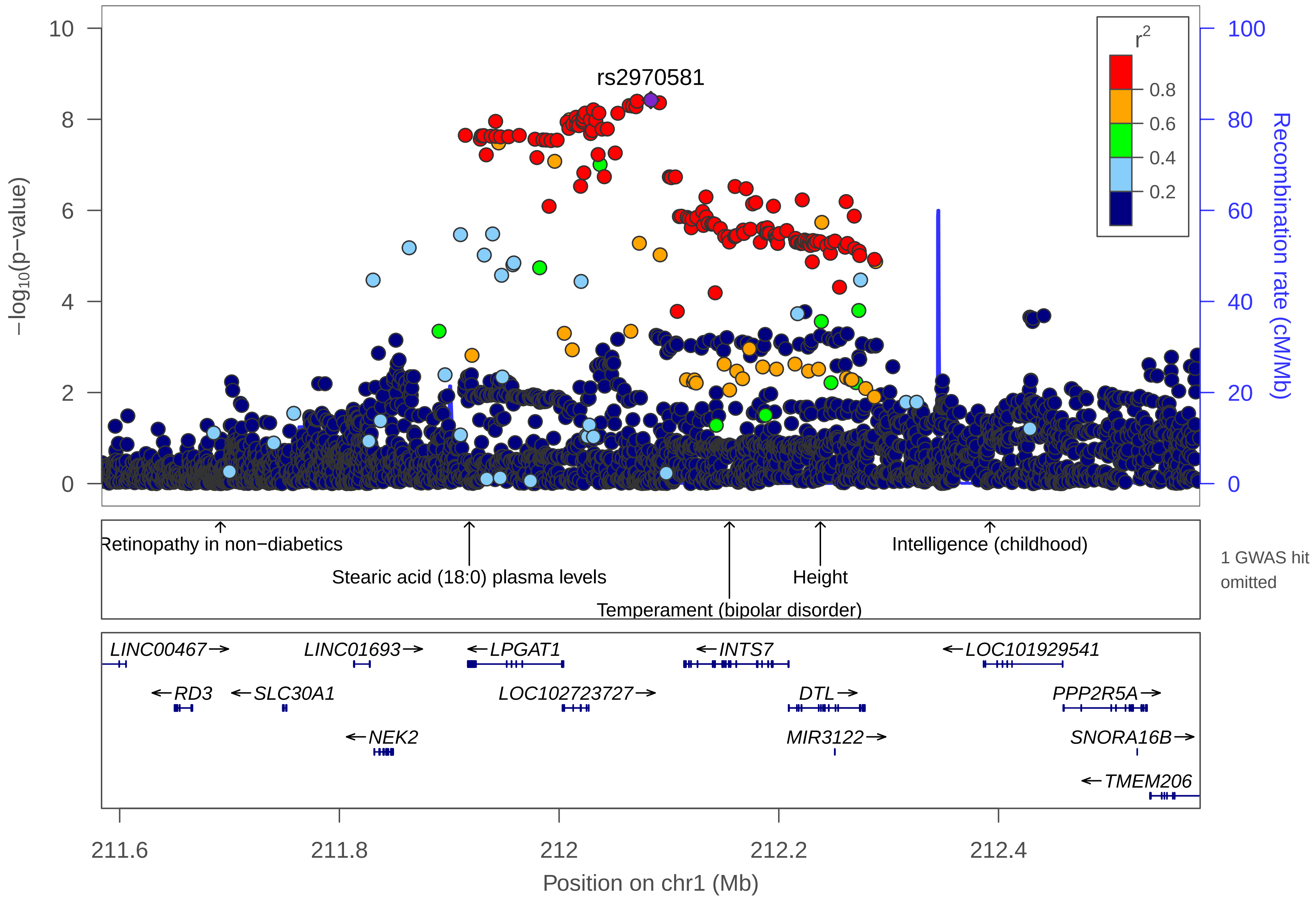

rs11204682
r²
0.8
0.6
0.4
0.2
−log10(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Illicit drug use
cit−hyperactivity disorder, bipolar disorder, major depressive disorder, and schizophrenia (combined)
Fat body mass
LDL cholesterol
Rhegmatogenous retinal detachment
4 GWAS hits omitted
VPS45→
CA14→
RPRD2→
ADAMTSL4→
←HORMAD1
←ARNT
SETDB1→
BNIPL→
PLEKHO1→
CIART→
TARS2→
←ENSA
←CTSS
←CERS2
GABPB2→
LOC105371433→
PRPF3→
MIR6878→
←GOLPH3L
←CTSK
ANXA9→
←ANP32E
ECM1→
←MINDY1
SNORD13C→
FALEC→
PRUNE1→
←APH1A
MIR4257→
C1orf56→
C1orf54→
←ADAMTSL4−AS1
←CDC42SE1
MRPS21→
←MCL1
MLLT11→
150.2
150.4
150.6
150.8
151
Position on chr1 (Mb)

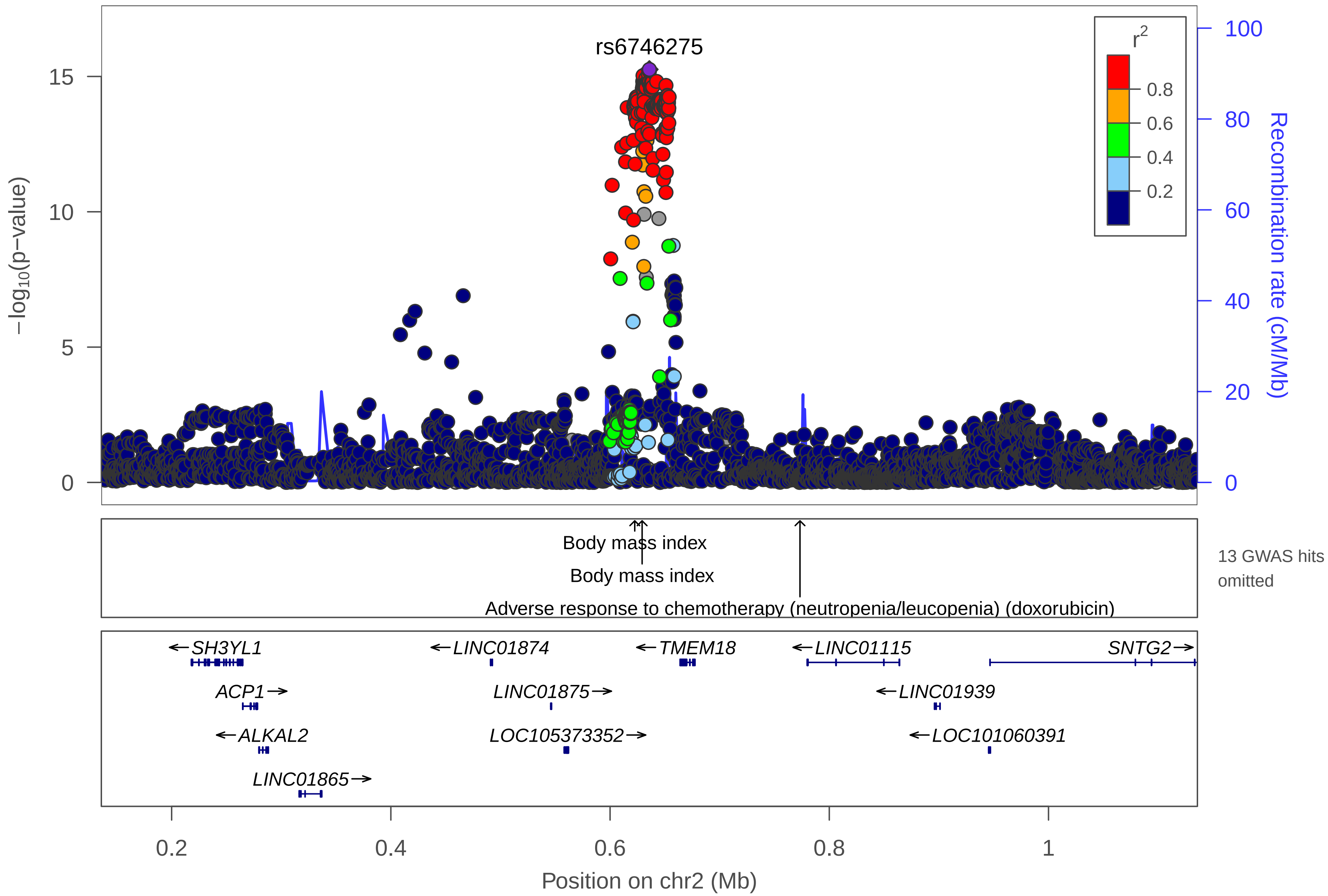

rs2070803
−log10(p−value)
60
50
40
30
20
10
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Prostate cancer
Urate levels
Obesity−related traits
Obesity−related traits
Renal function−related traits (BUN)
7 GWAS hits omitted
←KCNN3
←PMVK
←DCST2
EFNA1→
←GBA
RUSC1→
ASH1L−AS1→
←PBXIP1
ADAM15→
←KRTCAP2
HCN3→
←ASH1L
←YY1AP1
←PYGO2
EFNA4→
TRIM46→
←PKLR
POU5F1P4→
MSTO1→
LOC101928120→
SLC50A1→
←SCAMP3
MSTO2P→
←SHC1
EFNA3→
←MUC1
FDPS→
←SCARNA26A
CKS1B→
←DPM3
←FAM189B
MIR4258→
MIR92B→
←RUSC1−AS1
FLAD1→
←THBS3
←MIR555
LENEP→
MTX1→
ZBTB7B→
←GBAP1
3 genes omitted
154.8
155
155.2
155.4
155.6
Position on chr1 (Mb)

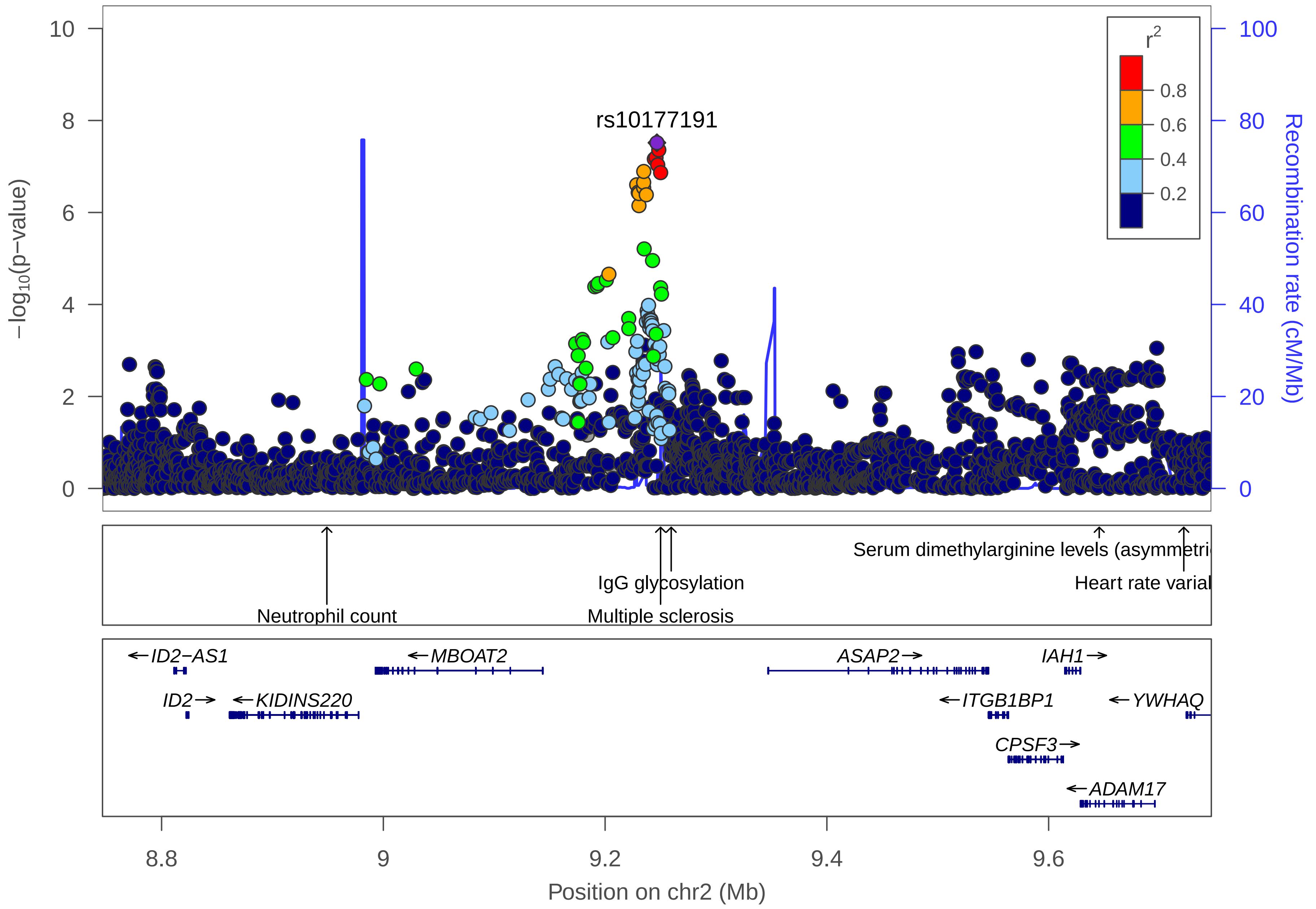

rs12134456
−log10(p−value)
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Inflammatory bowel disease
Amyotrophic lateral sclerosis (age of onset)
Testicular germ cell
3 GWAS hits omitted
FAM189B
POU5F1P4
MSTO1
DAP3
SYT11
SSR2
LMNA
PMF1
SCAMP3
ASH1L−AS1
GON4L
RIT1
UBQLN4
SEMA4A
CLK2
ASH1L
MSTO2P
KIAA0907
LAMTOR2
SLC25A44
HCN3
YY1AP1
SNORA80E
RAB25
BGLAP
PKLR
SCARNA26A
SCARNA4
MEX3A
PAQR6
FDPS
SCARNA26B
RXFP4
PMF1−BGLAP
RUSC1−AS1
ARHGEF2
SMG5
RUSC1
MIR6738
MIR555
155.4
155.6
155.8
156
156.2
Position on chr1 (Mb)


rs2760215
−log10(p−value)
0
2
4
6
8
10
12
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
Sex hormone−binding globulin levels
RGS5
LOC100422212
LOC101928404
NUF2
163.2
163.4
163.6
163.8
164
Position on chr1 (Mb)

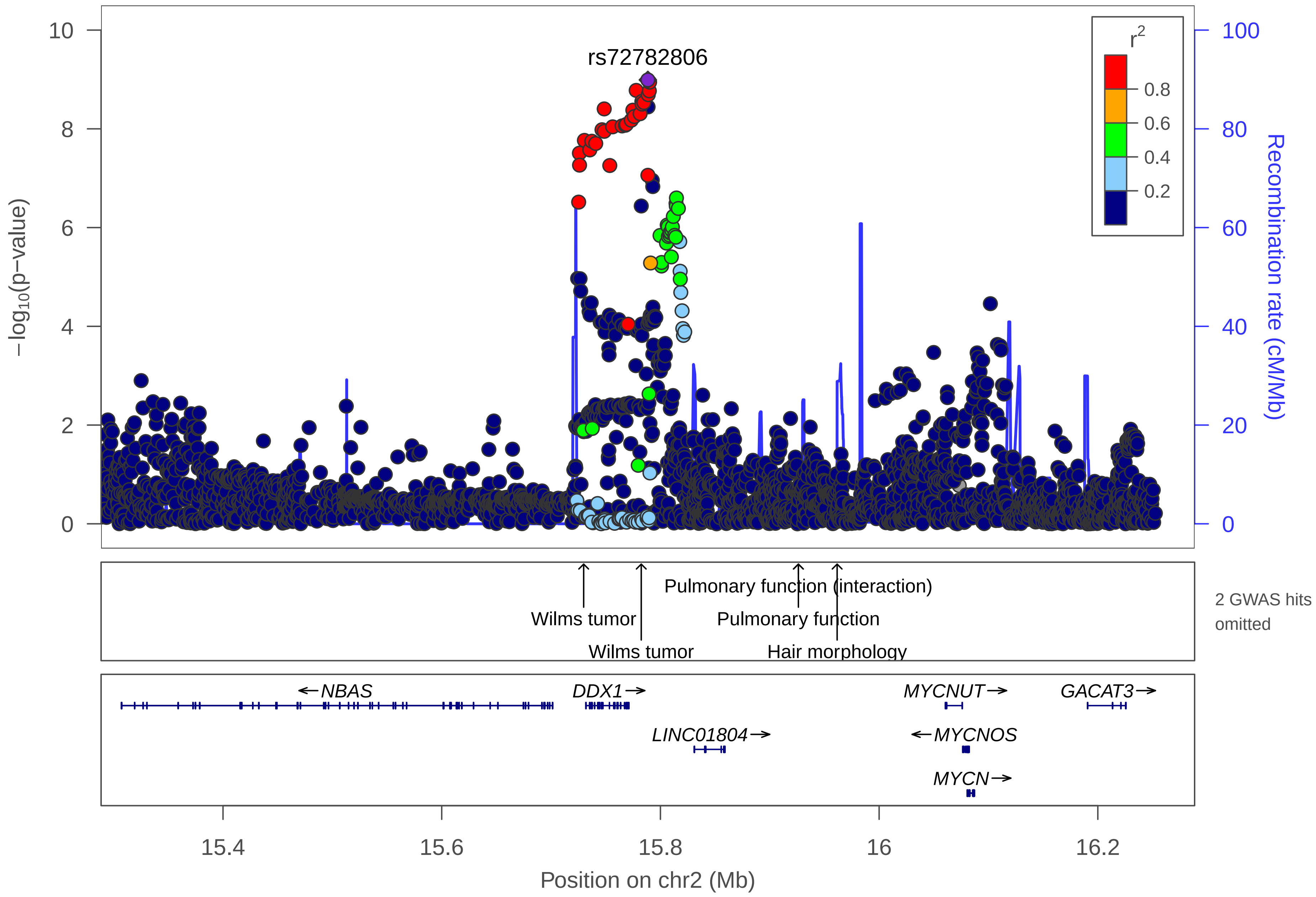

rs56129505
r^2
0.8
0.6
0.4
0.2
$-\log_{10}$(p−value)
Recombination rate (cM/Mb)
10
8
6
4
2
0
100
80
60
40
20
0
Epilepsy (generalized)
Knee osteoarthritis
Schizophrenia
PRG4→
C1orf27→
←PTGS2
PLA2G4A→
LINC01036→
←TPR
←PDC
PACERR→
OCLM→
LOC102724919→
186.4
186.6
186.8
187
187.2
Position on chr1 (Mb)

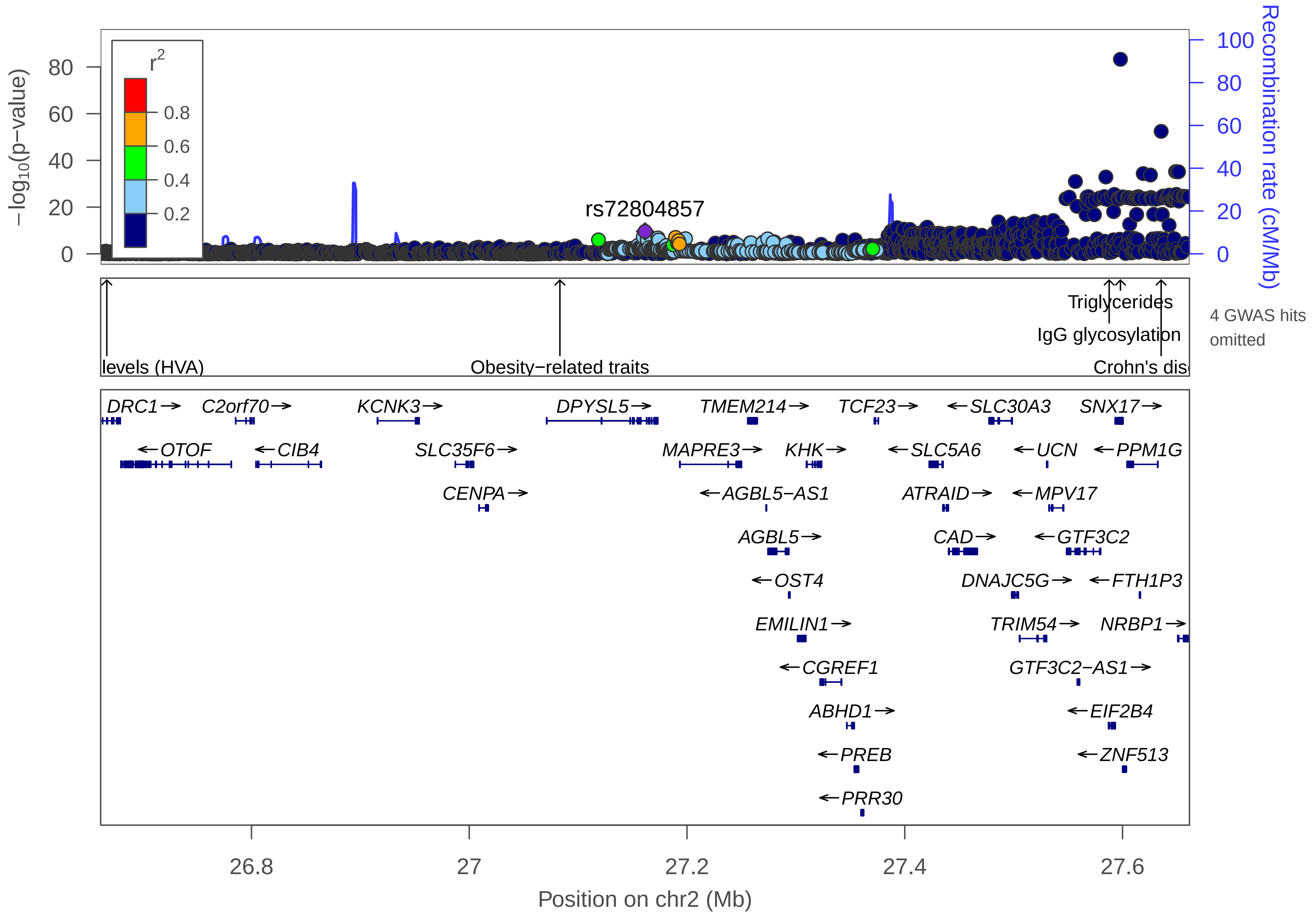

rs2970581
r2
0.8
0.6
0.4
0.2
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
Retinopathy in non−diabetics
Stearic acid (18:0) plasma levels
Temperament (bipolar disorder)
Height
Intelligence (childhood)
1 GWAS hit omitted
LINC00467→
LINC01693→
←LPGAT1
←INTS7
←LOC101929541
←RD3
←SLC30A1
LOC102723727→
DTL→
PPP2R5A→
←NEK2
MIR3122→
SNORA16B→
←TMEM206
211.6
211.8
212
212.2
212.4
Position on chr1 (Mb)

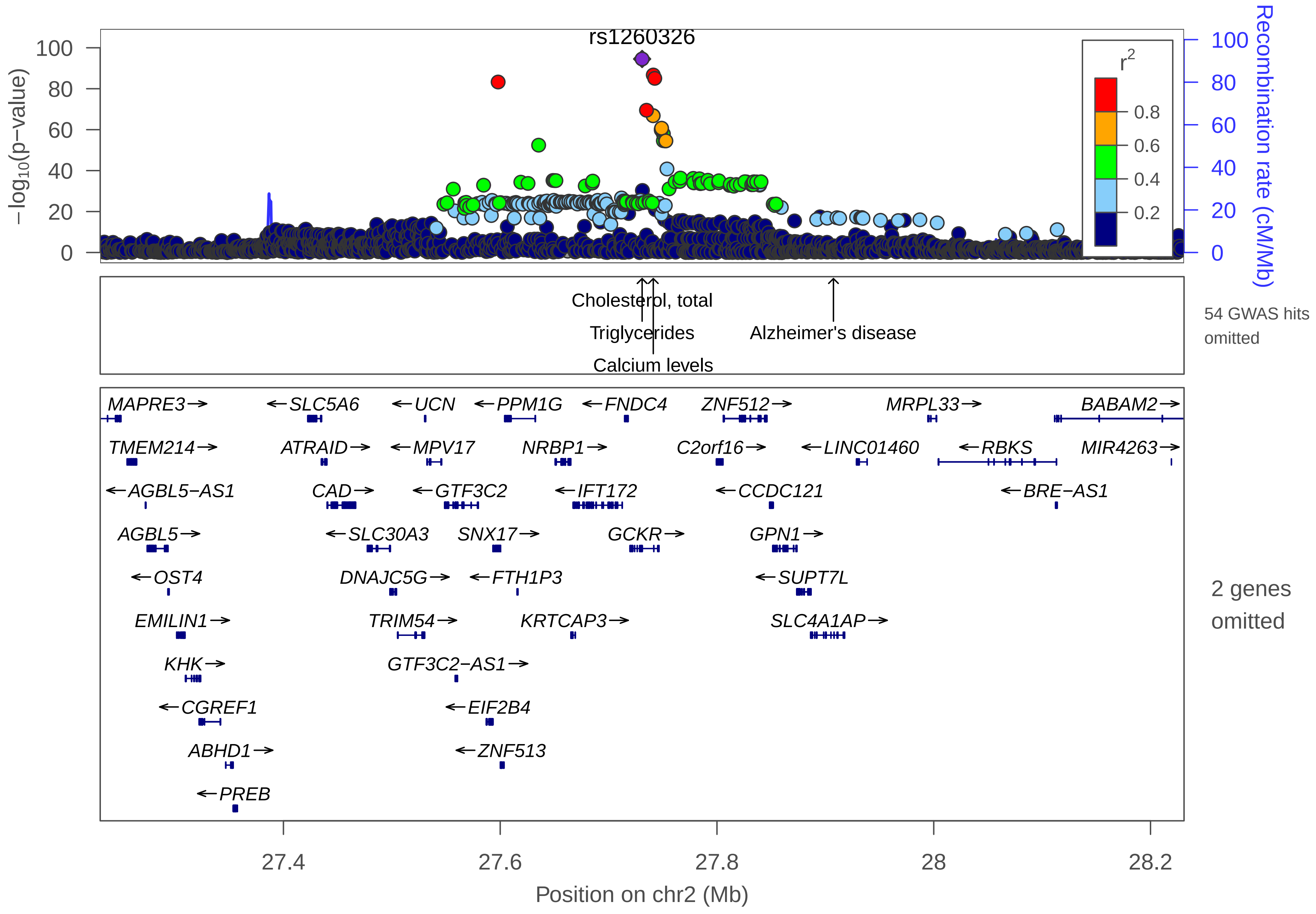

rs6746275
−log10(p−value)
0
5
10
15
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.8
0.6
0.4
0.2
Body mass index
Body mass index
Adverse response to chemotherapy (neutropenia/leucopenia) (doxorubicin)
13 GWAS hits omitted
←SH3YL1
ACP1→
←ALKAL2
LINC01865→
←LINC01874
LINC01875→
LOC105373352→
←TMEM18
←LINC01115
←LINC01939
←LOC101060391
SNTG2→
0.2
0.4
0.6
0.8
1
Position on chr2 (Mb)

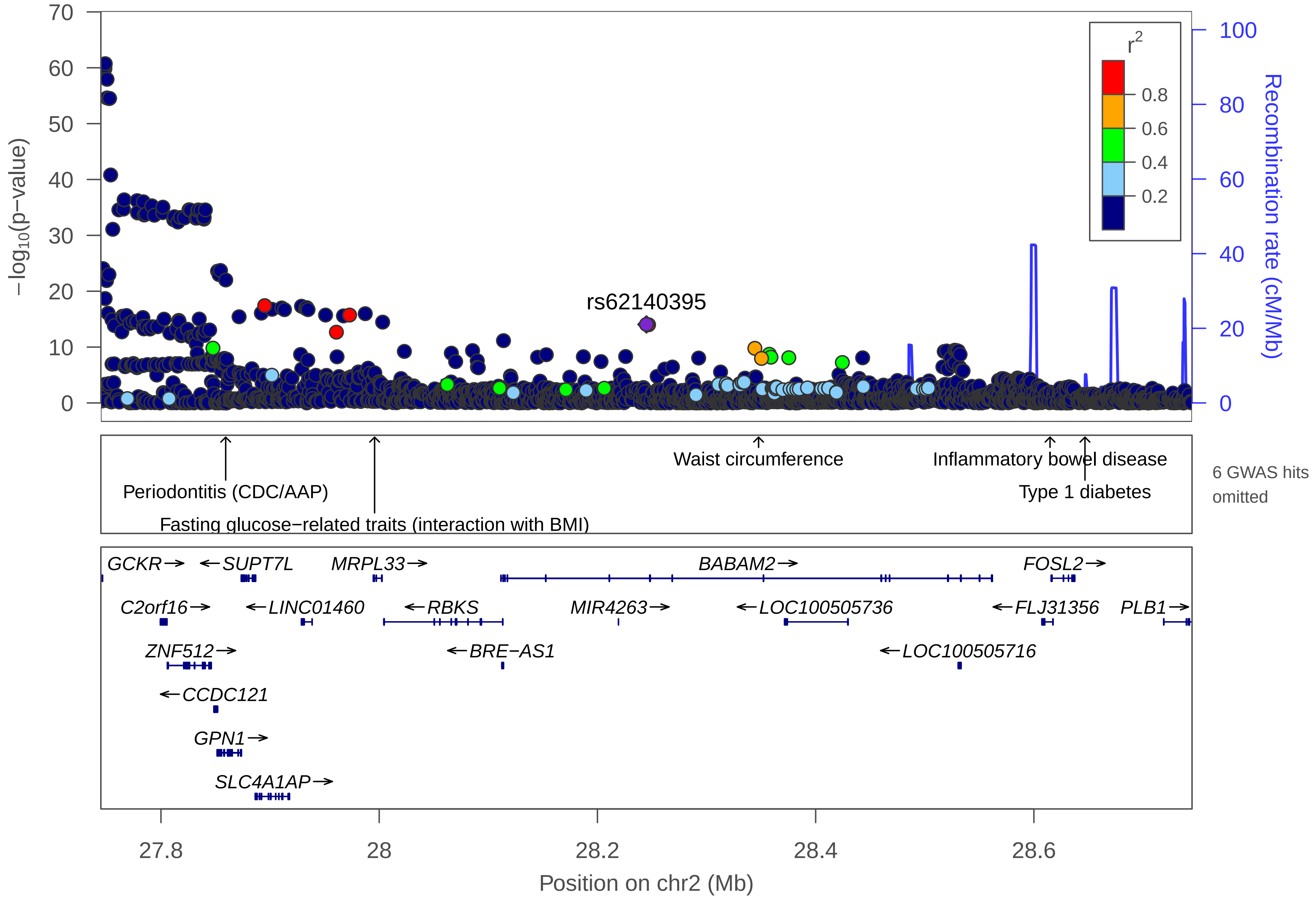


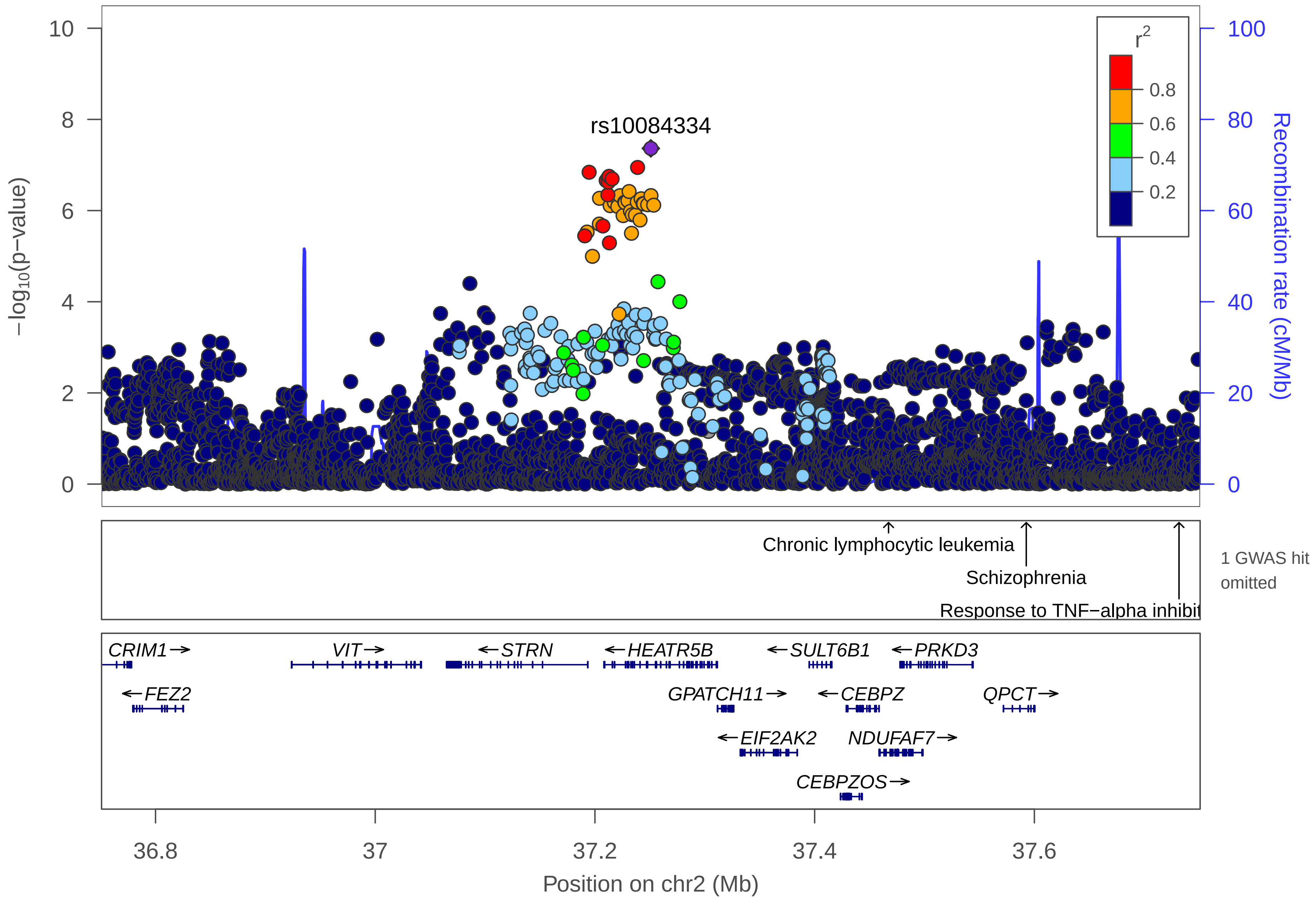
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
rs10177191
Serum dimethylarginine levels (asymmetri
IgG glycosylation
Heart rate varial
Neutrophil count
Multiple sclerosis
←ID2−AS1
←MBOAT2
ASAP2→
IAH1→
ID2→
←KIDINS220
←ITGB1BP1
←YWHAQ
CPSF3→
←ADAM17
8.8
9
9.2
9.4
9.6
Position on chr2 (Mb)

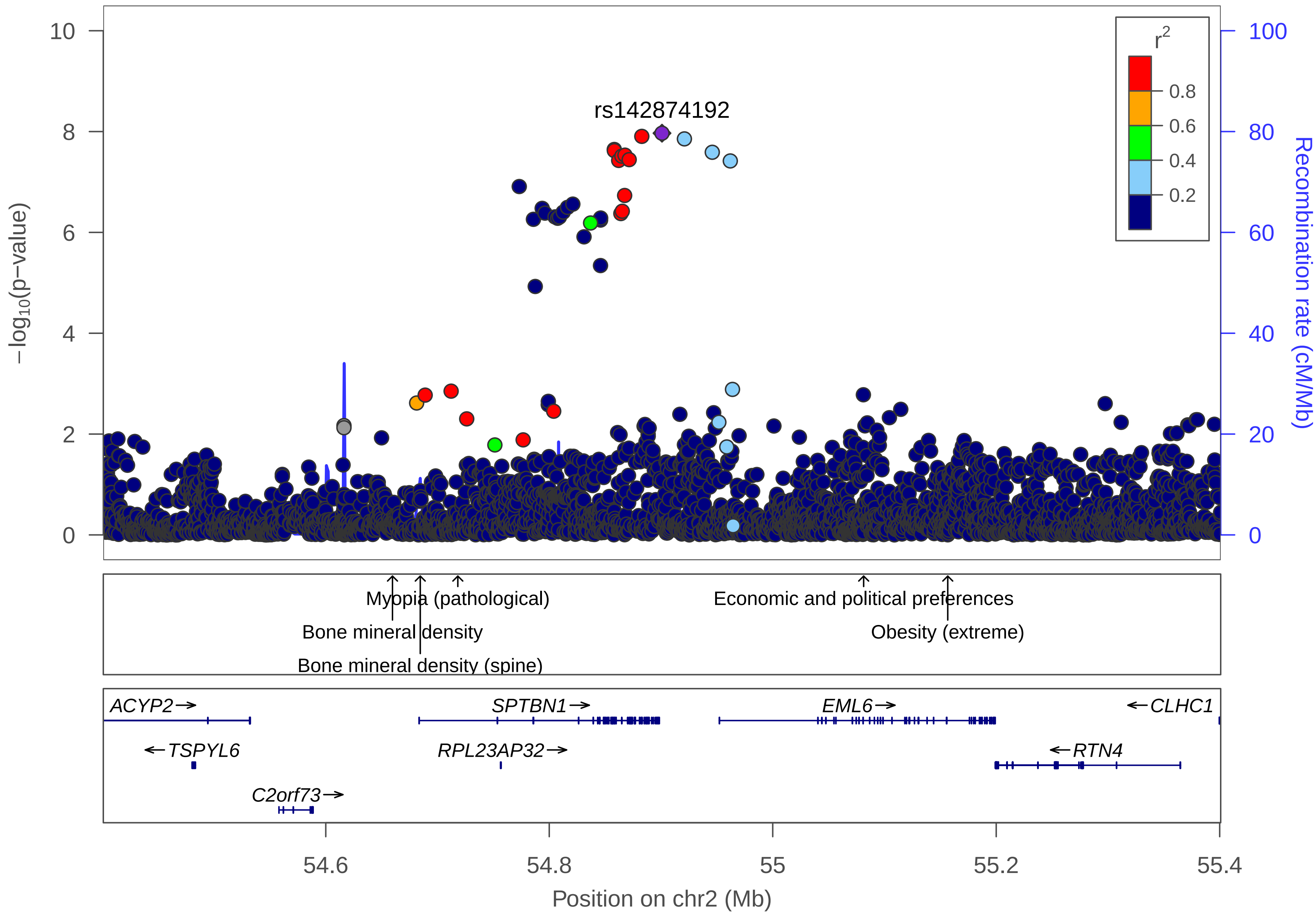

rs72782806
r²
0.8
0.6
0.4
0.2
−log10(p−value)
Recombination rate (cM/Mb)
10
8
6
4
2
0
100
80
60
40
20
0
Wilms tumor
Wilms tumor
Pulmonary function (interaction)
Pulmonary function
Hair morphology
2 GWAS hits omitted
←NBAS
DDX1→
LINC01804→
MYCNUT→
←MYCNOS
MYCN→
GACAT3→
15.4
15.6
15.8
16
16.2
Position on chr2 (Mb)

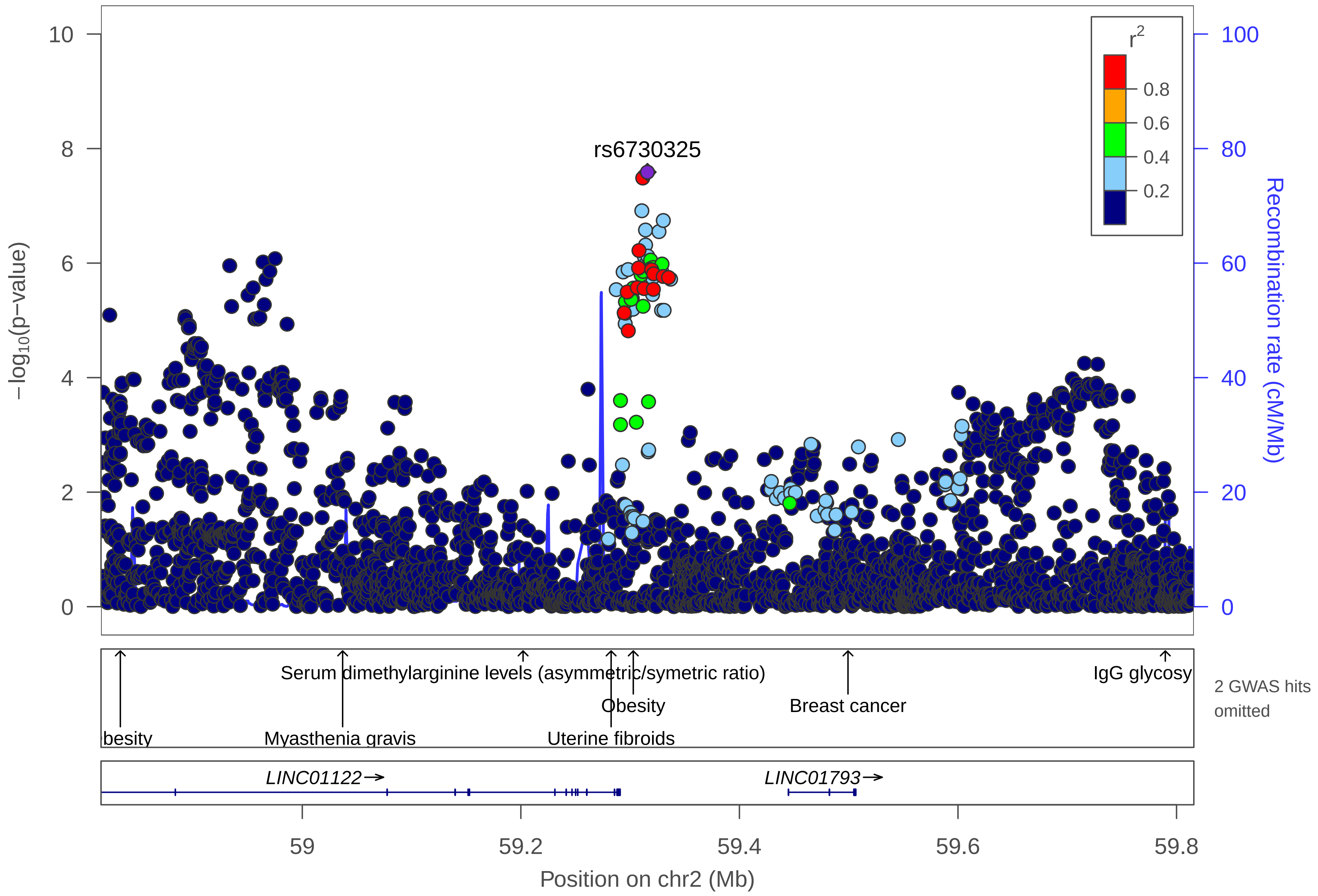

−log10(p−value)
0
20
40
60
80
r2
0.8
0.6
0.4
0.2
rs72804857
Recombination rate (cM/Mb)
0
20
40
60
80
100
levels (HVA)
Obesity−related traits
Triglycerides
IgG glycosylation
Crohn's dis
4 GWAS hits omitted
DRC1→
C2orf70→
KCNK3→
DPYSL5→
TMEM214→
TCF23→
←SLC30A3
SNX17→
←OTOF
←CIB4
SLC35F6→
MAPRE3→
KHK→
←SLC5A6
←UCN
←PPM1G
CENPA→
←AGBL5−AS1
ATRAID→
←MPV17
AGBL5→
CAD→
←GTF3C2
←OST4
DNAJC5G→
←FTH1P3
EMILIN1→
TRIM54→
NRBP1→
←CGREF1
GTF3C2−AS1→
ABHD1→
←EIF2B4
←PREB
←ZNF513
←PRR30
26.8
27
27.2
27.4
27.6
Position on chr2 (Mb)

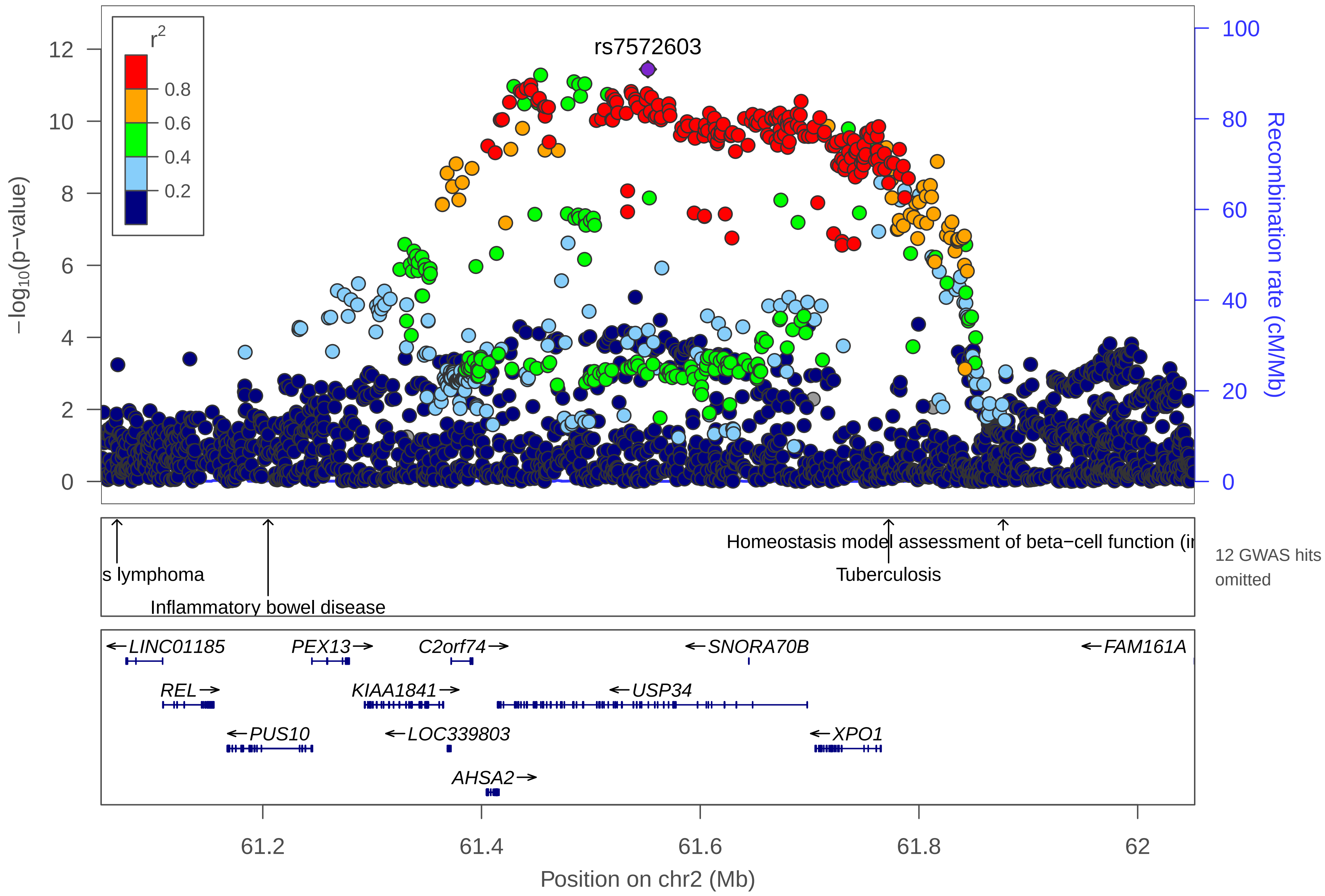

rs1260326
$-\log_{10}$(p−value)
0
20
40
60
80
100
Recombination rate (cM/Mb)
r^2
0.2
0.4
0.6
0.8
Cholesterol, total
Triglycerides
Calcium levels
Alzheimer's disease
54 GWAS hits omitted
MAPRE3→
←SLC5A6
←UCN
←PPM1G
←FNDC4
ZNF512→
MRPL33→
BABAM2→
TMEM214→
ATRAID→
←MPV17
NRBP1→
C2orf16→
←LINC01460
←RBKS
MIR4263→
←AGBL5−AS1
CAD→
←GTF3C2
←IFT172
←CCDC121
←BRE−AS1
AGBL5→
←SLC30A3
SNX17→
GCKR→
GPN1→
←OST4
DNAJC5G→
←FTH1P3
←SUPT7L
EMILIN1→
TRIM54→
KRTCAP3→
SLC4A1AP→
KHK→
GTF3C2−AS1→
←CGREF1
←EIF2B4
ABHD1→
←ZNF513
←PREB
2 genes omitted
27.4
27.6
27.8
28
28.2
Position on chr2 (Mb)

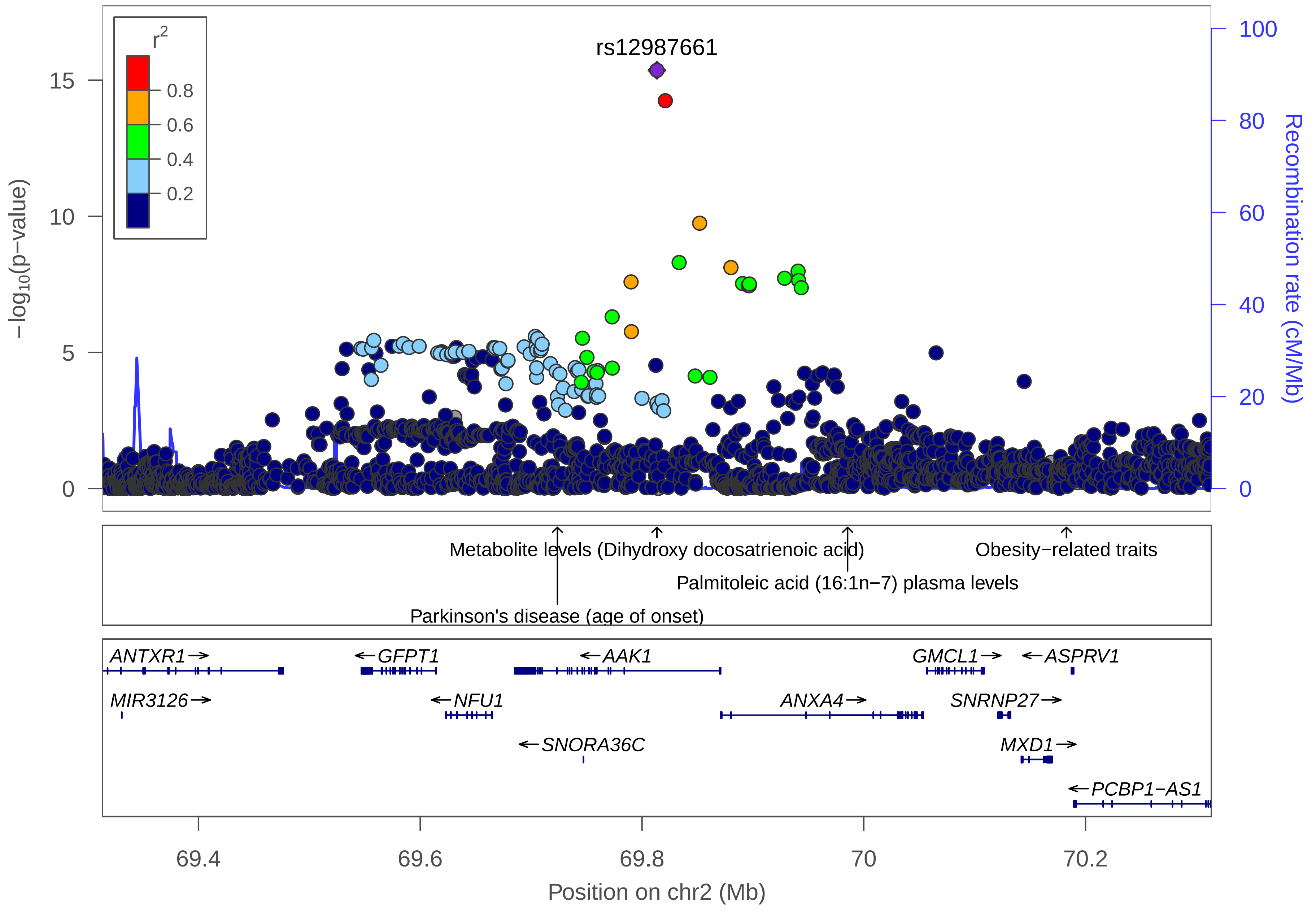

70
60
50
40
30
20
10
0
−log10(p−value)
rs62140395
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
Periodontitis (CDC/AAP)
Fasting glucose−related traits (interaction with BMI)
Waist circumference
Inflammatory bowel disease
Type 1 diabetes
6 GWAS hits omitted
GCKR→
←SUPT7L
MRPL33→
BABAM2→
FOSL2→
C2orf16→
←LINC01460
←RBKS
MIR4263→
←LOC100505736
←FLJ31356
PLB1→
ZNF512→
←BRE−AS1
←LOC100505716
←CCDC121
GPN1→
SLC4A1AP→
27.8
28
28.2
28.4
28.6
Position on chr2 (Mb)

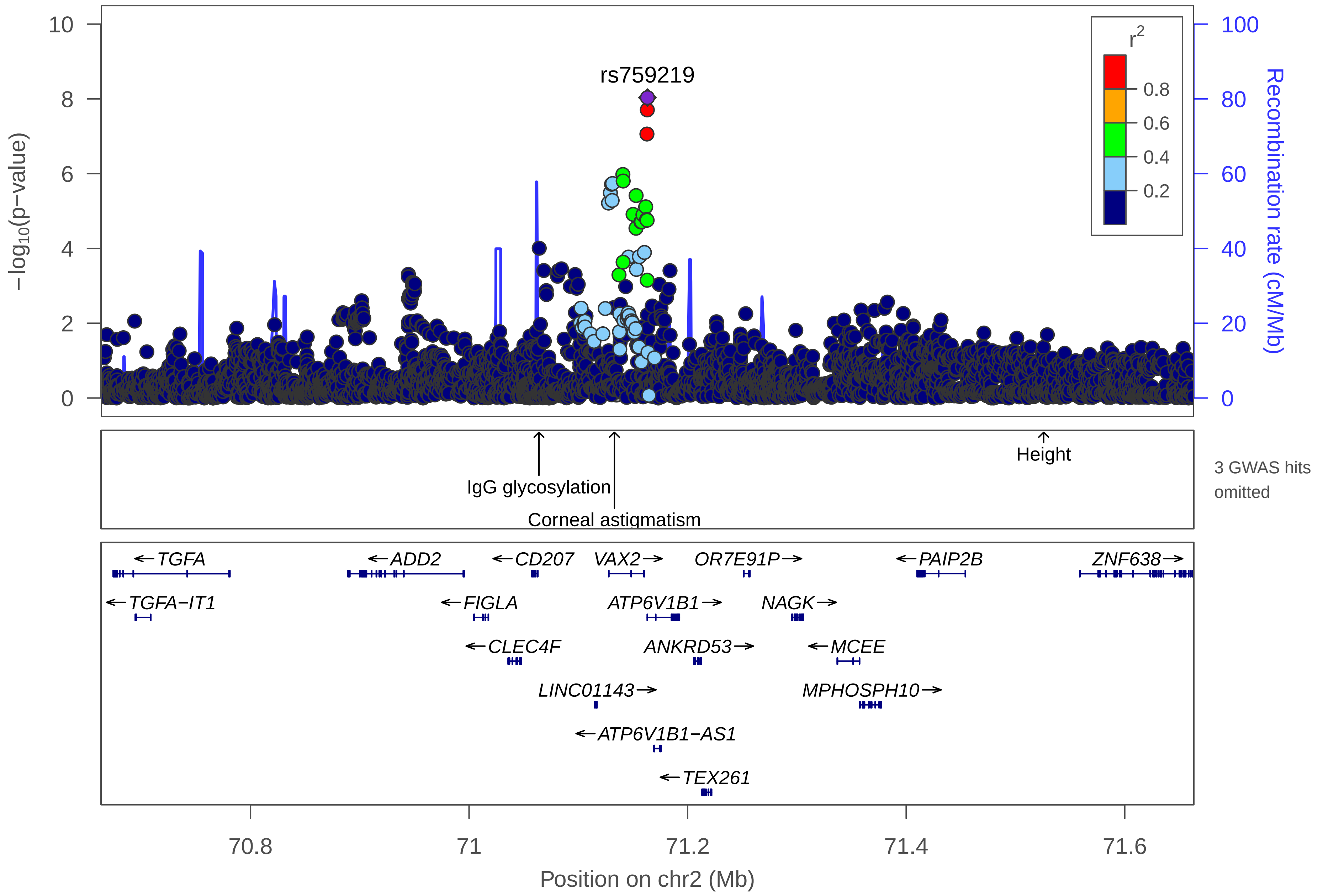

rs10084334
r²
0.8
0.6
0.4
0.2
−log₁₀(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Chronic lymphocytic leukemia
Schizophrenia
Response to TNF−alpha inhibit
1 GWAS hit omitted
CRIM1→
VIT→
←STRN
←HEATR5B
←SULT6B1
←PRKD3
←FEZ2
GPATCH11→
←CEBPZ
QPCT→
←EIF2AK2
NDUFAF7→
CEBPZOS→
36.8
37
37.2
37.4
37.6
Position on chr2 (Mb)

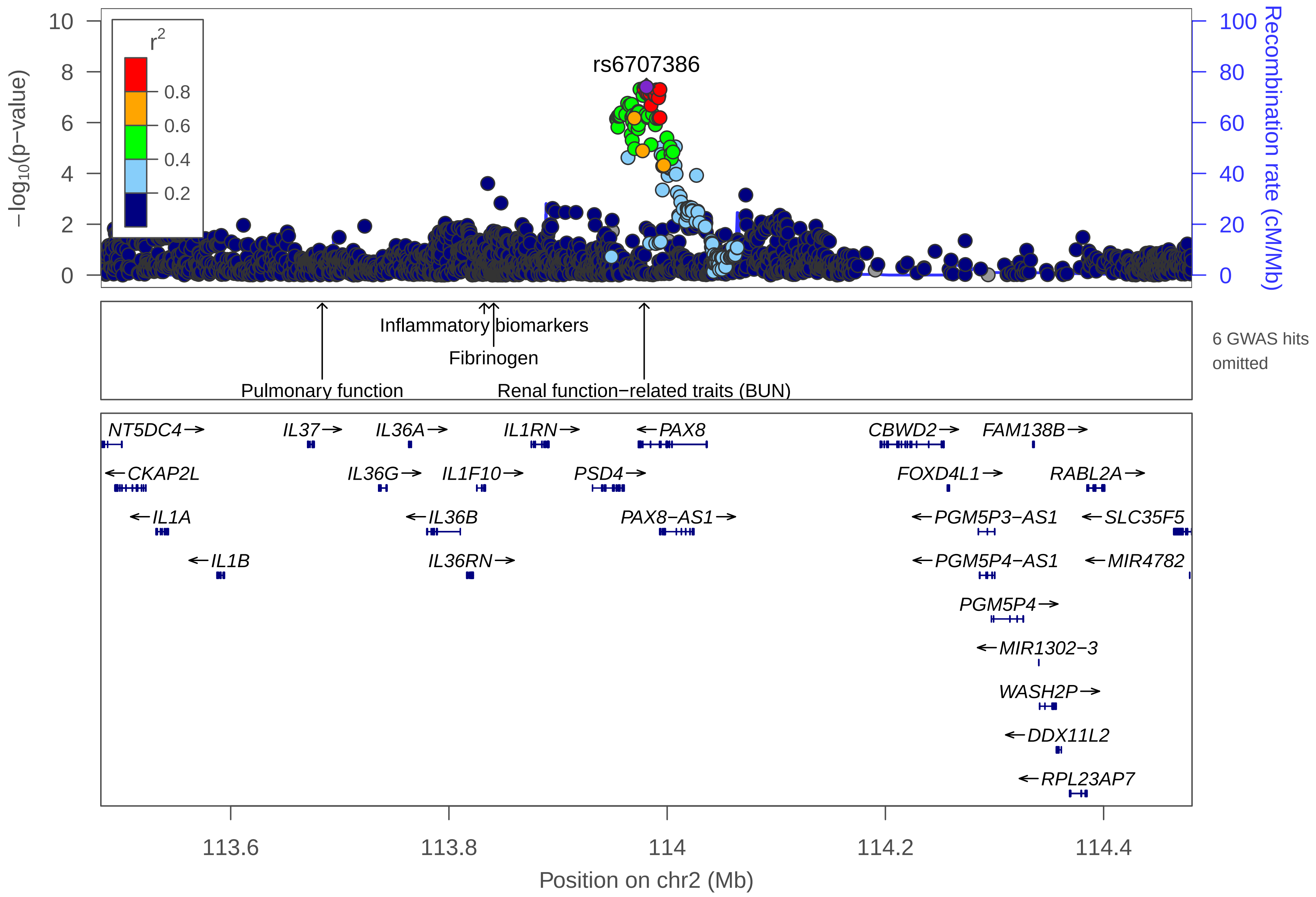

rs142874192
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Myopia (pathological)
Bone mineral density
Bone mineral density (spine)
Economic and political preferences
Obesity (extreme)
ACYP2→
←TSPYL6
C2orf73→
SPTBN1→
RPL23AP32→
EML6→
←CLHC1
←RTN4
54.6
54.8
55
55.2
55.4
Position on chr2 (Mb)


rs6730325
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Serum dimethylarginine levels (asymmetric/symetric ratio)
IgG glycosy
besity
Myasthenia gravis
Obesity
Uterine fibroids
Breast cancer
2 GWAS hits omitted
LINC01122→
LINC01793→
59
59.2
59.4
59.6
59.8
Position on chr2 (Mb)

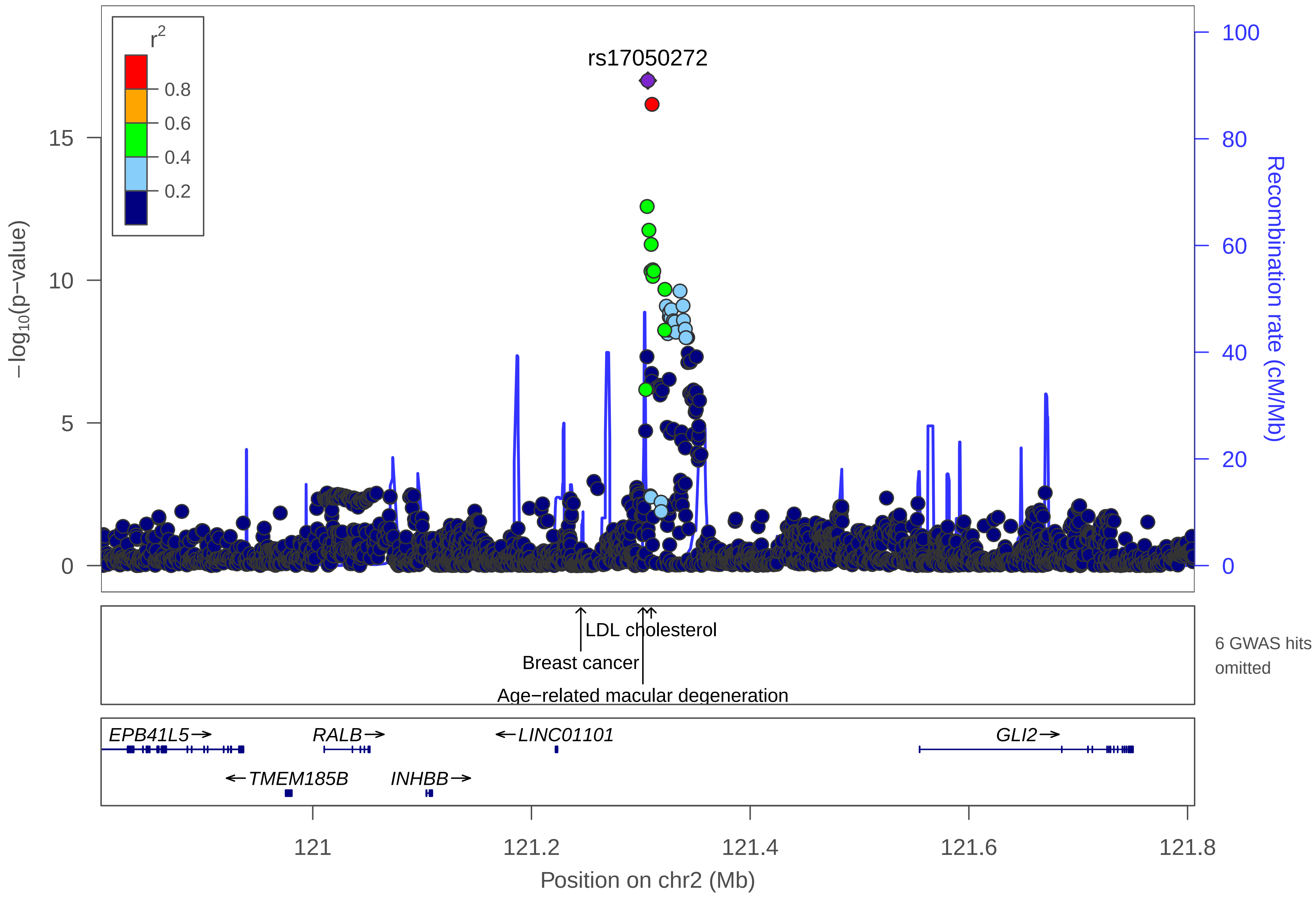

r²
0.8
0.6
0.4
0.2
rs7572603
12
10
8
6
4
2
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
s lymphoma
Inflammatory bowel disease
Homeostasis model assessment of beta−cell function (i
Tuberculosis
12 GWAS hits omitted
←LINC01185
PEX13→
C2orf74→
←SNORA70B
←FAM161A
REL→
KIAA1841→
←USP34
←PUS10
←LOC339803
←XPO1
AHSA2→
61.2
61.4
61.6
61.8
62
Position on chr2 (Mb)

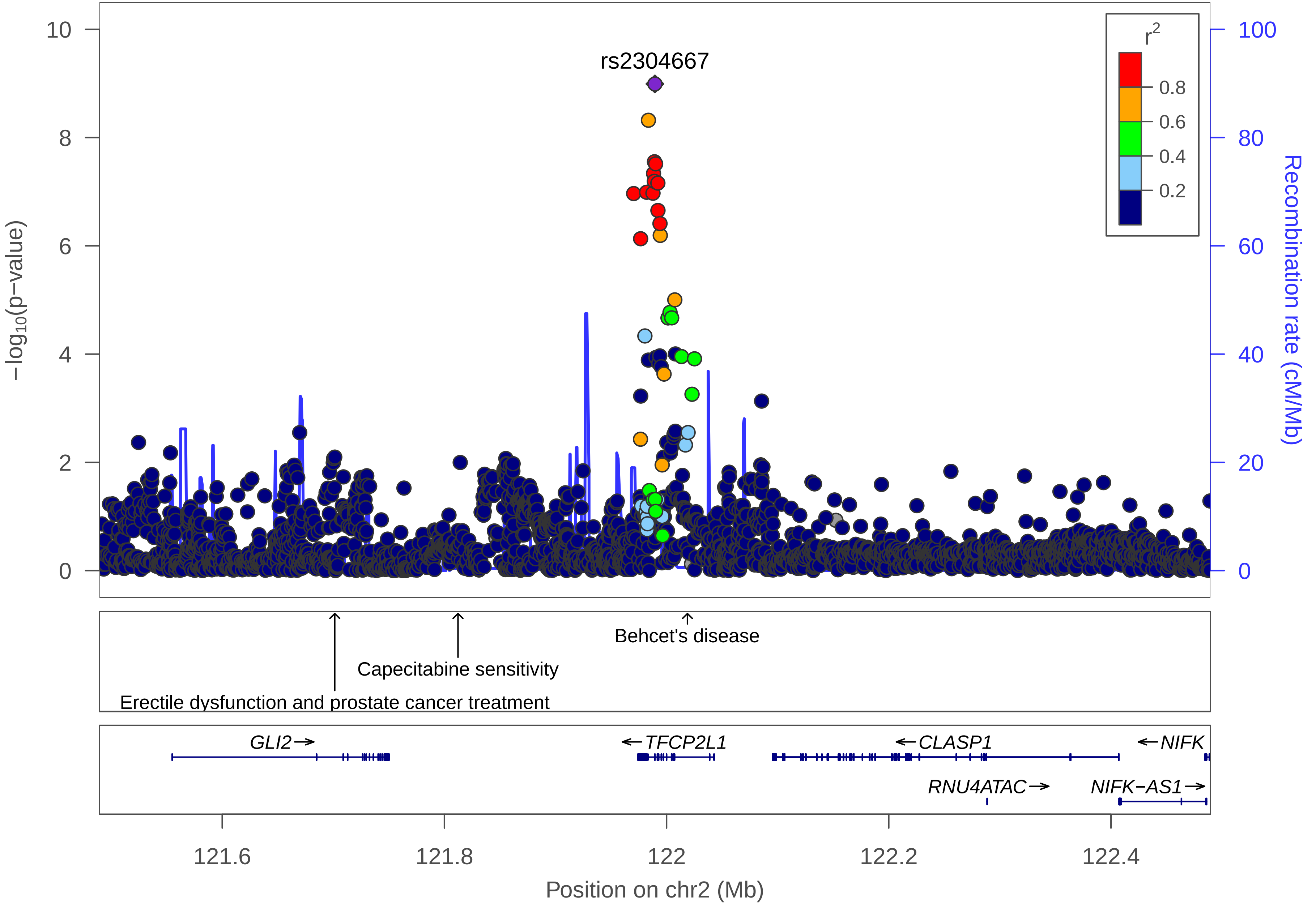

r²
0.8
0.6
0.4
0.2
rs12987661
15
10
5
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Metabolite levels (Dihydroxy docosatrienoic acid)
Obesity−related traits
Palmitoleic acid (16:1n−7) plasma levels
Parkinson's disease (age of onset)
ANTXR1→
←GFPT1
←AAK1
GMCL1→
←ASPRV1
MIR3126→
←NFU1
ANXA4→
SNRNP27→
←SNORA36C
MXD1→
←PCBP1−AS1
69.4
69.6
69.8
70
70.2
Position on chr2 (Mb)

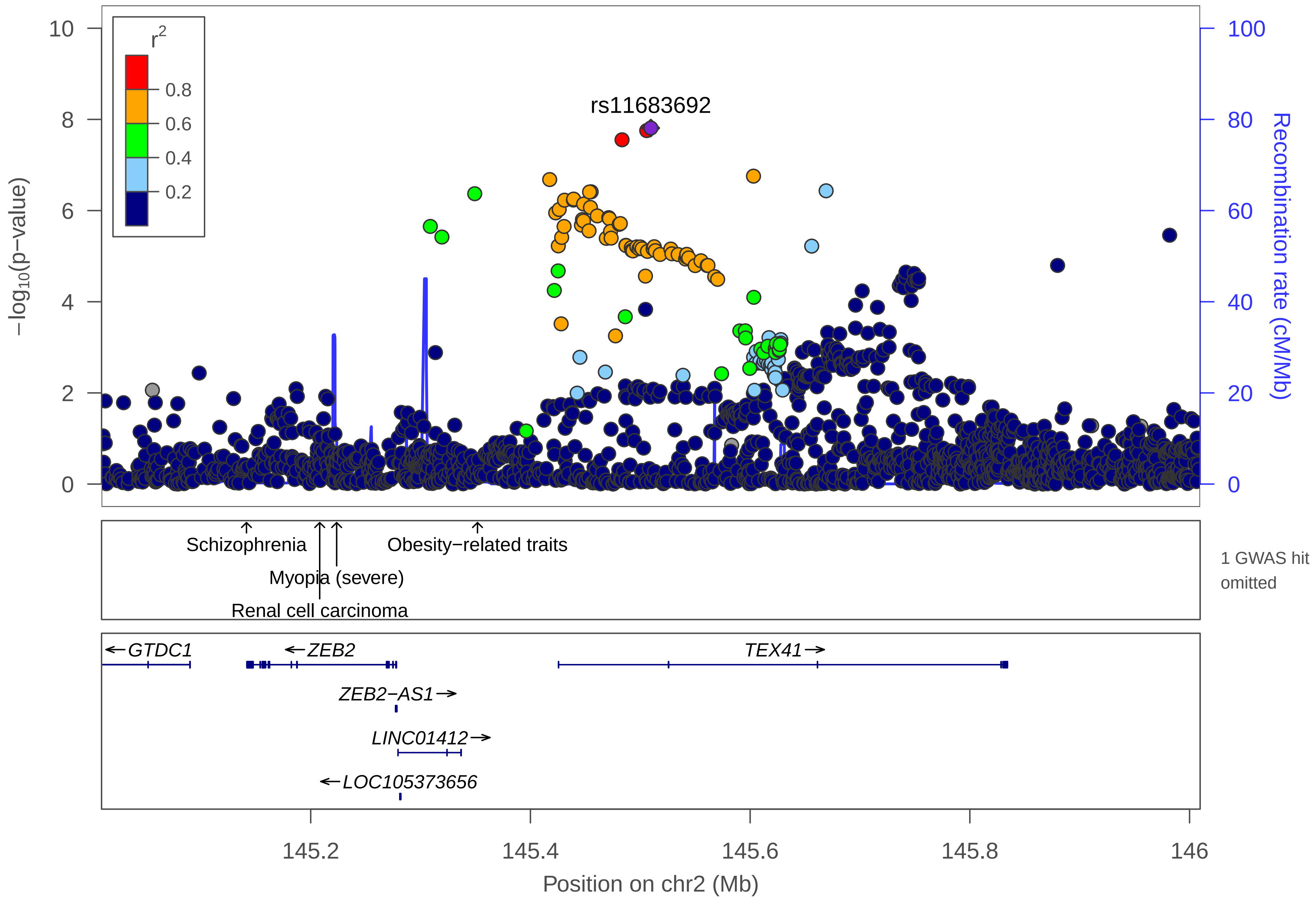

rs759219
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
100
80
60
40
20
0
IgG glycosylation
Corneal astigmatism
Height
3 GWAS hits omitted
TGFA
TGFA−IT1
ADD2
FIGLA
CLEC4F
CD207
VAX2
ATP6V1B1
ANKRD53
LINC01143
ATP6V1B1−AS1
TEX261
OR7E91P
NAGK
MCEE
MPHOSPH10
PAIP2B
ZNF638
70.8
71
71.2
71.4
71.6
Position on chr2 (Mb)

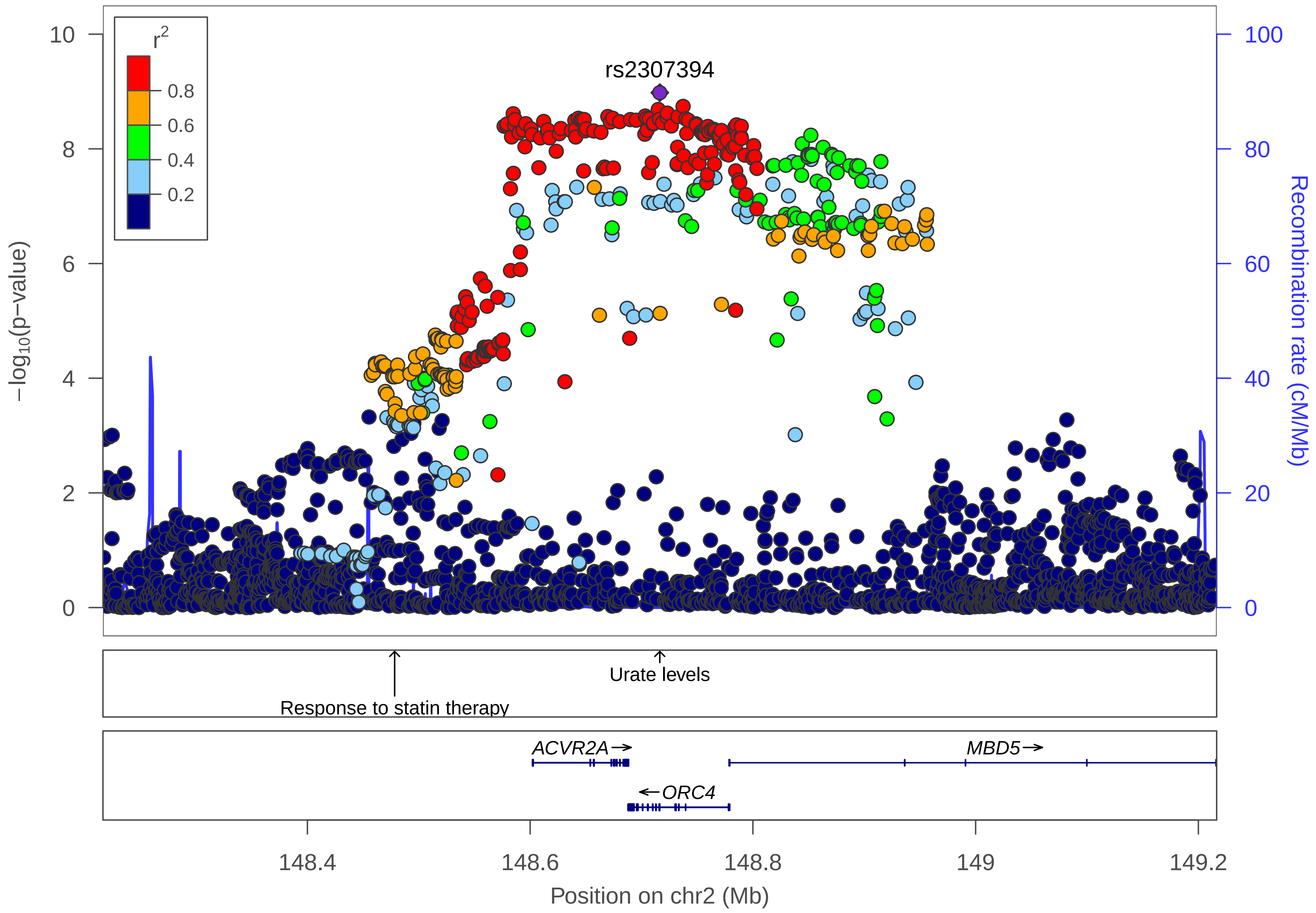


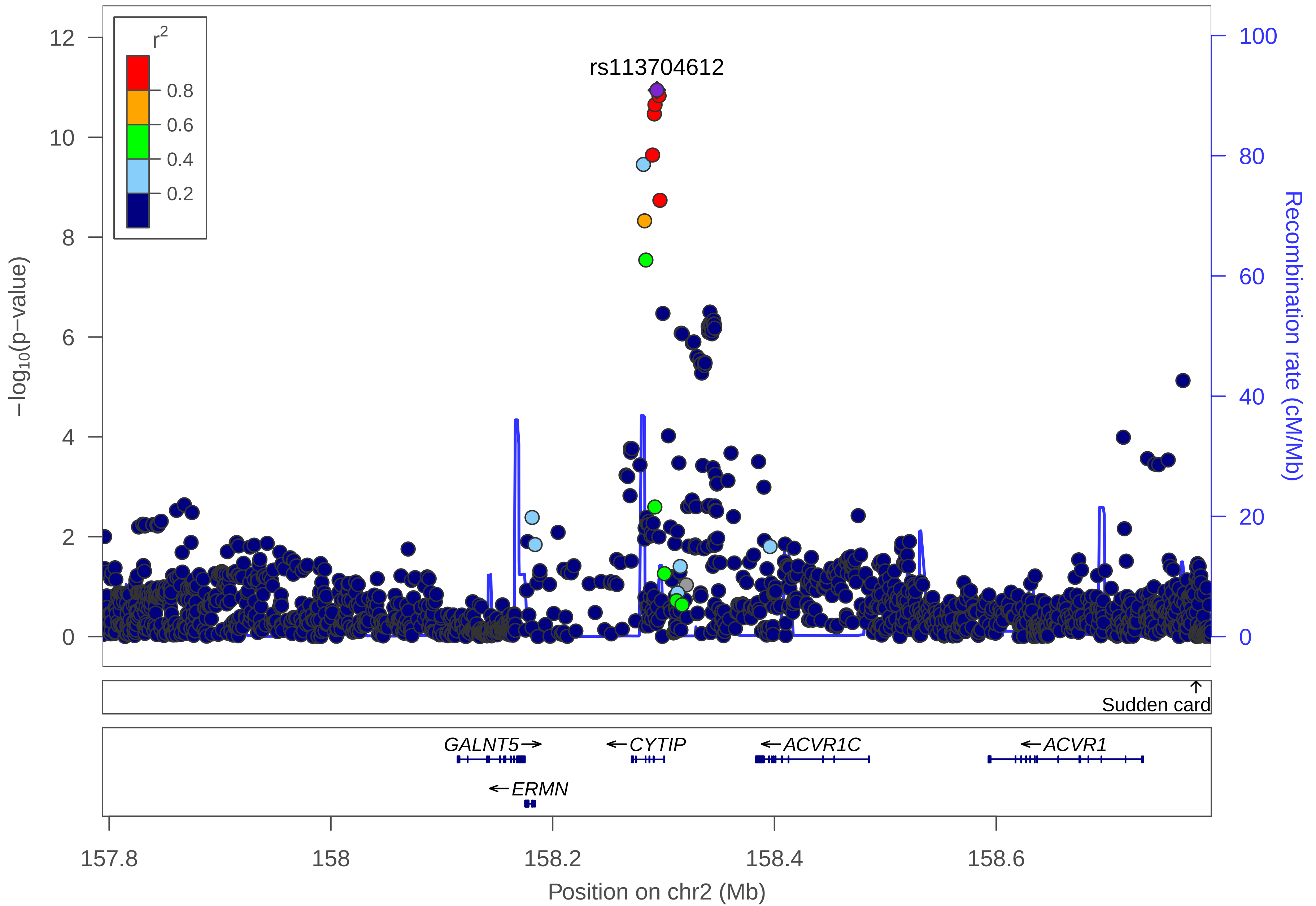
r2
0.8
0.6
0.4
0.2
rs6707386
−log10(p−value)
Recombination rate (cM/Mb)
0
2
4
6
8
10
0
20
40
60
80
100
Inflammatory biomarkers
Fibrinogen
Pulmonary function
Renal function−related traits (BUN)
6 GWAS hits omitted
NT5DC4→
←CKAP2L
←IL1A
←IL1B
IL37→
IL36A→
IL36G→
←IL36B
IL36RN→
IL1F10→
IL1RN→
PSD4→
←PAX8
PAX8−AS1→
CBWD2→
FOXD4L1→
←PGM5P3−AS1
←PGM5P4−AS1
PGM5P4→
←MIR1302−3
WASH2P→
←DDX11L2
←RPL23AP7
FAM138B→
RABL2A→
←SLC35F5
←MIR4782
113.6
113.8
114
114.2
114.4
Position on chr2 (Mb)

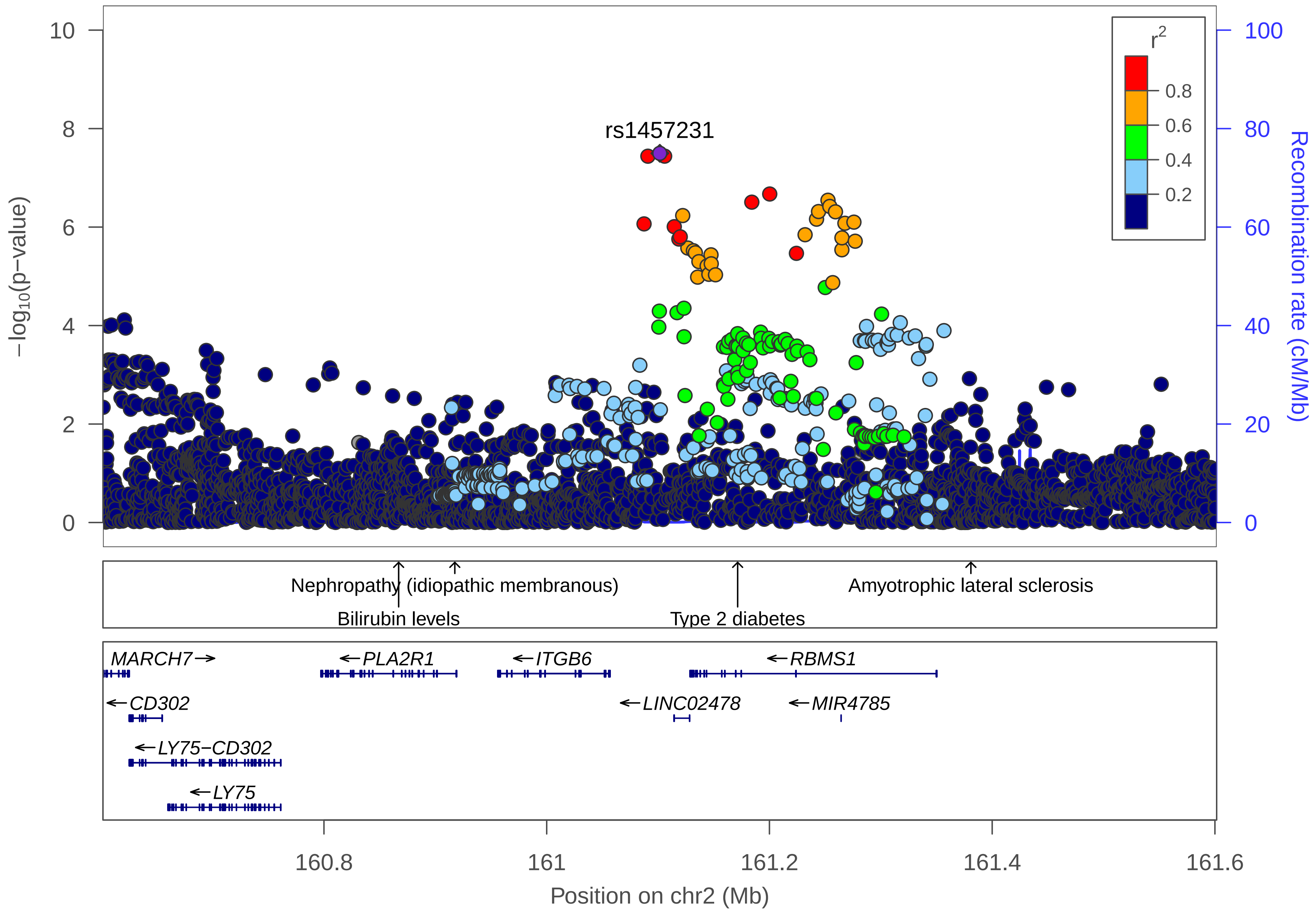

r2
0.8
0.6
0.4
0.2
rs17050272
−log10(p−value)
15
10
5
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
LDL cholesterol
Breast cancer
Age−related macular degeneration
6 GWAS hits omitted
EPB41L5→
RALB→
←LINC01101
GLI2→
←TMEM185B
INHBB→
121
121.2
121.4
121.6
121.8
Position on chr2 (Mb)

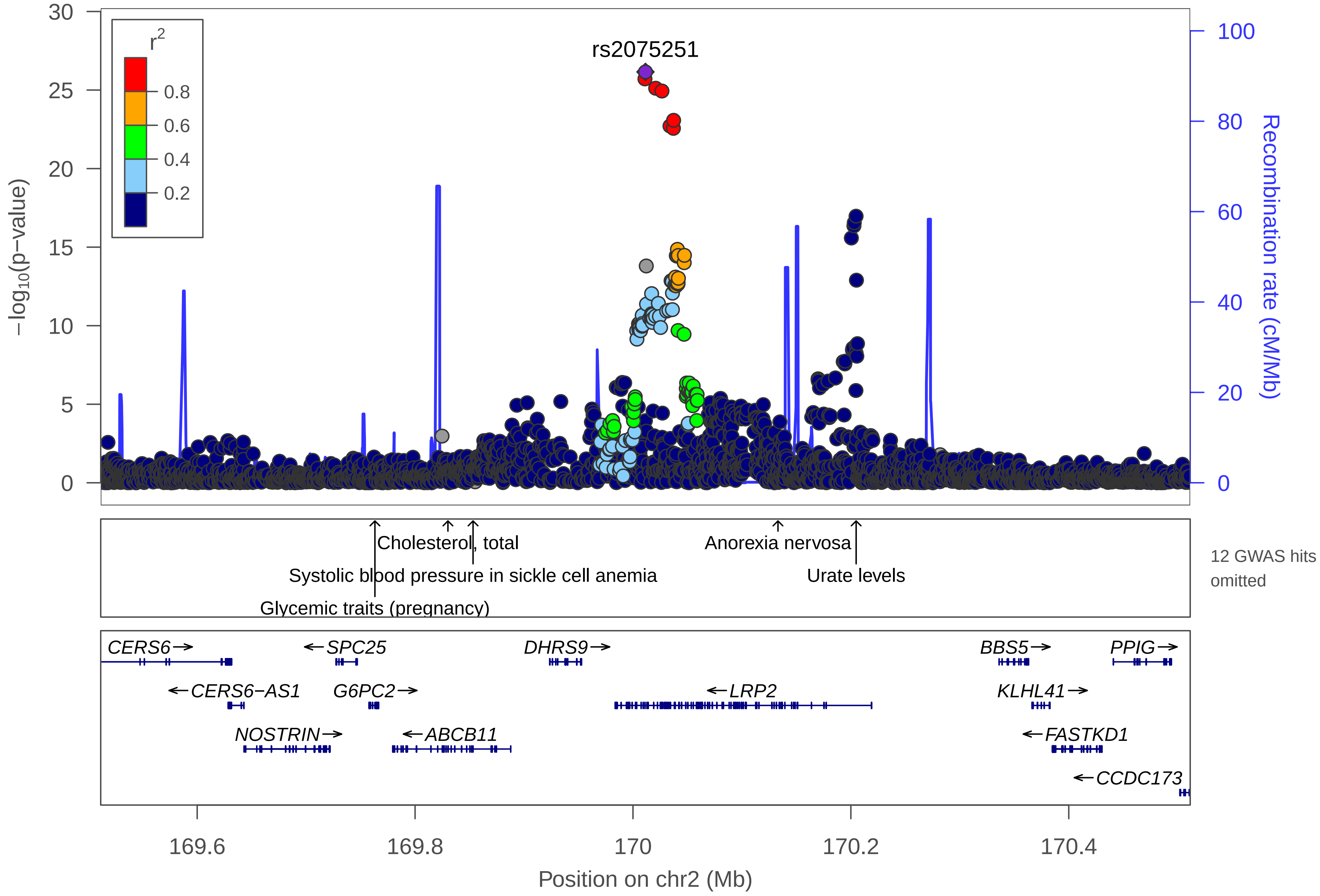

rs2304667
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Behcet's disease
Capecitabine sensitivity
Erectile dysfunction and prostate cancer treatment
GLI2→
←TFCP2L1
←CLASP1
←NIFK
RNU4ATAC→
NIFK−AS1→
121.6
121.8
122
122.2
122.4
Position on chr2 (Mb)

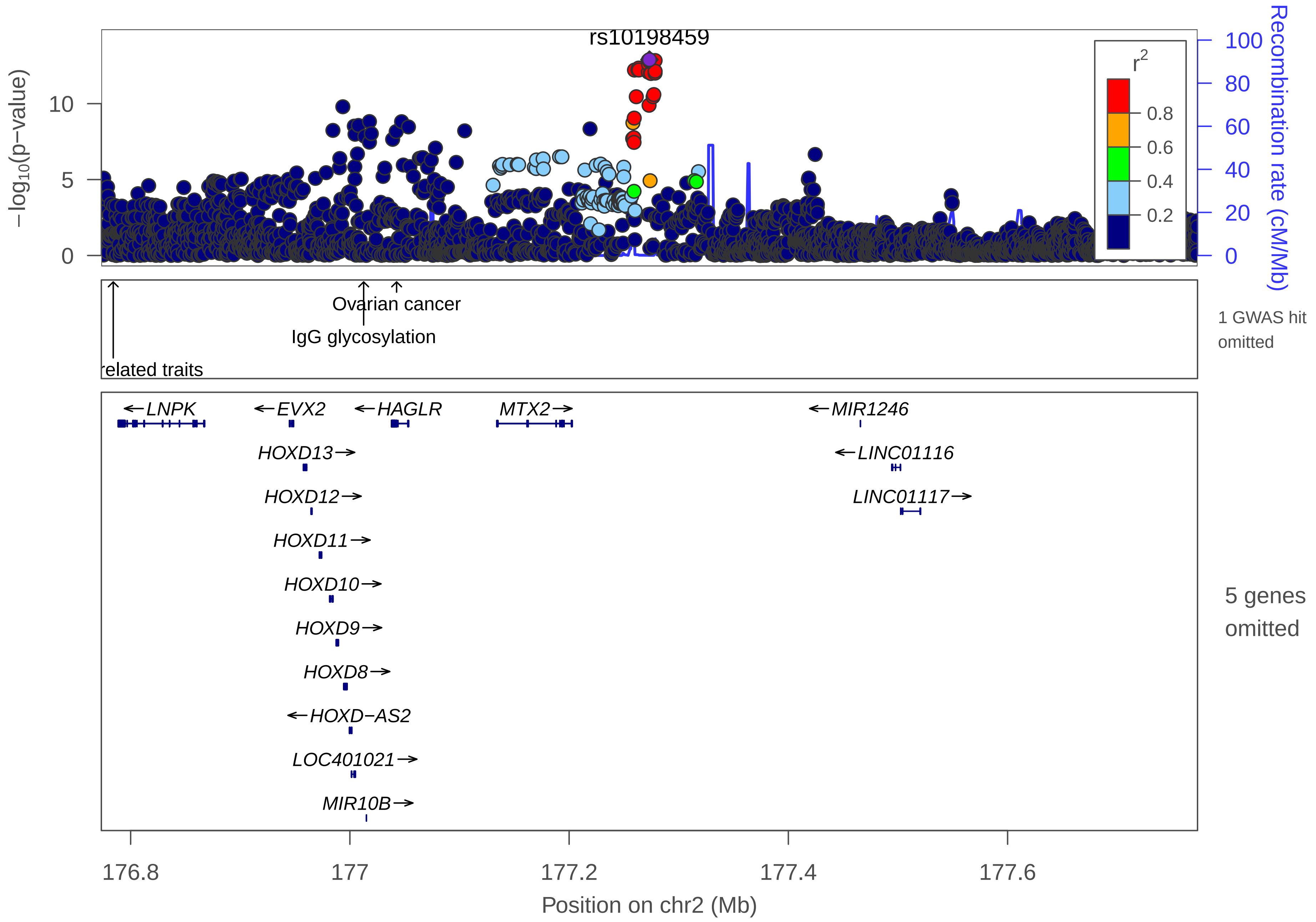

r2
0.8
0.6
0.4
0.2
rs11683692
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Schizophrenia
Obesity−related traits
Myopia (severe)
Renal cell carcinoma
1 GWAS hit omitted
←GTDC1
←ZEB2
TEX41→
ZEB2−AS1→
LINC01412→
←LOC105373656
145.2
145.4
145.6
145.8
146
Position on chr2 (Mb)

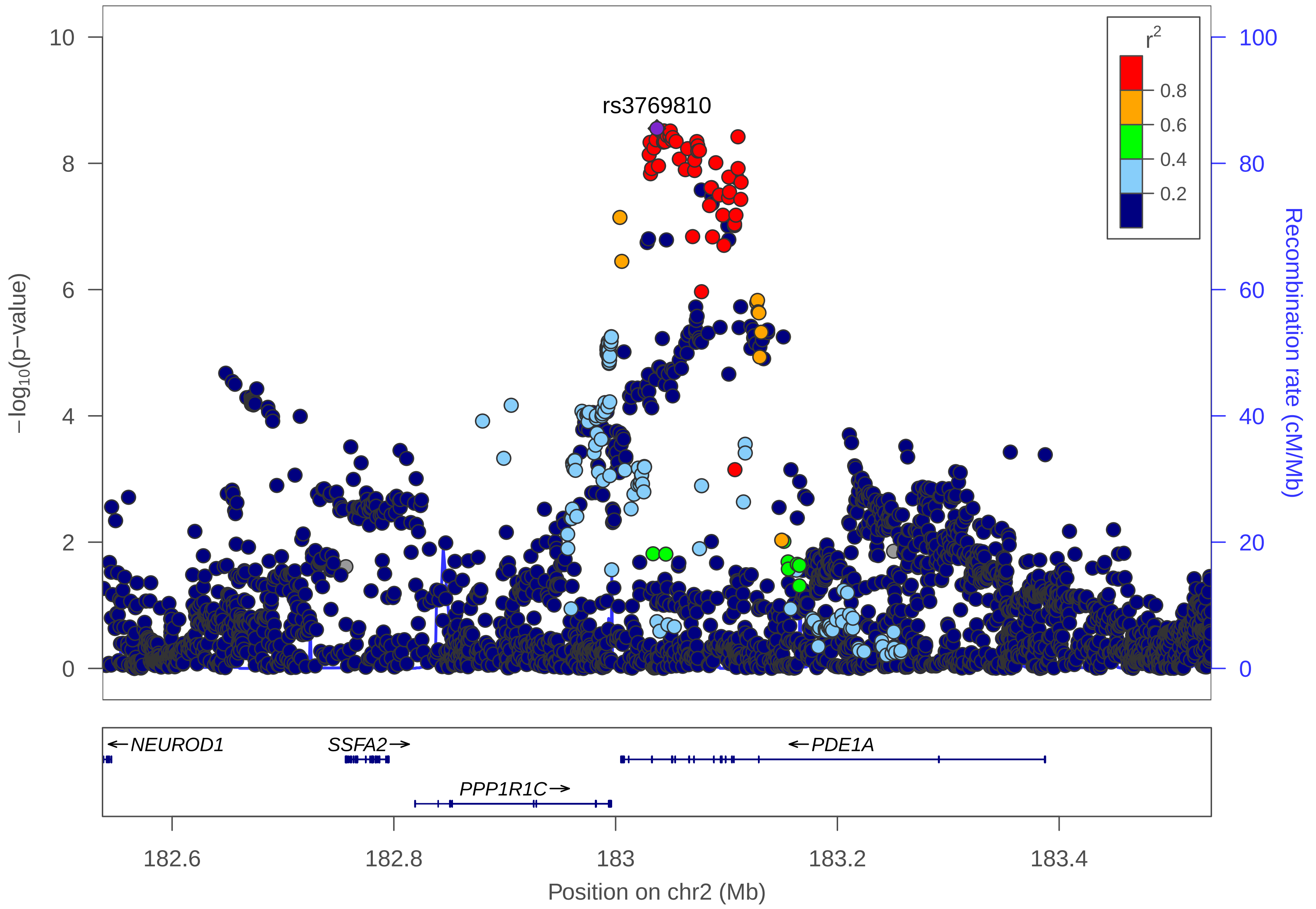

r²
0.8
0.6
0.4
0.2
rs2307394
10
8
6
4
2
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Urate levels
Response to statin therapy
ACVR2A→
MBD5→
←ORC4
148.4
148.6
148.8
149
149.2
Position on chr2 (Mb)

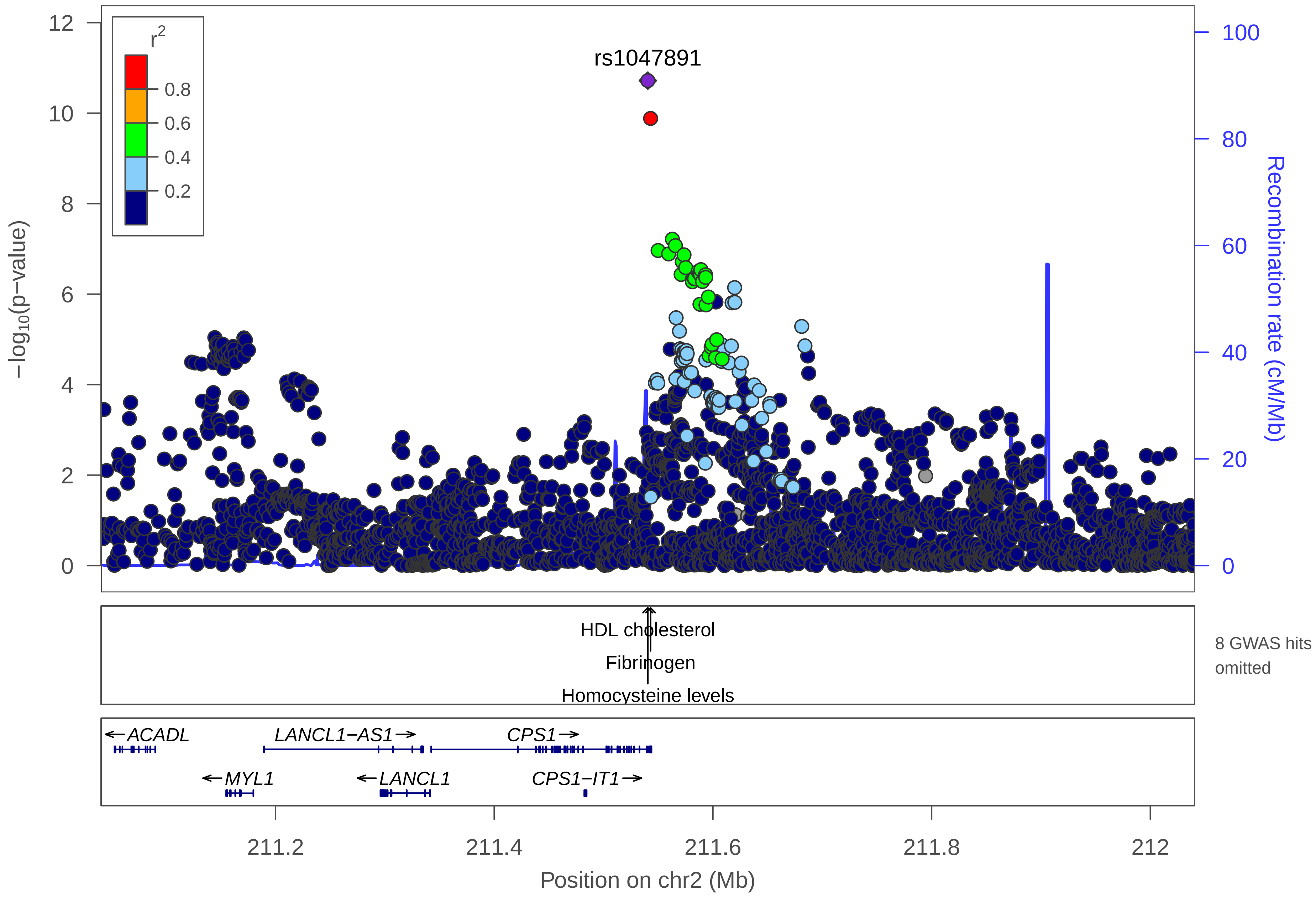

r2
0.8
0.6
0.4
0.2
rs113704612
−log10(p−value)
12
10
8
6
4
2
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
Sudden card
GALNT5
CYTIP
ACVR1C
ACVR1
ERMN
157.8
158
158.2
158.4
158.6
Position on chr2 (Mb)

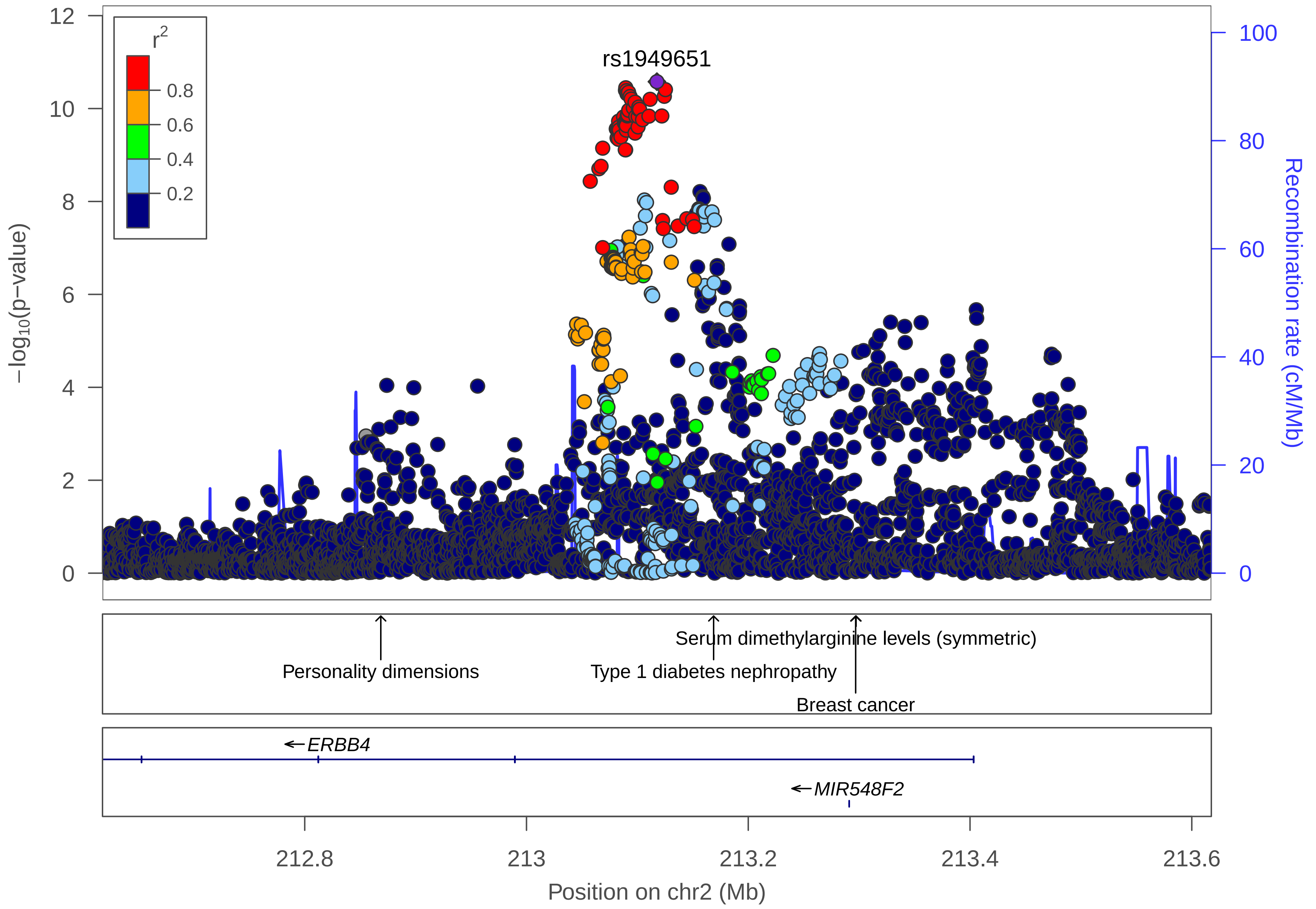

rs1457231
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Nephropathy (idiopathic membranous)
Bilirubin levels
Type 2 diabetes
Amyotrophic lateral sclerosis
MARCH7→
←PLA2R1
←ITGB6
←RBMS1
←CD302
←LINC02478
←MIR4785
←LY75−CD302
←LY75
160.8
161
161.2
161.4
161.6
Position on chr2 (Mb)

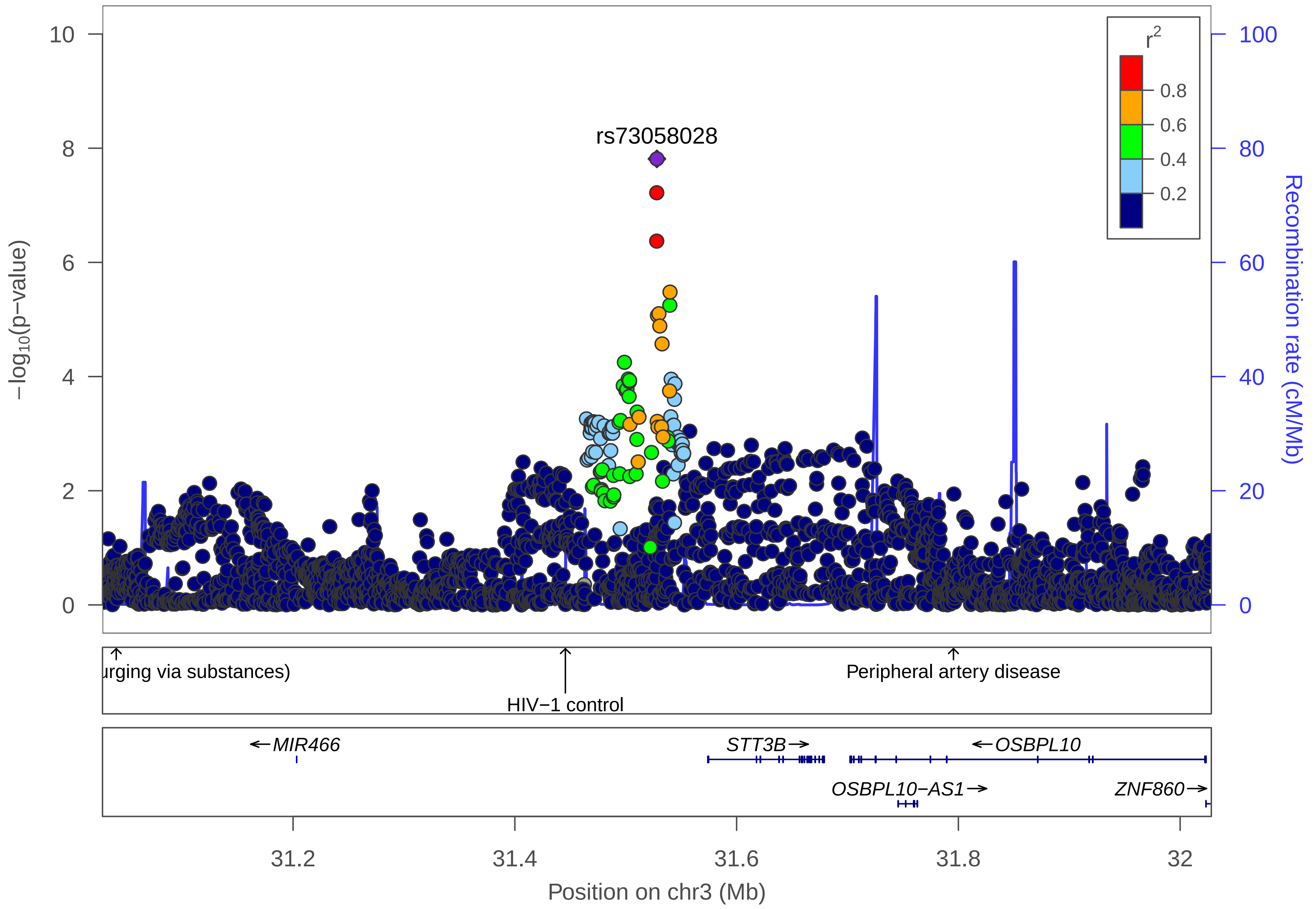

rs2075251
r2
0.8
0.6
0.4
0.2
−log10(p−value)
30
25
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Cholesterol, total
Systolic blood pressure in sickle cell anemia
Glycemic traits (pregnancy)
Anorexia nervosa
Urate levels
12 GWAS hits omitted
CERS6→
←SPC25
DHRS9→
BBS5→
PPIG→
←CERS6−AS1
G6PC2→
←LRP2
KLHL41→
NOSTRIN→
←ABCB11
←FASTKD1
←CCDC173
169.6
169.8
170
170.2
170.4
Position on chr2 (Mb)

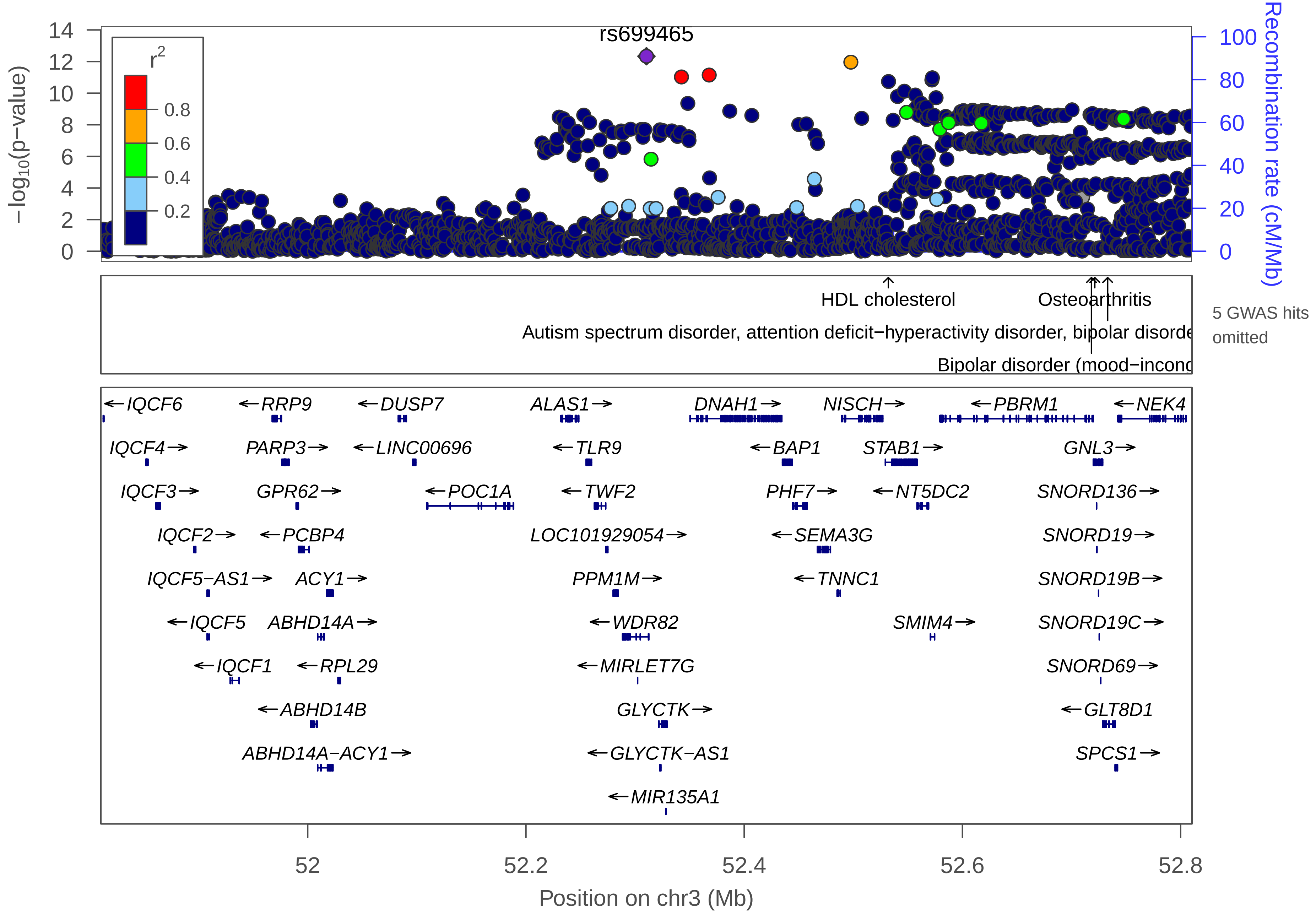

rs10198459
−log10(p−value)
0
5
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.2
0.4
0.6
0.8
Ovarian cancer
IgG glycosylation
related traits
1 GWAS hit omitted
LNPK
EVX2
HAGLR
MTX2
MIR1246
HOXD13
LINC01116
HOXD12
LINC01117
HOXD11
HOXD10
HOXD9
HOXD8
HOXD−AS2
LOC401021
MIR10B
5 genes omitted
176.8
177
177.2
177.4
177.6
Position on chr2 (Mb)

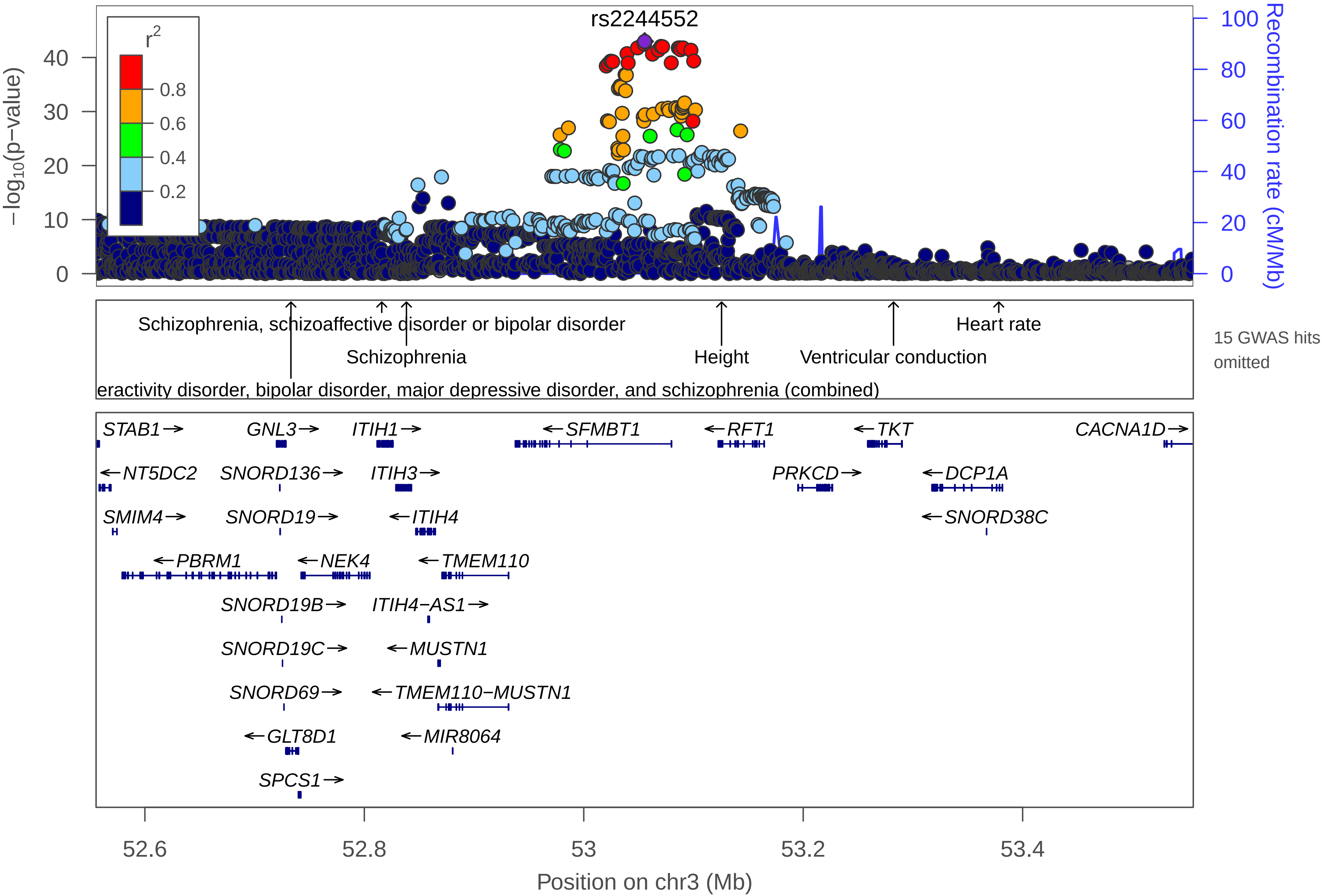

rs3769810
r^2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
100
80
60
40
20
0
−log$_{10}$(p−value)
Recombination rate (cM/Mb)
←NEUROD1
SSFA2→
←PDE1A
PPP1R1C→
182.6
182.8
183
183.2
183.4
Position on chr2 (Mb)

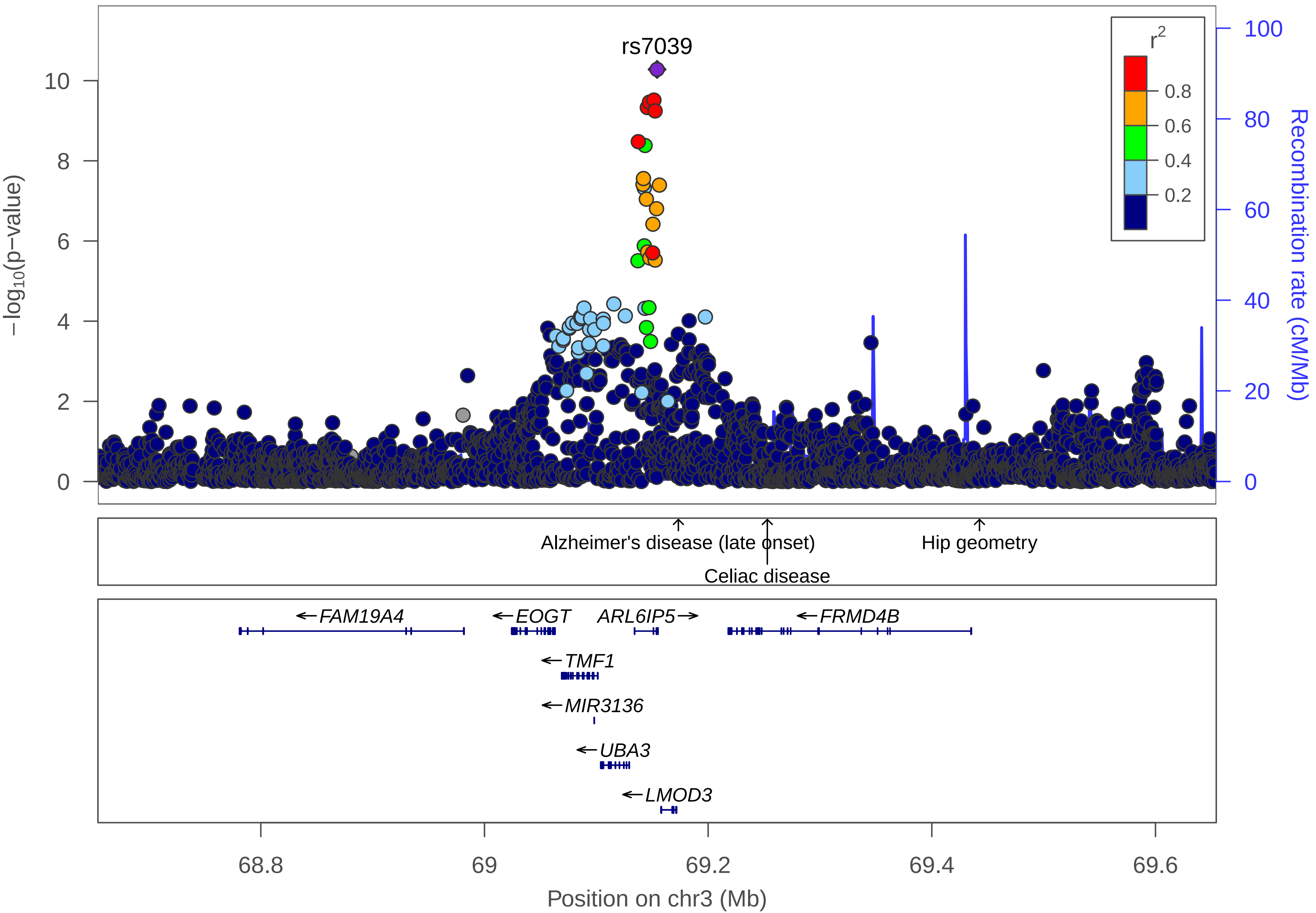

r²
0.8
0.6
0.4
0.2
rs1047891
−log₁₀(p−value)
12
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
HDL cholesterol
Fibrinogen
Homocysteine levels
8 GWAS hits omitted
←ACADL
LANCL1−AS1→
CPS1→
←MYL1
←LANCL1
CPS1−IT1→
211.2
211.4
211.6
211.8
212
Position on chr2 (Mb)

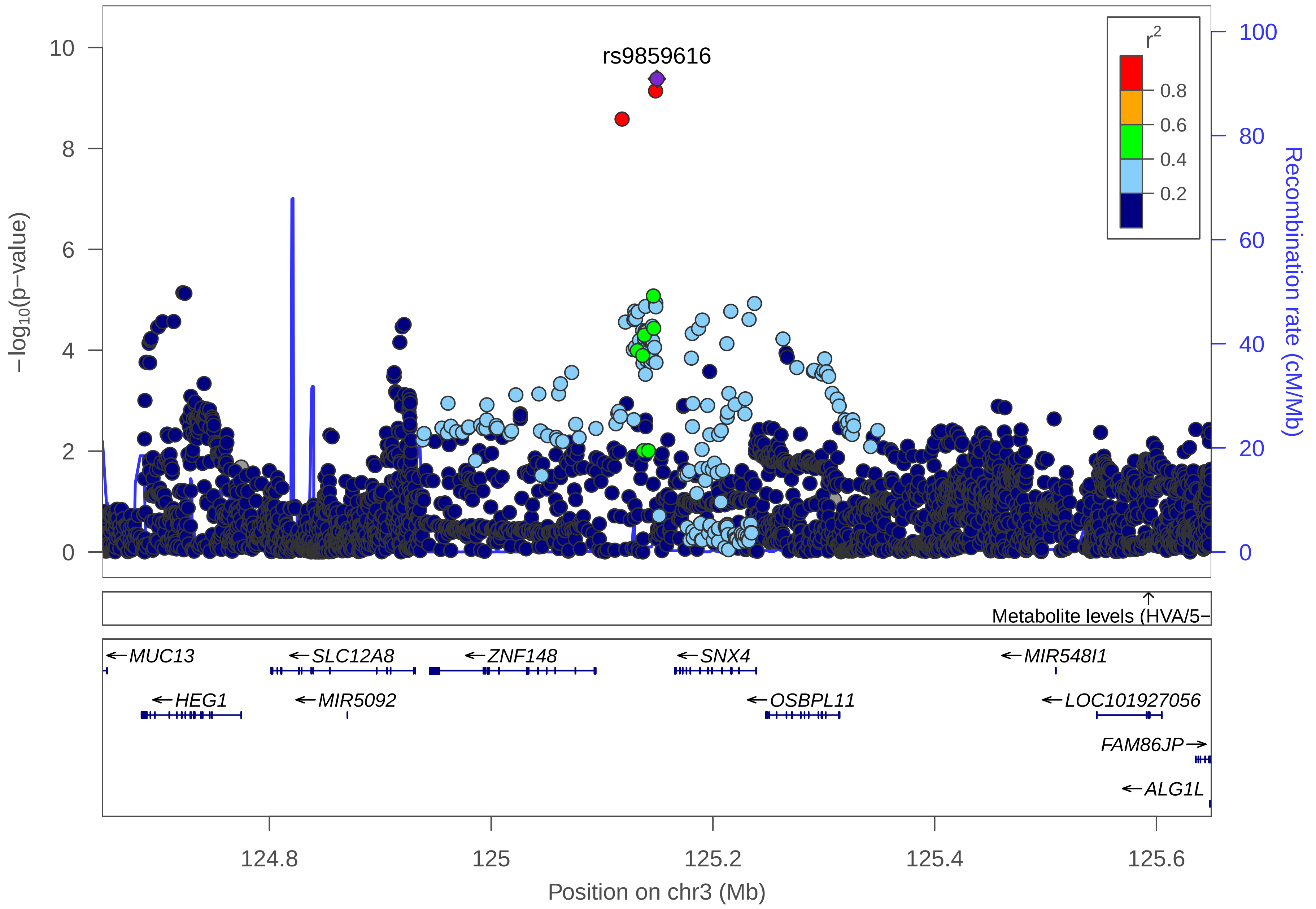

r2
0.8
0.6
0.4
0.2
rs1949651
−log10(p−value)
12
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Personality dimensions
Serum dimethylarginine levels (symmetric)
Type 1 diabetes nephropathy
Breast cancer
← ERBB4
← MIR548F2
212.8
213
213.2
213.4
213.6
Position on chr2 (Mb)

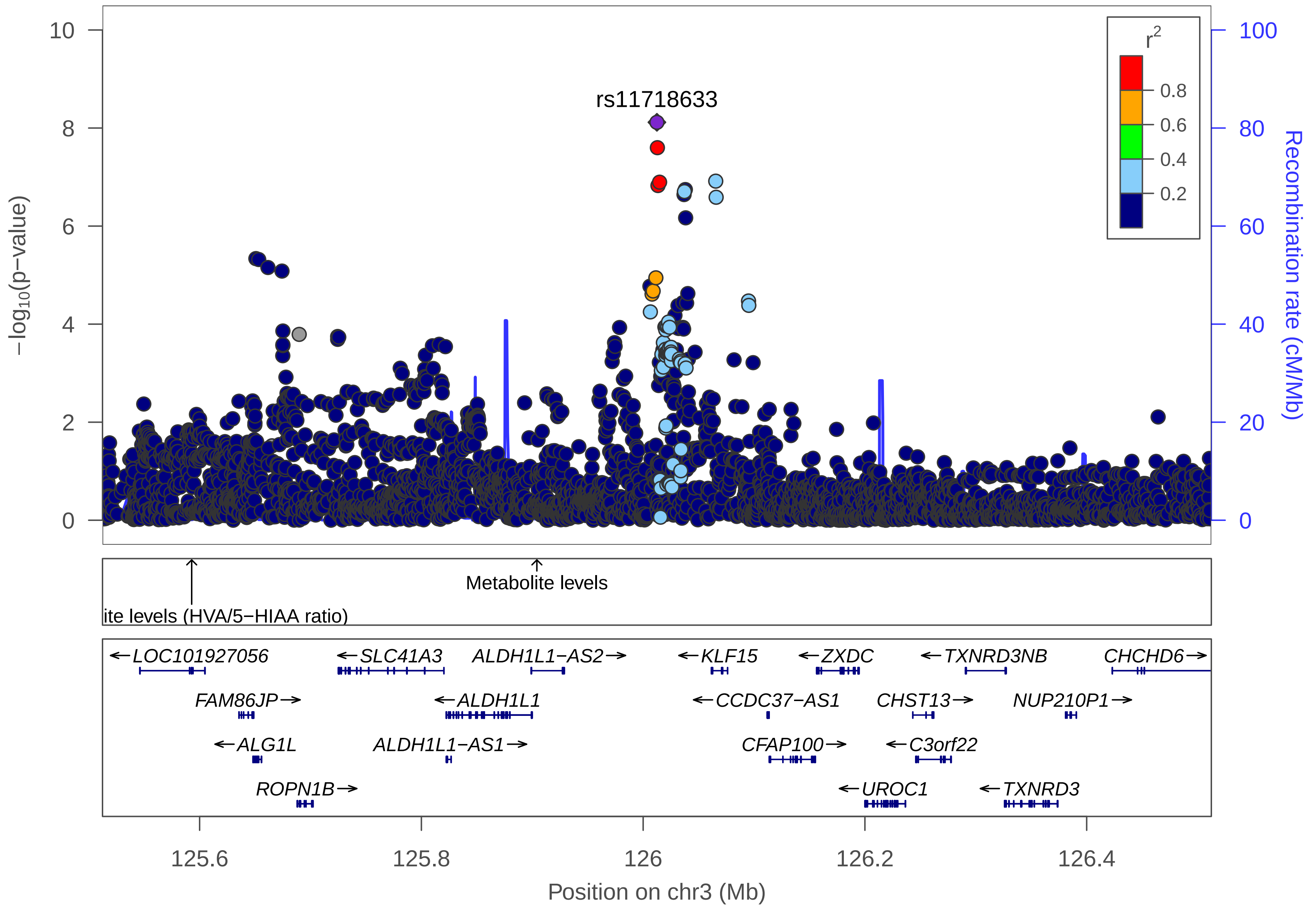

rs73058028
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
urging via substances)
HIV−1 control
Peripheral artery disease
←MIR466
STT3B→
←OSBPL10
OSBPL10−AS1→
ZNF860→
31.2
31.4
31.6
31.8
32
Position on chr3 (Mb)

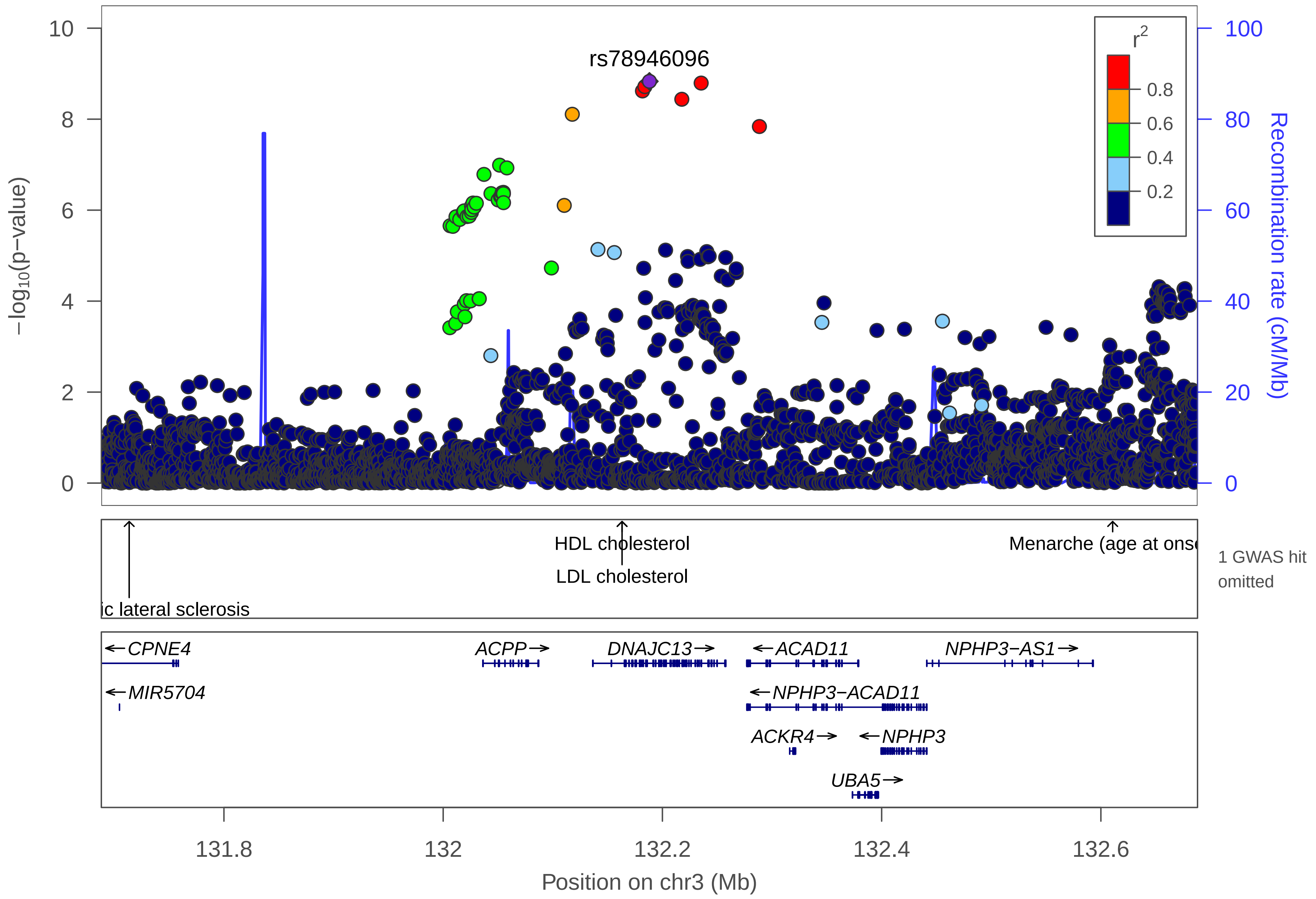

rs699465
r2
0.8
0.6
0.4
0.2
−log10(p−value)
0
2
4
6
8
10
12
14
Recombination rate (cM/Mb)
0
20
40
60
80
100
HDL cholesterol
Osteoarthritis
Autism spectrum disorder, attention deficit−hyperactivity disorder, bipolar disorde
Bipolar disorder (mood−incong
5 GWAS hits omitted
←IQCF6
←RRP9
←DUSP7
ALAS1→
DNAH1→
NISCH→
←PBRM1
←NEK4
IQCF4→
PARP3→
←LINC00696
←TLR9
←BAP1
STAB1→
GNL3→
IQCF3→
GPR62→
←POC1A
←TWF2
PHF7→
←NT5DC2
SNORD136→
IQCF2→
←PCBP4
LOC101929054→
←SEMA3G
SNORD19→
IQCF5−AS1→
ACY1→
PPM1M→
←TNNC1
SNORD19B→
←IQCF5
ABHD14A→
←WDR82
SMIM4→
SNORD19C→
←IQCF1
←RPL29
←MIRLET7G
SNORD69→
←ABHD14B
GLYCTK→
←GLT8D1
ABHD14A−ACY1→
←GLYCTK−AS1
SPCS1→
←MIR135A1
52
52.2
52.4
52.6
52.8
Position on chr3 (Mb)

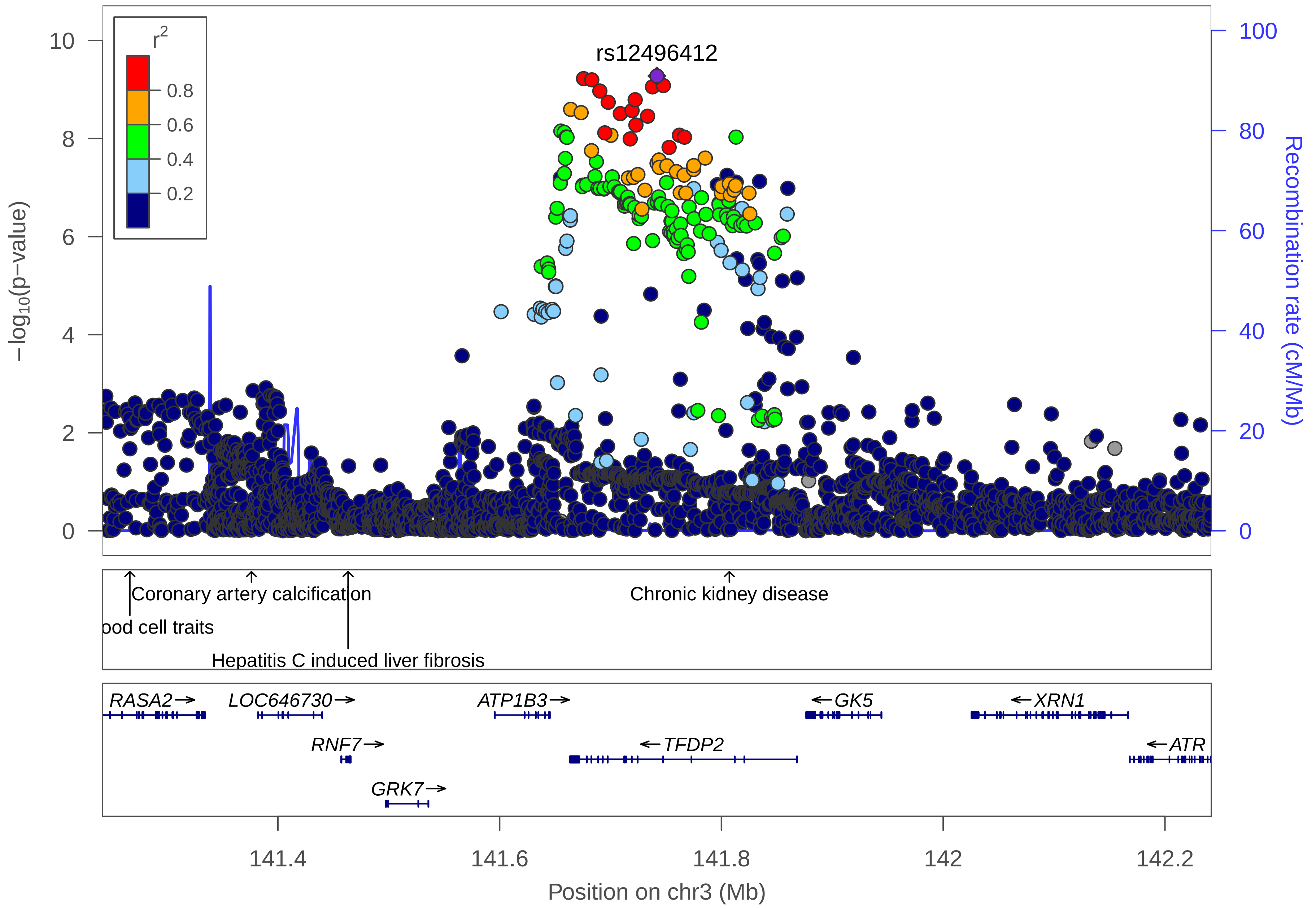

rs2244552
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
40
30
20
10
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
Schizophrenia, schizoaffective disorder or bipolar disorder
Schizophrenia
eractivity disorder, bipolar disorder, major depressive disorder, and schizophrenia (combined)
Height
Ventricular conduction
Heart rate
15 GWAS hits omitted
STAB1→
GNL3→
ITIH1→
←SFMBT1
←RFT1
←TKT
CACNA1D→
←NT5DC2
SNORD136→
ITIH3→
PRKCD→
←DCP1A
SMIM4→
SNORD19→
←ITIH4
←SNORD38C
←PBRM1
←NEK4
←TMEM110
SNORD19B→
ITIH4−AS1→
SNORD19C→
←MUSTN1
SNORD69→
←TMEM110−MUSTN1
←GLT8D1
←MIR8064
SPCS1→
52.6
52.8
53
53.2
53.4
Position on chr3 (Mb)

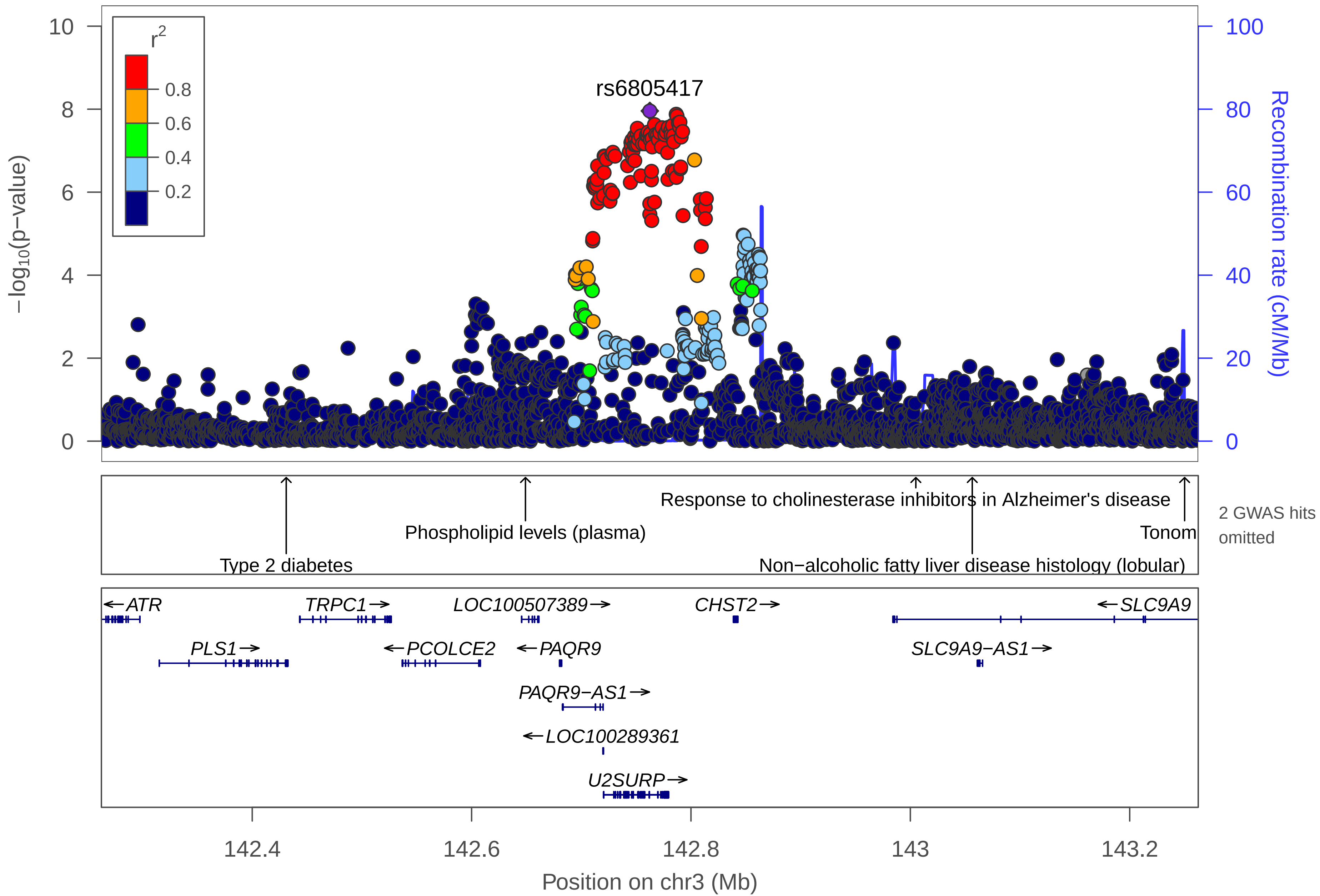

rs7039
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
0
2
4
6
8
10
0
20
40
60
80
100
Alzheimer's disease (late onset)
Celiac disease
Hip geometry
FAM19A4
EOGT
ARL6IP5
FRMD4B
TMF1
MIR3136
UBA3
LMOD3
68.8
69
69.2
69.4
69.6
Position on chr3 (Mb)

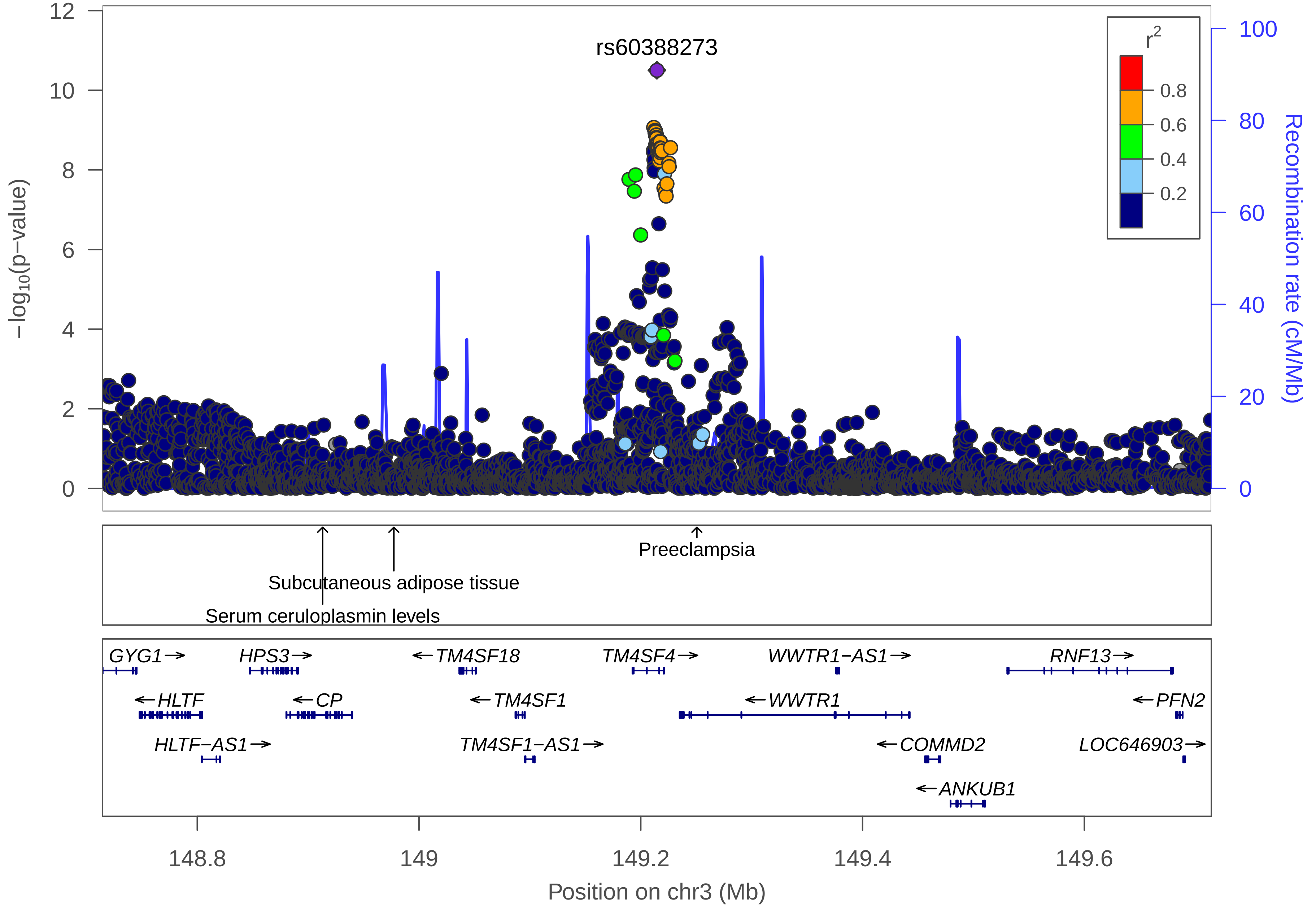

rs9859616
r²
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Metabolite levels (HVA/5−
←MUC13
←SLC12A8
←ZNF148
←SNX4
←MIR548I1
←HEG1
←MIR5092
←OSBPL11
←LOC101927056
FAM86JP→
←ALG1L
124.8
125
125.2
125.4
125.6
Position on chr3 (Mb)

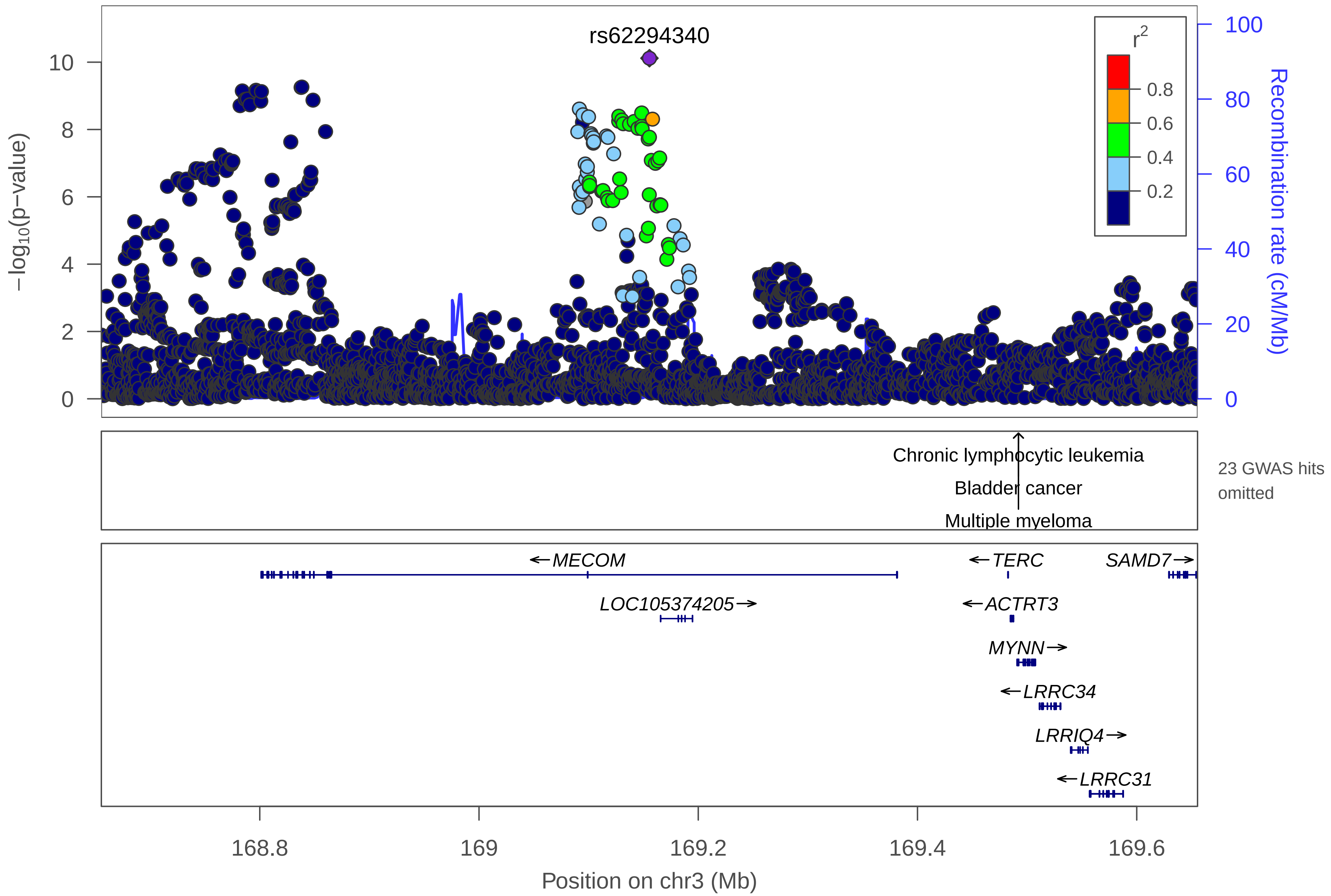

rs11718633
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
0
2
4
6
8
10
0
20
40
60
80
100
Metabolite levels
ite levels (HVA/5−HIAA ratio)
←LOC101927056
←SLC41A3
ALDH1L1−AS2→
←KLF15
←ZXDC
←TXNRD3NB
CHCHD6→
FAM86JP→
←ALDH1L1
←CCDC37−AS1
CHST13→
NUP210P1→
←ALG1L
ALDH1L1−AS1→
CFAP100→
←C3orf22
ROPN1B→
←UROC1
←TXNRD3
125.6
125.8
126
126.2
126.4
Position on chr3 (Mb)

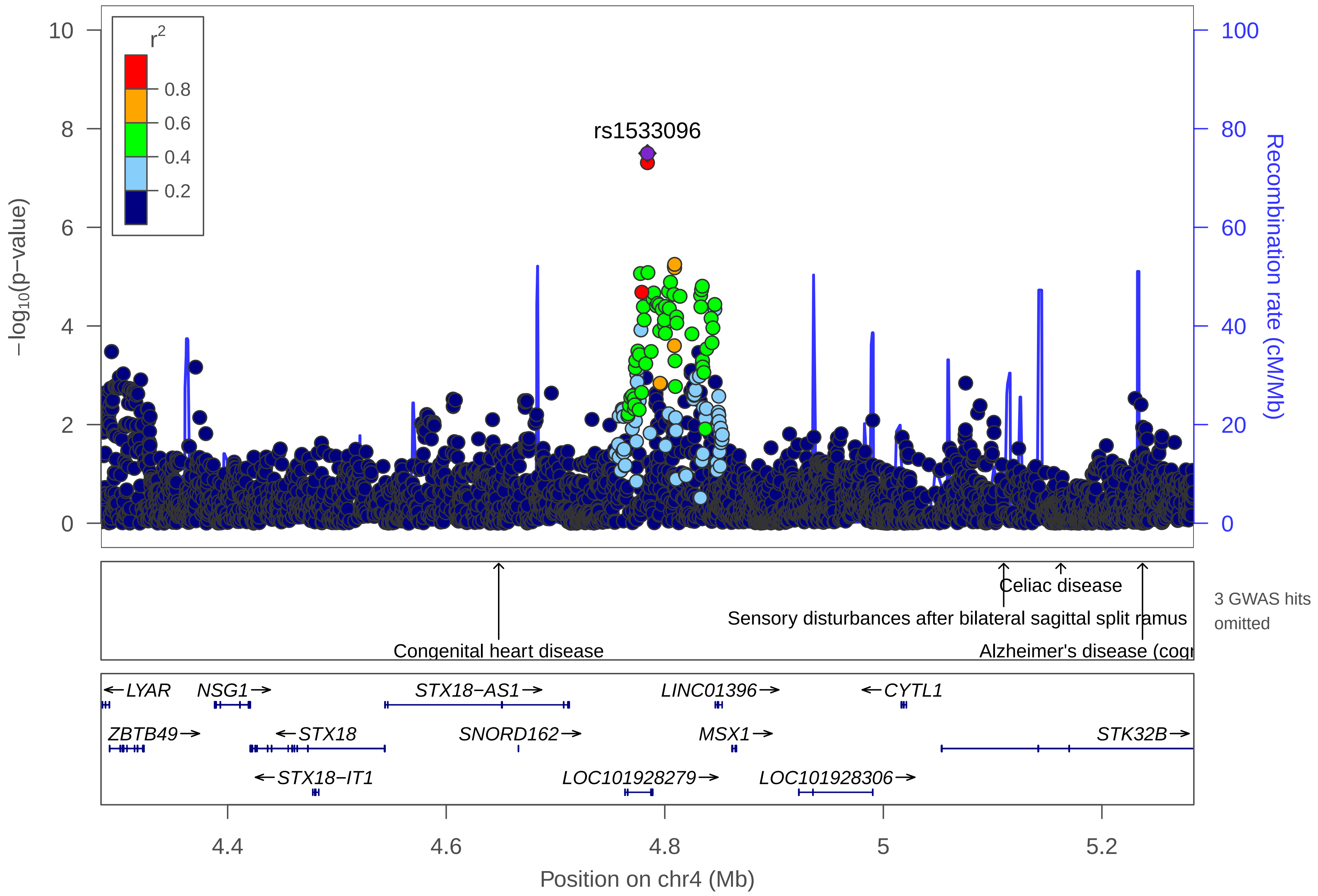

rs78946096
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
100
80
60
40
20
0
−log10(p−value)
Recombination rate (cM/Mb)
HDL cholesterol
LDL cholesterol
Menarche (age at onse
ic lateral sclerosis
1 GWAS hit omitted
←CPNE4
←MIR5704
ACPP→
DNAJC13→
←ACAD11
←NPHP3−ACAD11
ACKR4→
←NPHP3
UBA5→
NPHP3−AS1→
131.8
132
132.2
132.4
132.6
Position on chr3 (Mb)

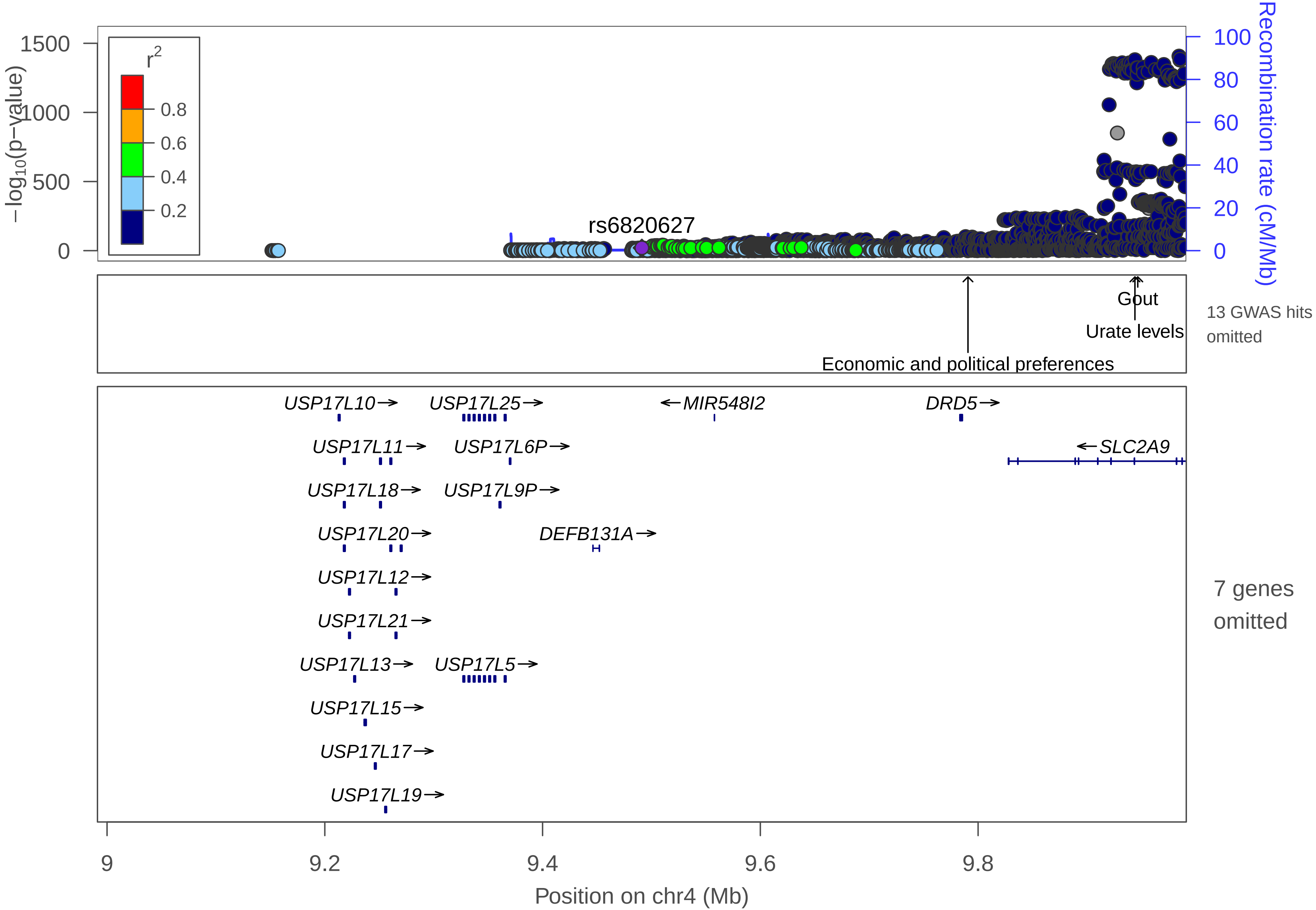

r2
0.8
0.6
0.4
0.2
rs12496412
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Coronary artery calcification
ood cell traits
Hepatitis C induced liver fibrosis
Chronic kidney disease
RASA2→
LOC646730→
ATP1B3→
←GK5
←XRN1
RNF7→
←TFDP2
←ATR
GRK7→
141.4
141.6
141.8
142
142.2
Position on chr3 (Mb)

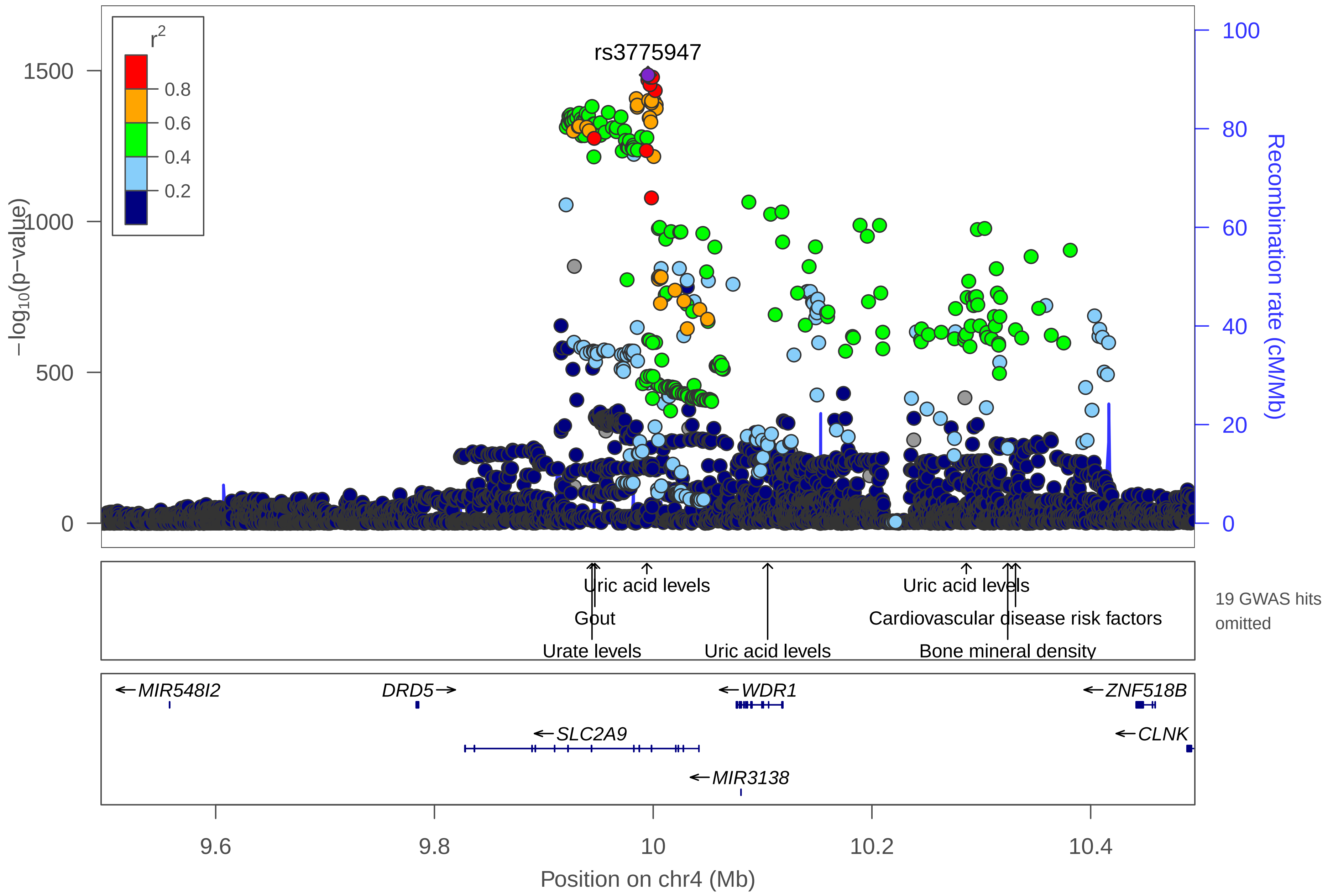

r^2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
$-\log_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs6805417
Response to cholinesterase inhibitors in Alzheimer's disease
Phospholipid levels (plasma)
Tonom
2 GWAS hits omitted
Type 2 diabetes
Non−alcoholic fatty liver disease histology (lobular)
←ATR
TRPC1→
LOC100507389→
CHST2→
←SLC9A9
PLS1→
←PCOLCE2
←PAQR9
SLC9A9−AS1→
PAQR9−AS1→
←LOC100289361
U2SURP→
142.4
142.6
142.8
143
143.2
Position on chr3 (Mb)


rs60388273
$-\log_{10}$(p−value)
0
2
4
6
8
10
12
Recombination rate (cM/Mb)
0
20
40
60
80
100
r^2
0.8
0.6
0.4
0.2
Preeclampsia
Subcutaneous adipose tissue
Serum ceruloplasmin levels
GYG1→
HPS3→
←TM4SF18
TM4SF4→
WWTR1−AS1→
RNF13→
←HLTF
←CP
←TM4SF1
←WWTR1
←PFN2
HLTF−AS1→
TM4SF1−AS1→
←COMMD2
LOC646903→
←ANKUB1
148.8
149
149.2
149.4
149.6
Position on chr3 (Mb)

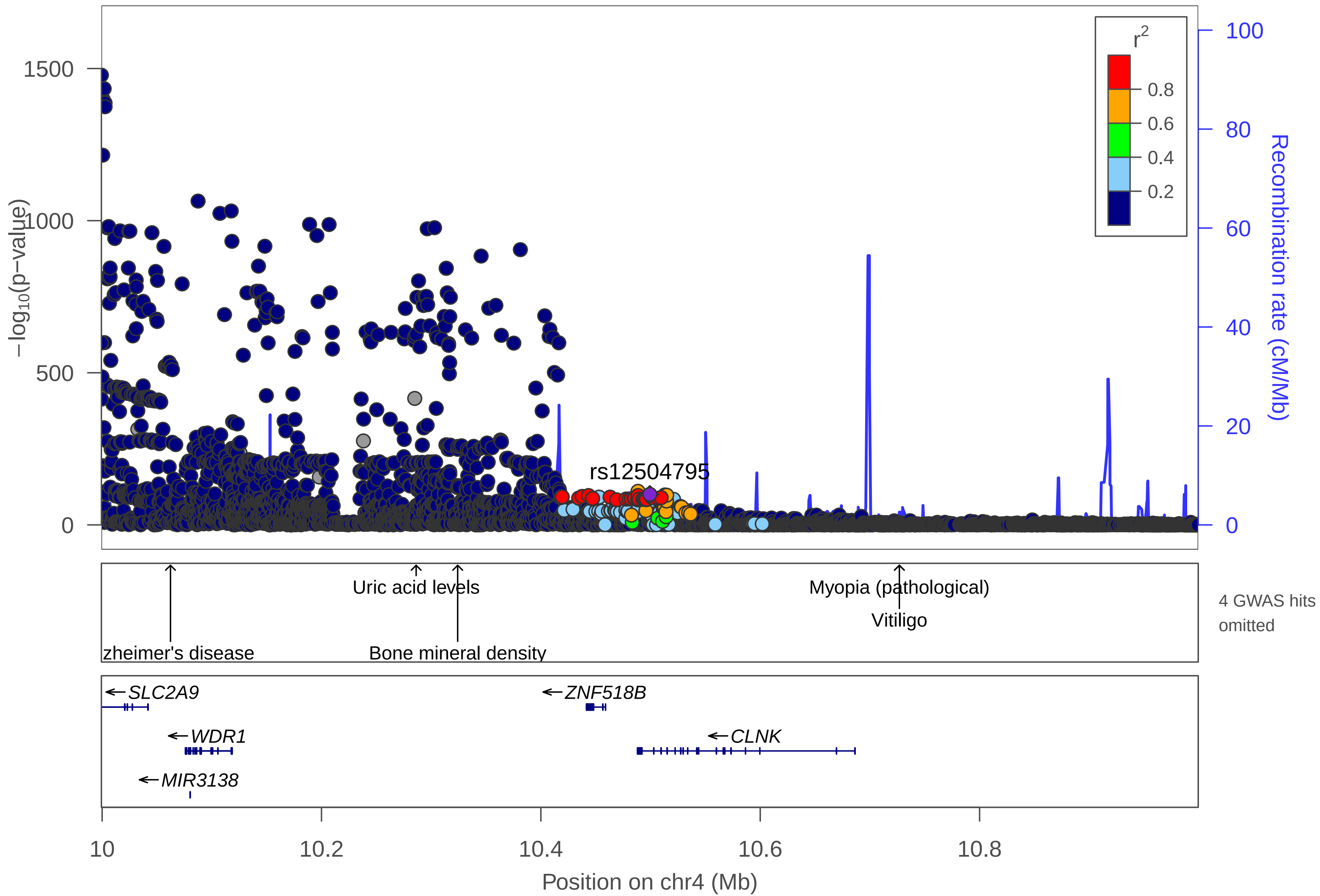

rs62294340
r²
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Chronic lymphocytic leukemia
Bladder cancer
Multiple myeloma
23 GWAS hits omitted
←MECOM
LOC105374205→
←TERC
←ACTRT3
MYNN→
←LRRC34
LRRIQ4→
←LRRC31
SAMD7→
168.8
169
169.2
169.4
169.6
Position on chr3 (Mb)


r2
0.8
0.6
0.4
0.2
rs1533096
−log10(p−value)
Recombination rate (cM/Mb)
0
2
4
6
8
10
0
20
40
60
80
100
Celiac disease
Sensory disturbances after bilateral sagittal split ramus
Congenital heart disease
Alzheimer's disease (cogr
3 GWAS hits omitted
←LYAR
NSG1→
STX18−AS1→
LINC01396→
←CYTL1
ZBTB49→
←STX18
SNORD162→
MSX1→
STK32B→
←STX18−IT1
LOC101928279→
LOC101928306→
4.4
4.6
4.8
5
5.2
Position on chr4 (Mb)

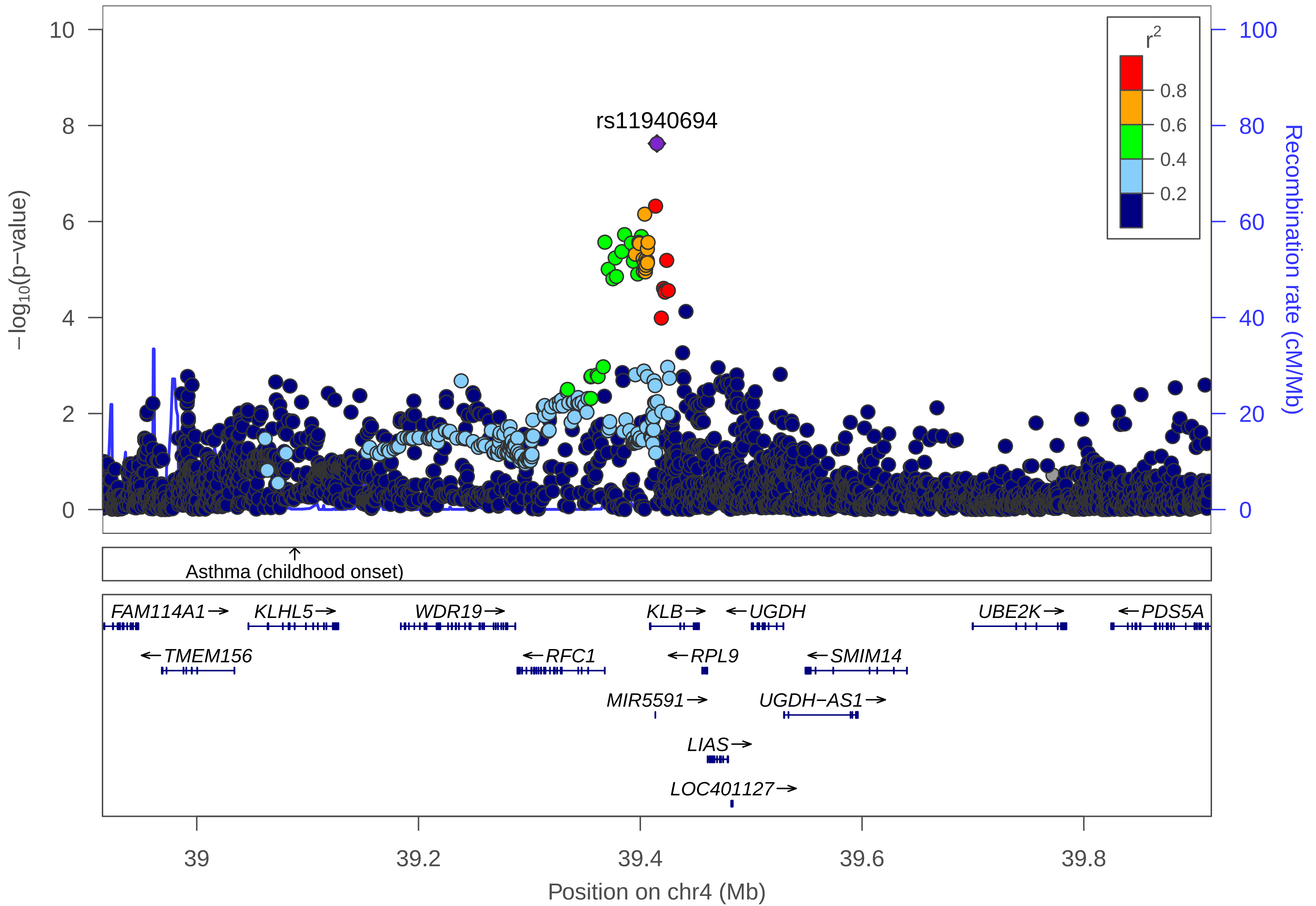

r2
0.8
0.6
0.4
0.2
−log10(p−value)
1500
1000
500
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
rs6820627
Gout
Urate levels
Economic and political preferences
13 GWAS hits omitted
USP17L10→
USP17L25→
←MIR548I2
DRD5→
USP17L11→
USP17L6P→
←SLC2A9
USP17L18→
USP17L9P→
USP17L20→
DEFB131A→
USP17L12→
USP17L21→
USP17L13→
USP17L5→
USP17L15→
USP17L17→
USP17L19→
7 genes omitted
9
9.2
9.4
9.6
9.8
Position on chr4 (Mb)

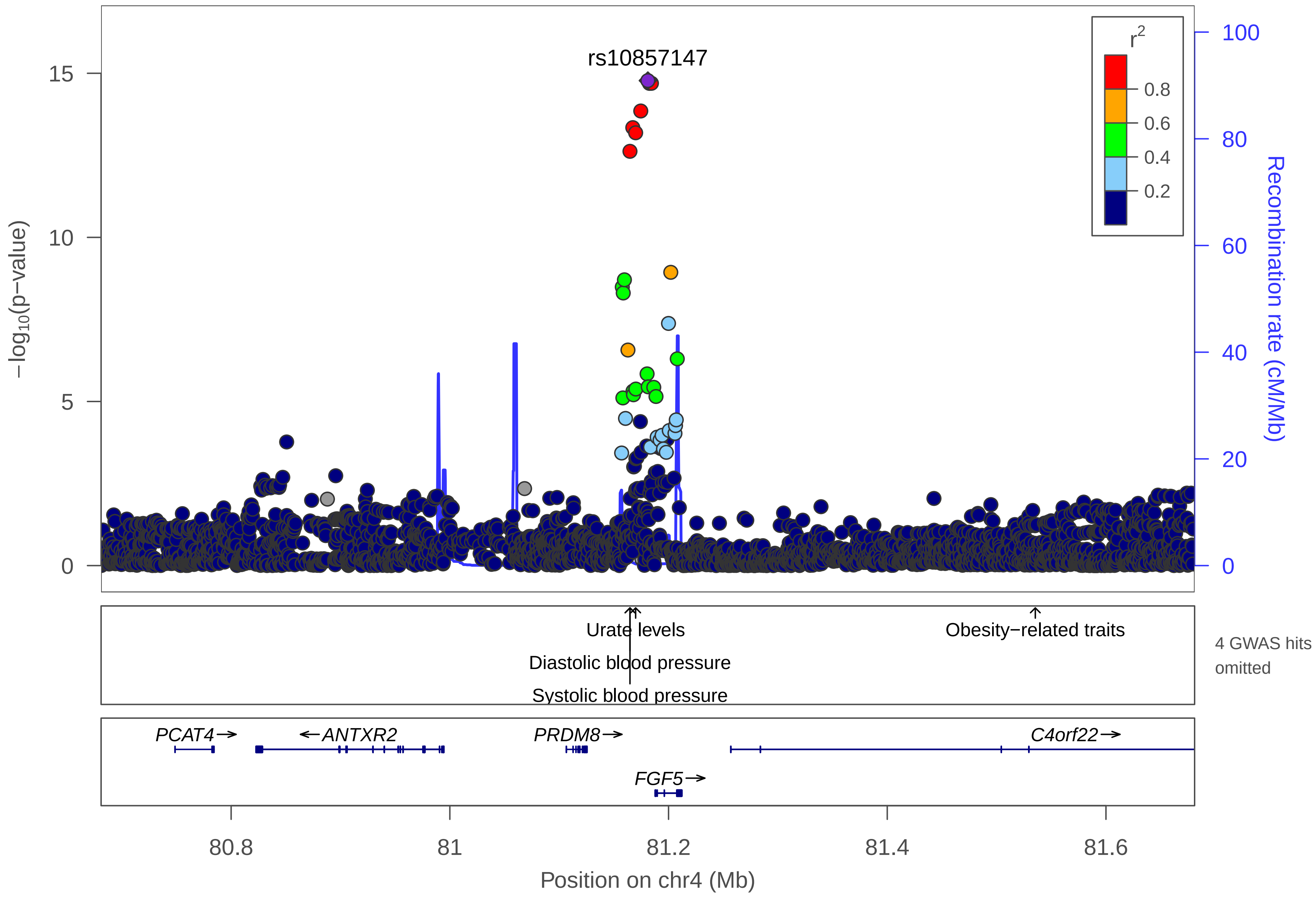


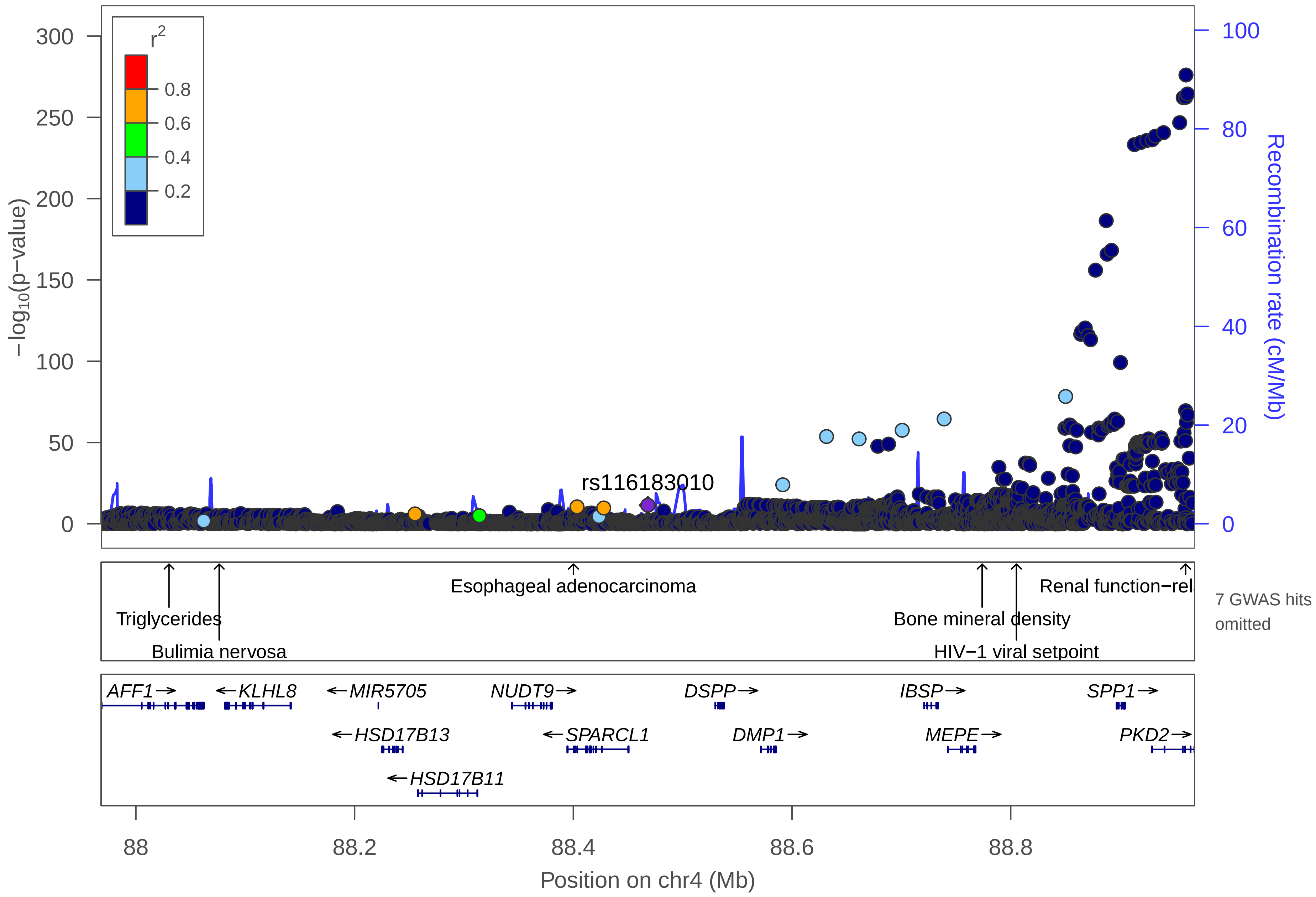
r²
0.8
0.6
0.4
0.2
rs3775947
−log10(p−value)
1500
1000
500
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Uric acid levels
Gout
Urate levels
Uric acid levels
Uric acid levels
Cardiovascular disease risk factors
Bone mineral density
19 GWAS hits omitted
MIR548I2
DRD5
WDR1
ZNF518B
SLC2A9
CLNK
MIR3138
9.6
9.8
10
10.2
10.4
Position on chr4 (Mb)

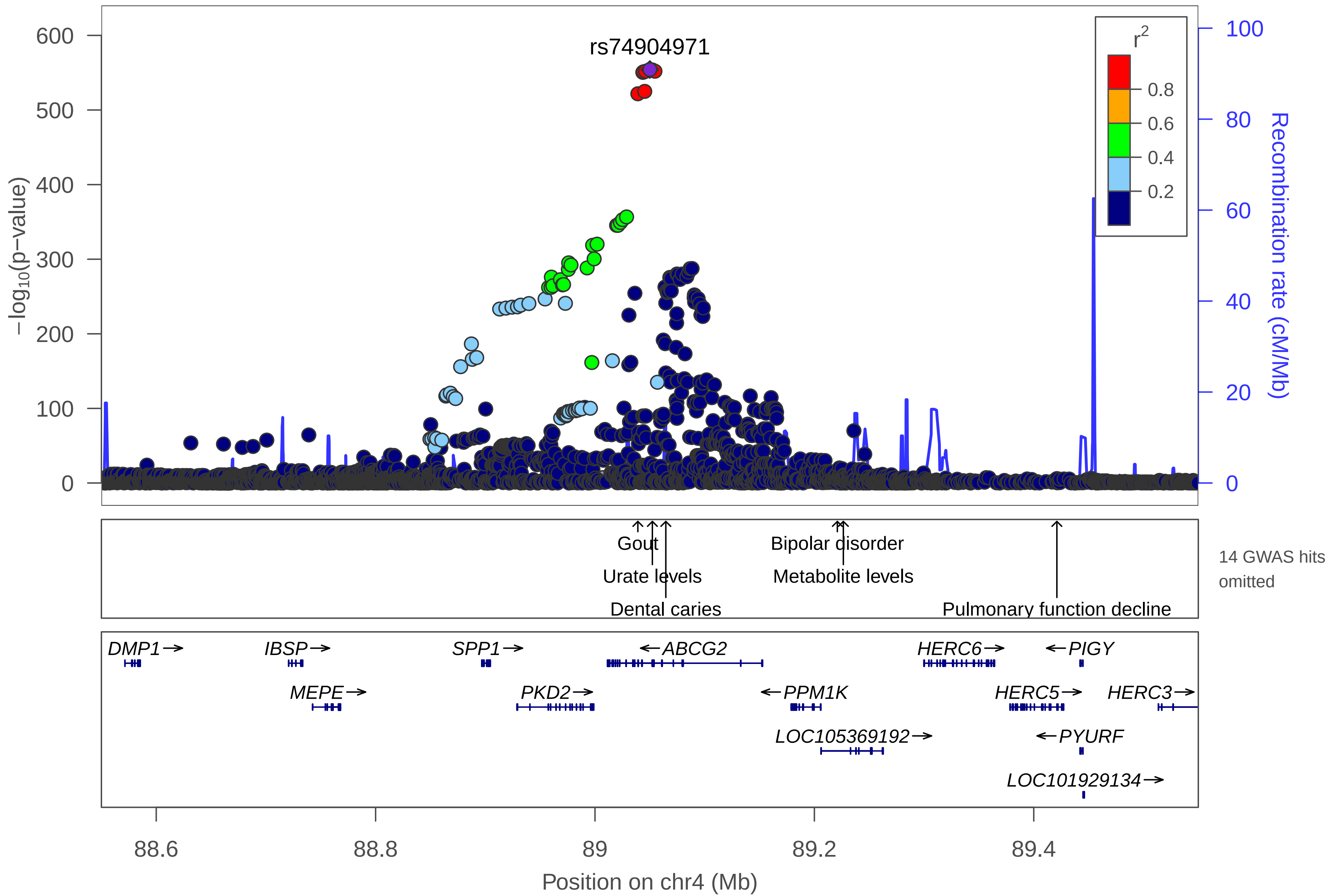


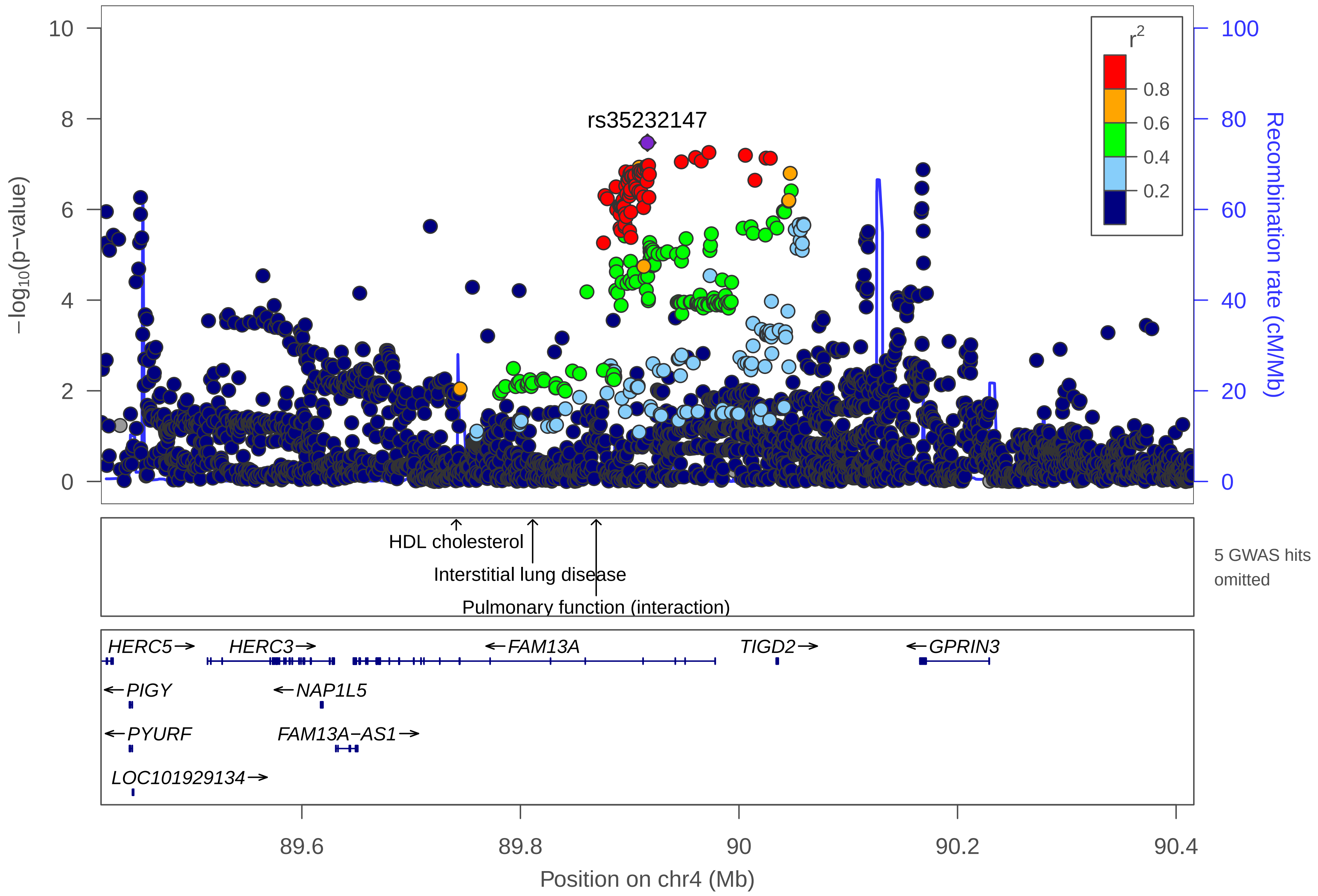
−log10(p−value)
1500
1000
500
0
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs12504795
Uric acid levels
Myopia (pathological)
Vitiligo
zheimer's disease
Bone mineral density
4 GWAS hits omitted
SLC2A9
ZNF518B
WDR1
CLNK
MIR3138
10
10.2
10.4
10.6
10.8
Position on chr4 (Mb)

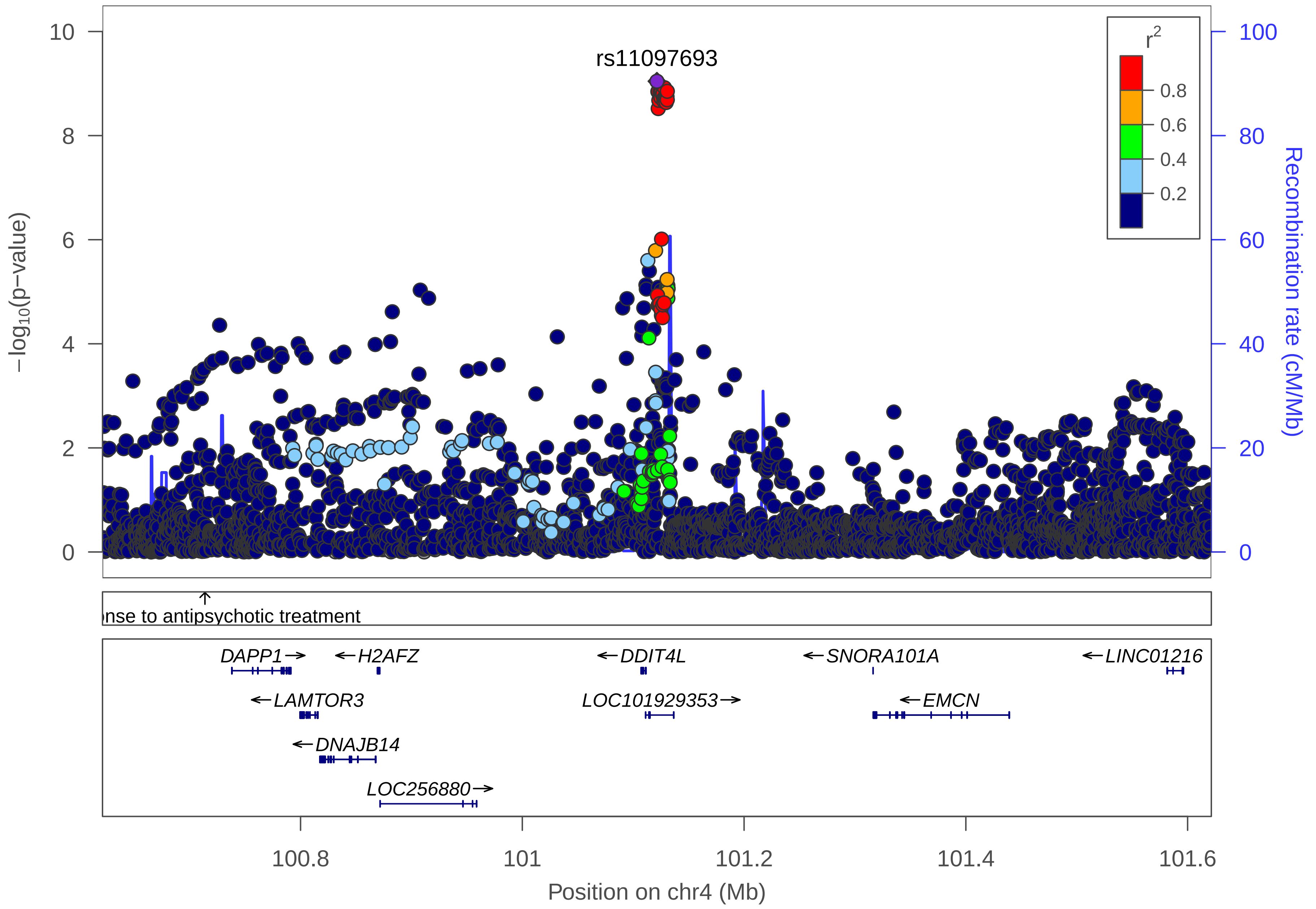

rs11940694
r2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Asthma (childhood onset)
FAM114A1→
KLHL5→
WDR19→
KLB→
←UGDH
UBE2K→
←PDS5A
←TMEM156
←RFC1
←RPL9
←SMIM14
MIR5591→
UGDH−AS1→
LIAS→
LOC401127→
39
39.2
39.4
39.6
39.8
Position on chr4 (Mb)

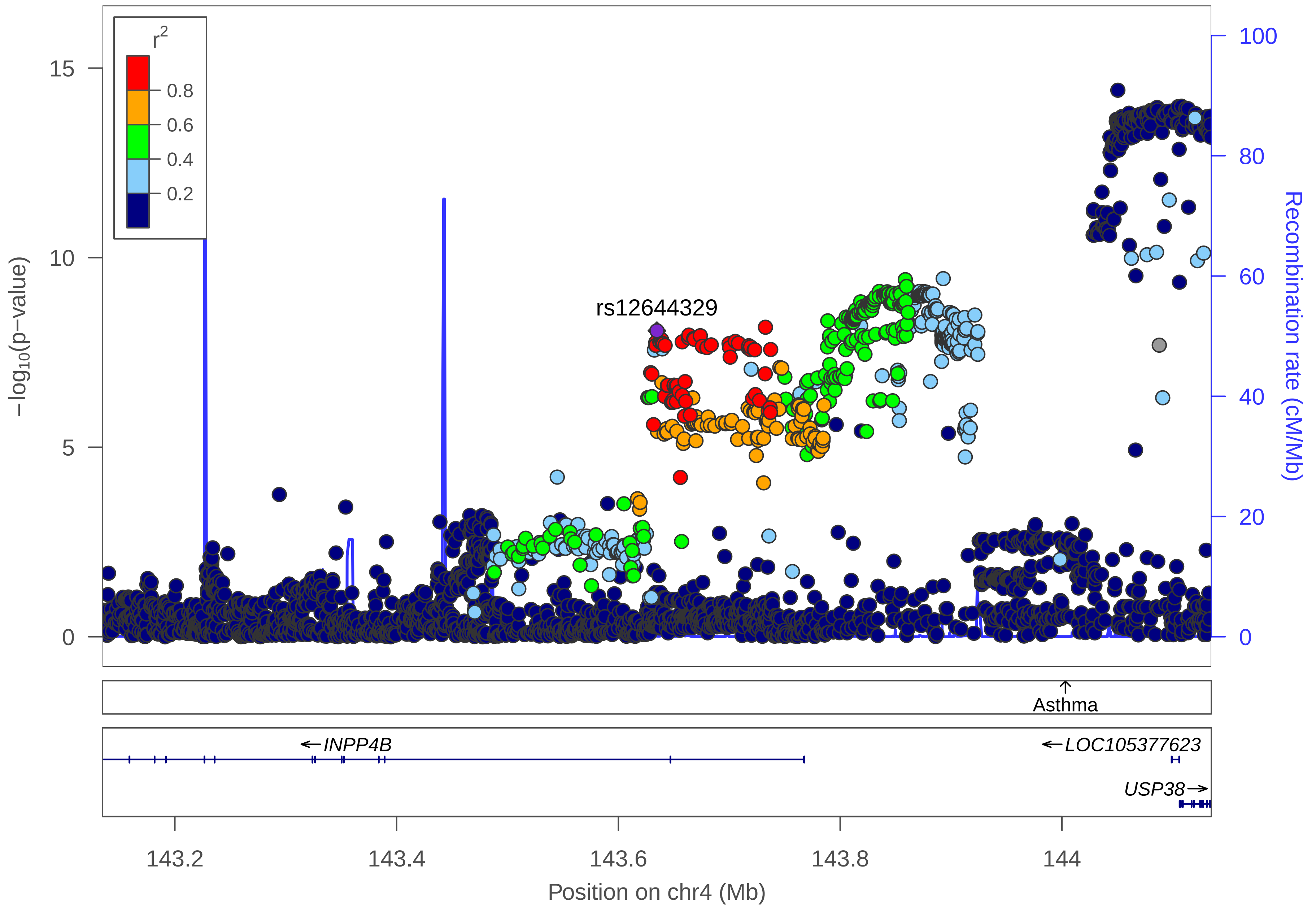

rs10857147
r^2
0.8
0.6
0.4
0.2
15
10
5
0
−log$_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Urate levels
Diastolic blood pressure
Systolic blood pressure
Obesity−related traits
4 GWAS hits omitted
PCAT4→
←ANTXR2
PRDM8→
C4orf22→
FGF5→
80.8
81
81.2
81.4
81.6
Position on chr4 (Mb)

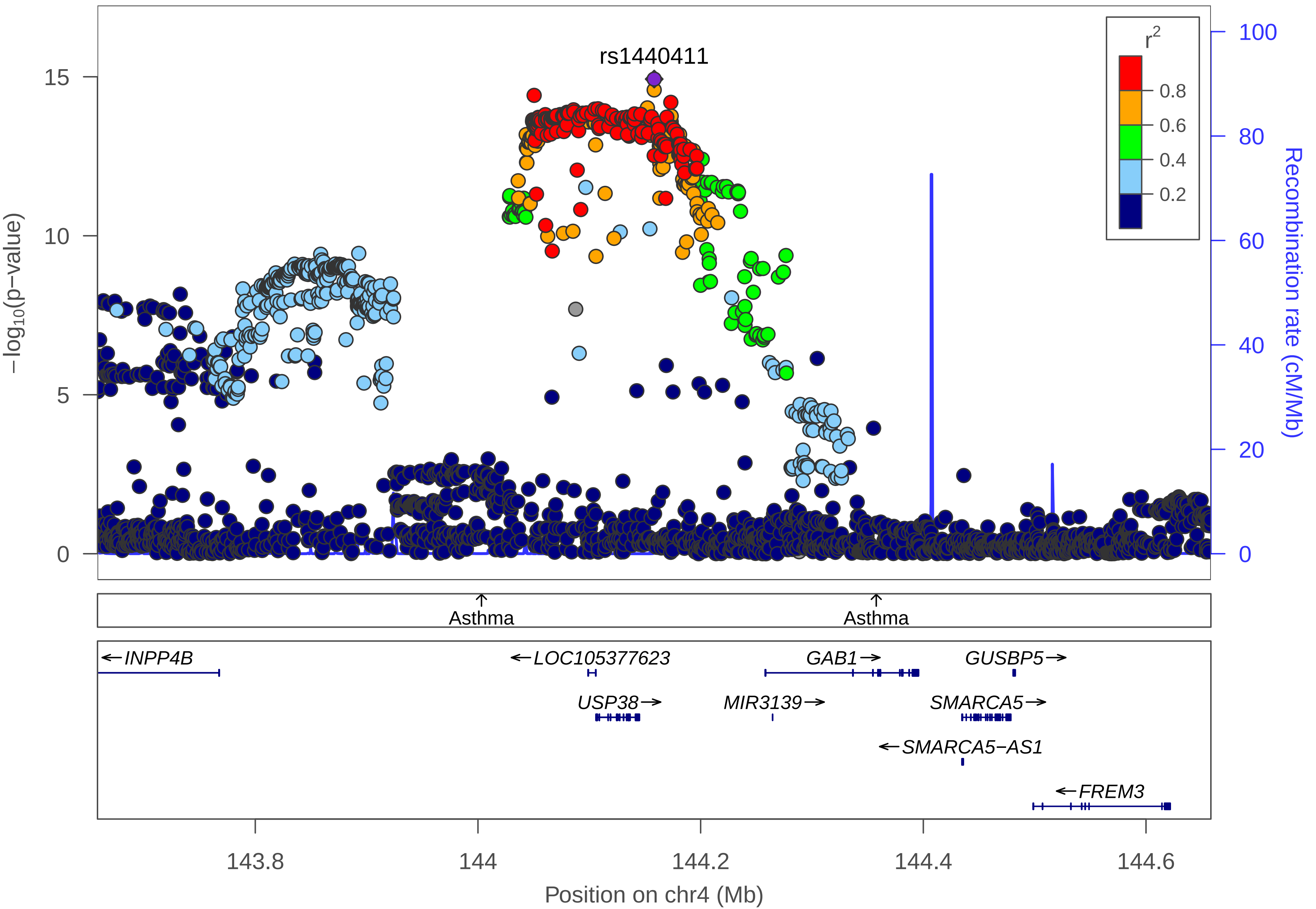

300
250
200
150
100
50
0
−log10(p−value)
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs116183010
Triglycerides
Bulimia nervosa
Esophageal adenocarcinoma
Bone mineral density
HIV−1 viral setpoint
Renal function−rel
7 GWAS hits omitted
AFF1→
←KLHL8
←MIR5705
NUDT9→
DSPP→
IBSP→
SPP1→
←HSD17B13
←SPARCL1
DMP1→
MEPE→
PKD2→
←HSD17B11
88
88.2
88.4
88.6
88.8
Position on chr4 (Mb)

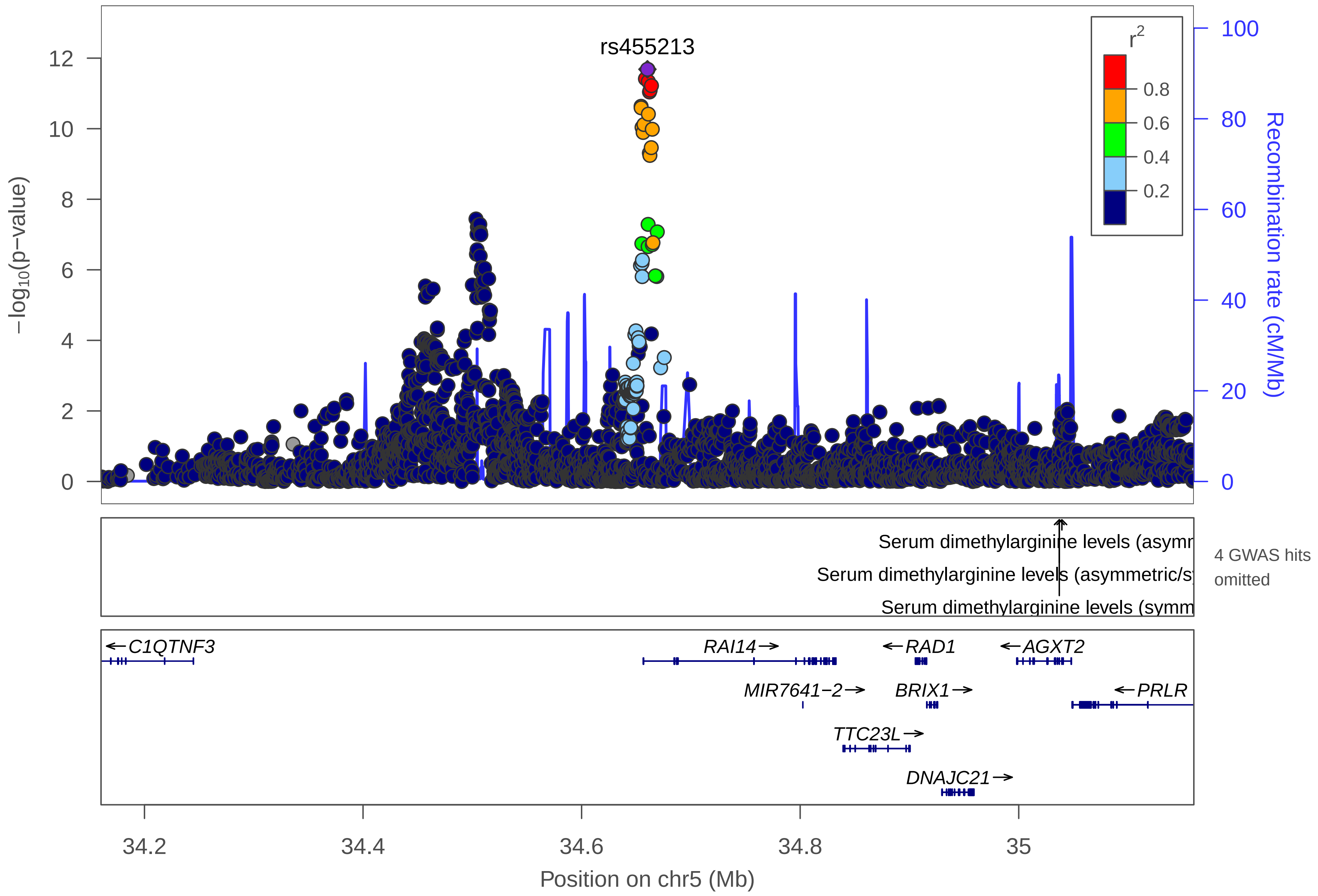

rs74904971
−log10(p−value)
600
500
400
300
200
100
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Gout
Urate levels
Dental caries
Bipolar disorder
Metabolite levels
Pulmonary function decline
14 GWAS hits omitted
DMP1→
IBSP→
MEPE→
SPP1→
PKD2→
←ABCG2
←PPM1K
LOC105369192→
HERC6→
←PIGY
HERC5→
HERC3→
←PYURF
LOC101929134→
88.6
88.8
89
89.2
89.4
Position on chr4 (Mb)

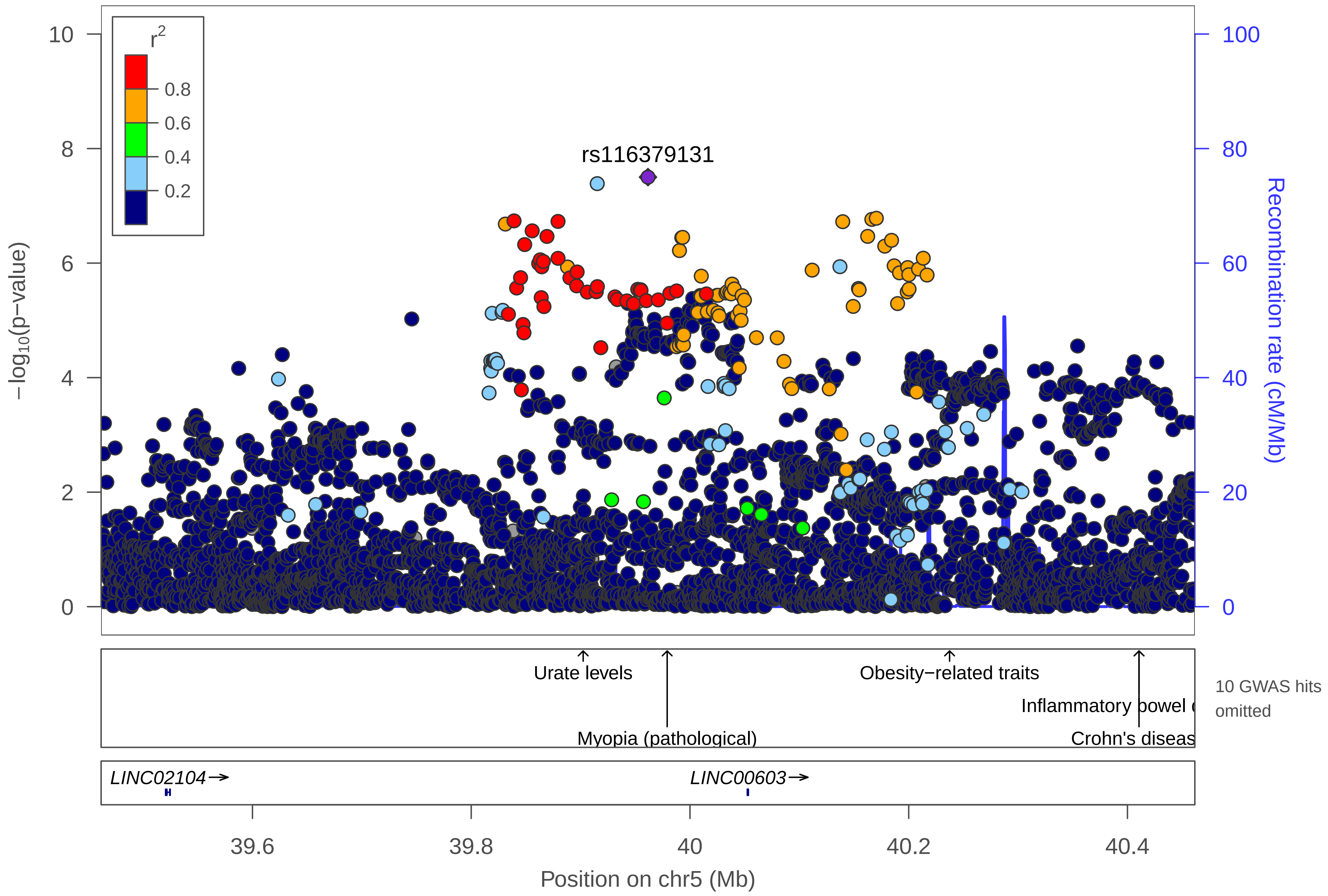

rs35232147
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
Recombination rate (cM/Mb)
10
8
6
4
2
0
100
80
60
40
20
0
HDL cholesterol
Interstitial lung disease
Pulmonary function (interaction)
5 GWAS hits omitted
HERC5→
HERC3→
←FAM13A
TIGD2→
←GPRIN3
←PIGY
←NAP1L5
←PYURF
FAM13A−AS1→
LOC101929134→
89.6
89.8
90
90.2
90.4
Position on chr4 (Mb)

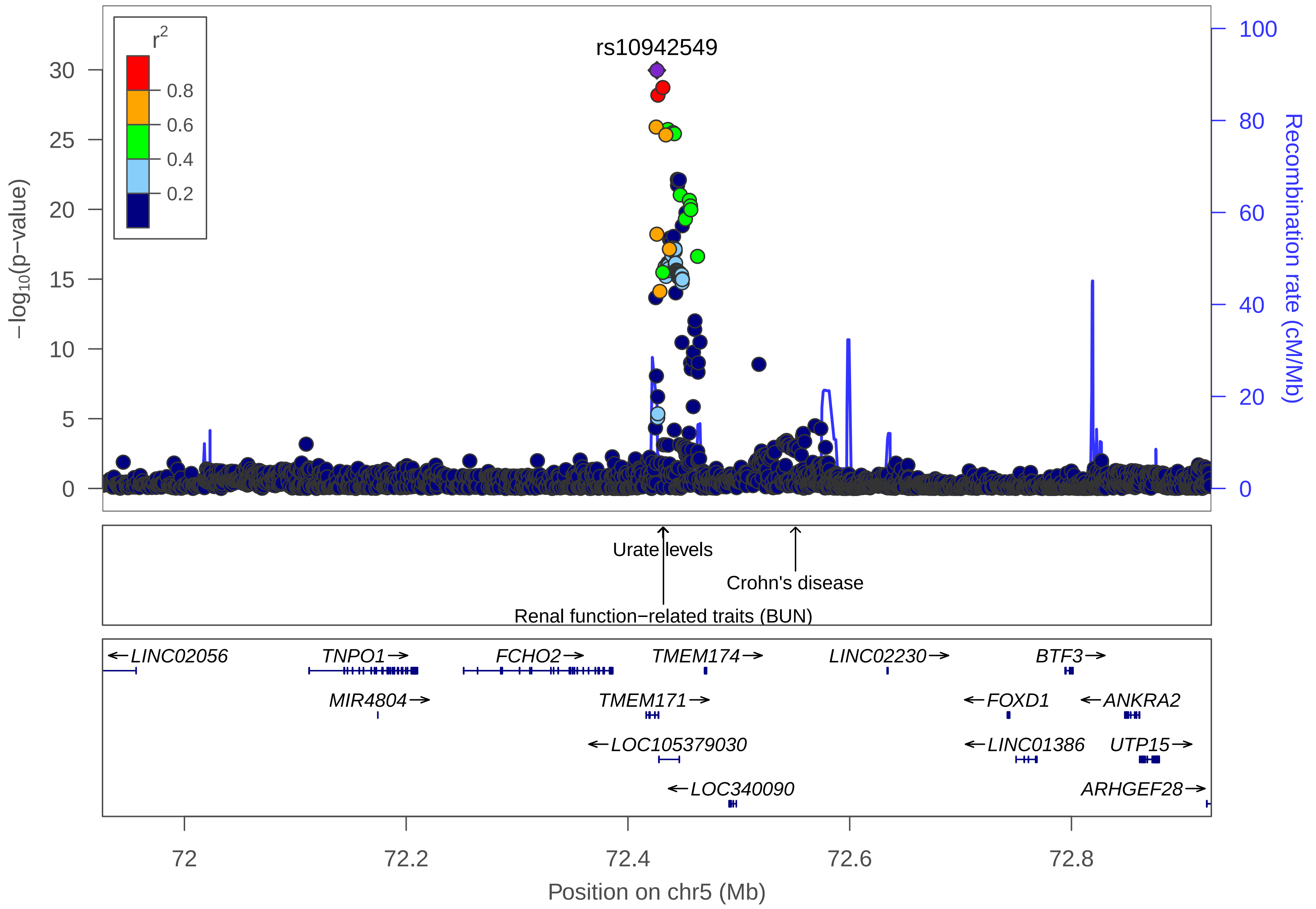

rs11097693
r2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
nse to antipsychotic treatment
DAPP1→
←H2AFZ
←DDIT4L
←SNORA101A
←LINC01216
←LAMTOR3
LOC101929353→
←EMCN
←DNAJB14
LOC256880→
100.8
101
101.2
101.4
101.6
Position on chr4 (Mb)

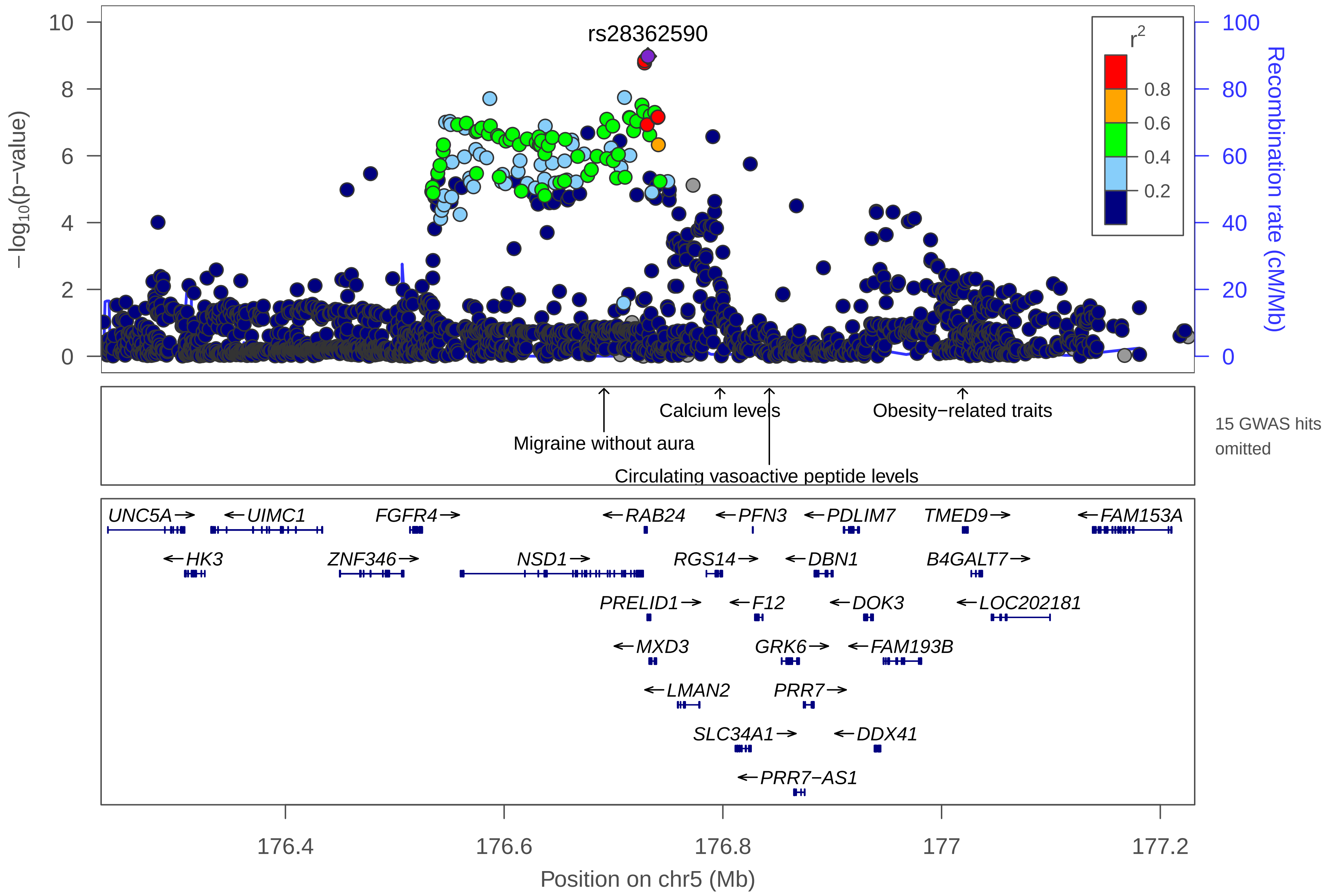

r2
0.8
0.6
0.4
0.2
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs12644329
Asthma
INPP4B
LOC105377623
USP38
143.2
143.4
143.6
143.8
144
Position on chr4 (Mb)

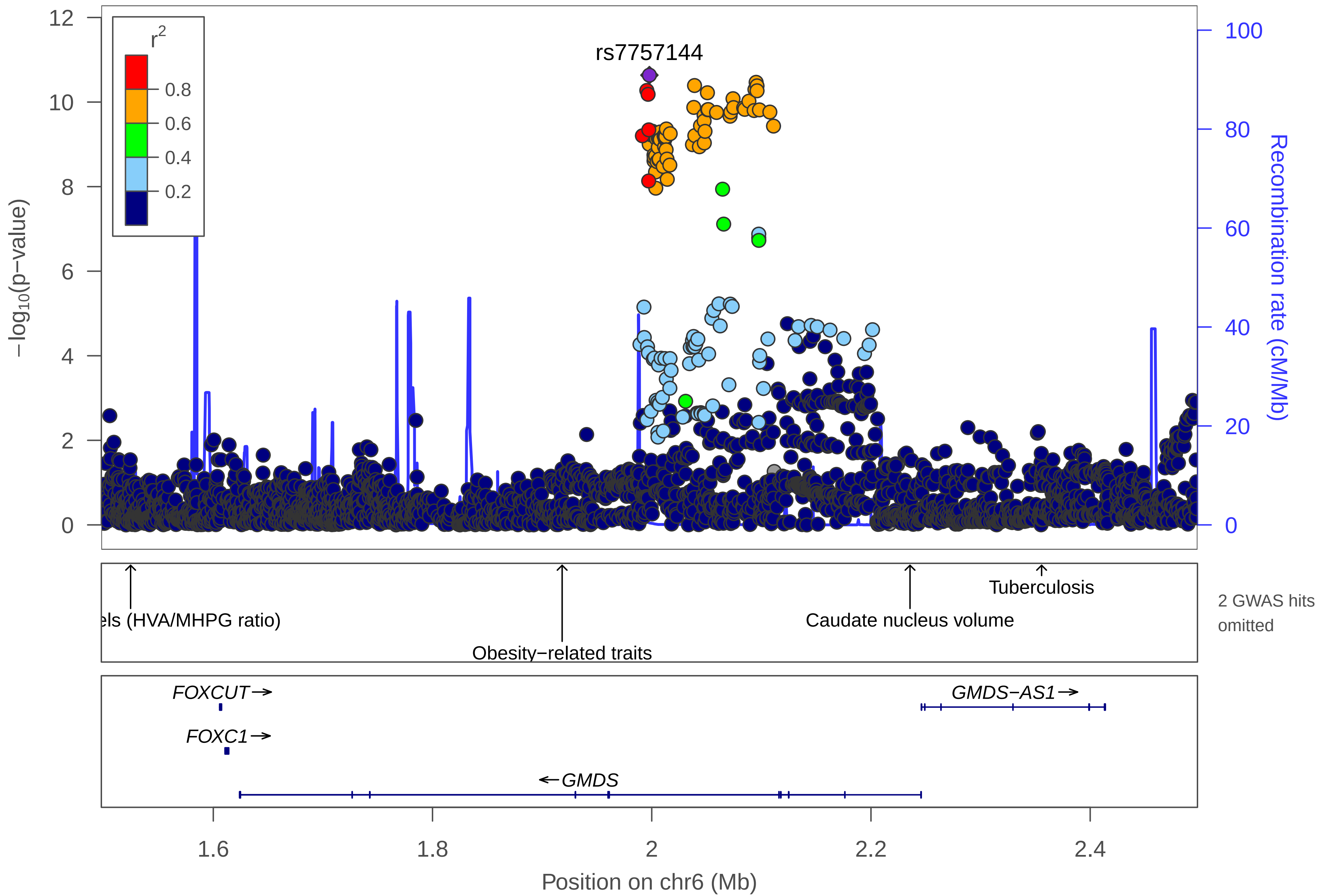

rs1440411
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Asthma
Asthma
←INPP4B
←LOC105377623
GAB1→
GUSBP5→
USP38→
MIR3139→
SMARCA5→
←SMARCA5−AS1
←FREM3
143.8
144
144.2
144.4
144.6
Position on chr4 (Mb)

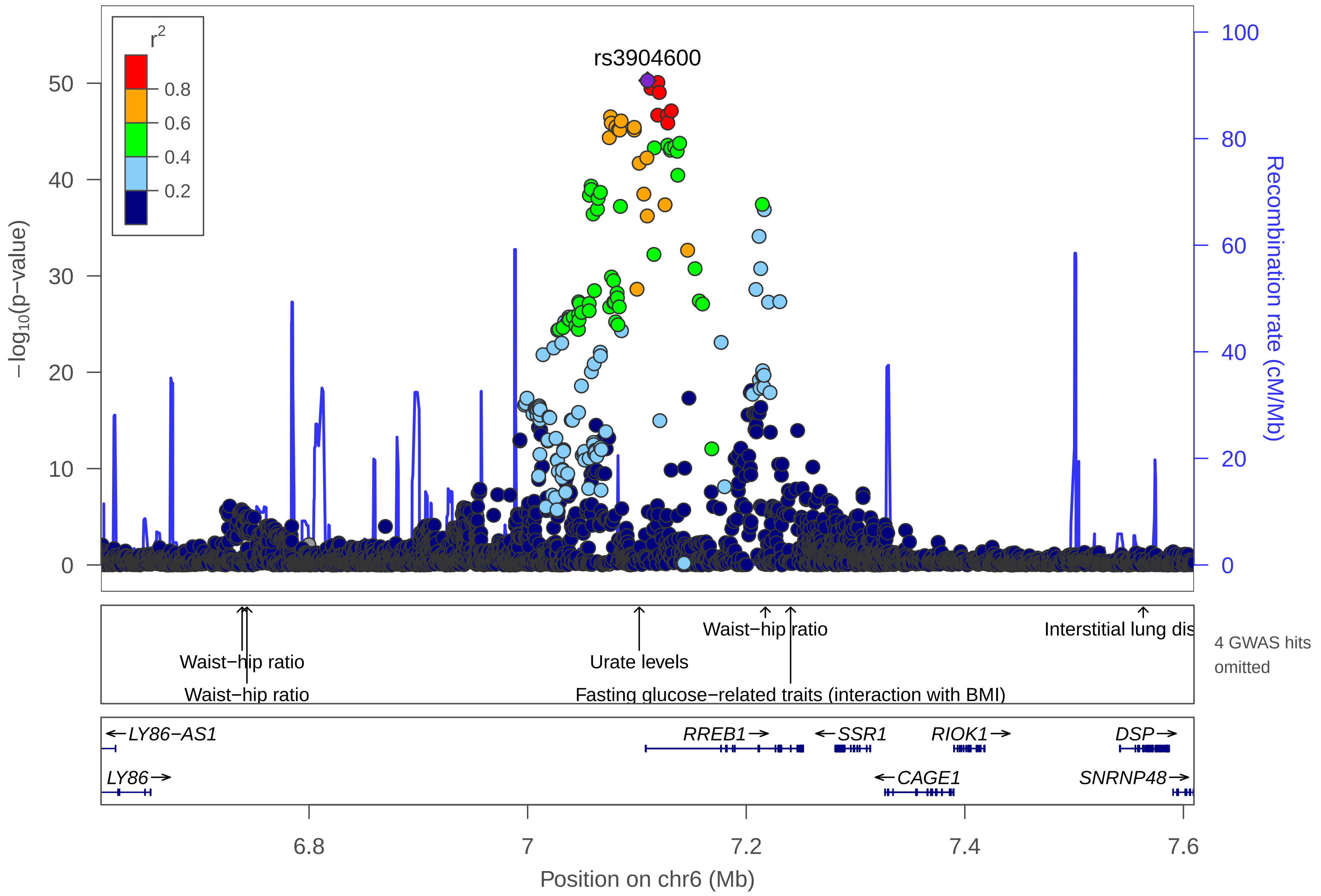

rs455213
−log10(p−value)
12
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Serum dimethylarginine levels (asymr
Serum dimethylarginine levels (asymmetric/s
Serum dimethylarginine levels (symm
4 GWAS hits omitted
←C1QTNF3
RAI14→
←RAD1
←AGXT2
MIR7641−2→
BRIX1→
←PRLR
TTC23L→
DNAJC21→
34.2
34.4
34.6
34.8
35
Position on chr5 (Mb)

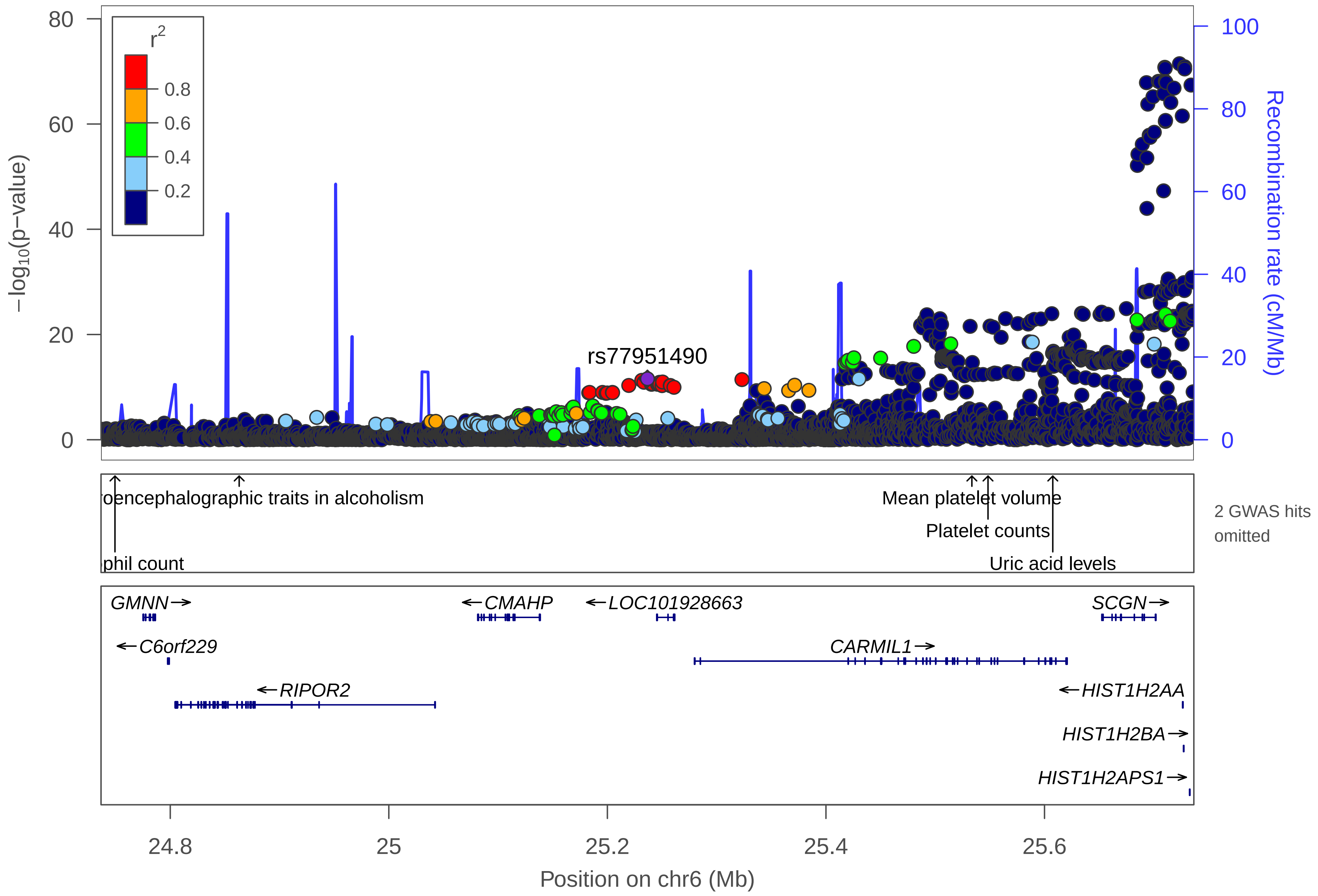

r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs116379131
Urate levels
Myopia (pathological)
Obesity−related traits
Inflammatory bowel
Crohn's diseas
10 GWAS hits omitted
LINC02104→
LINC00603→
39.6
39.8
40
40.2
40.4
Position on chr5 (Mb)

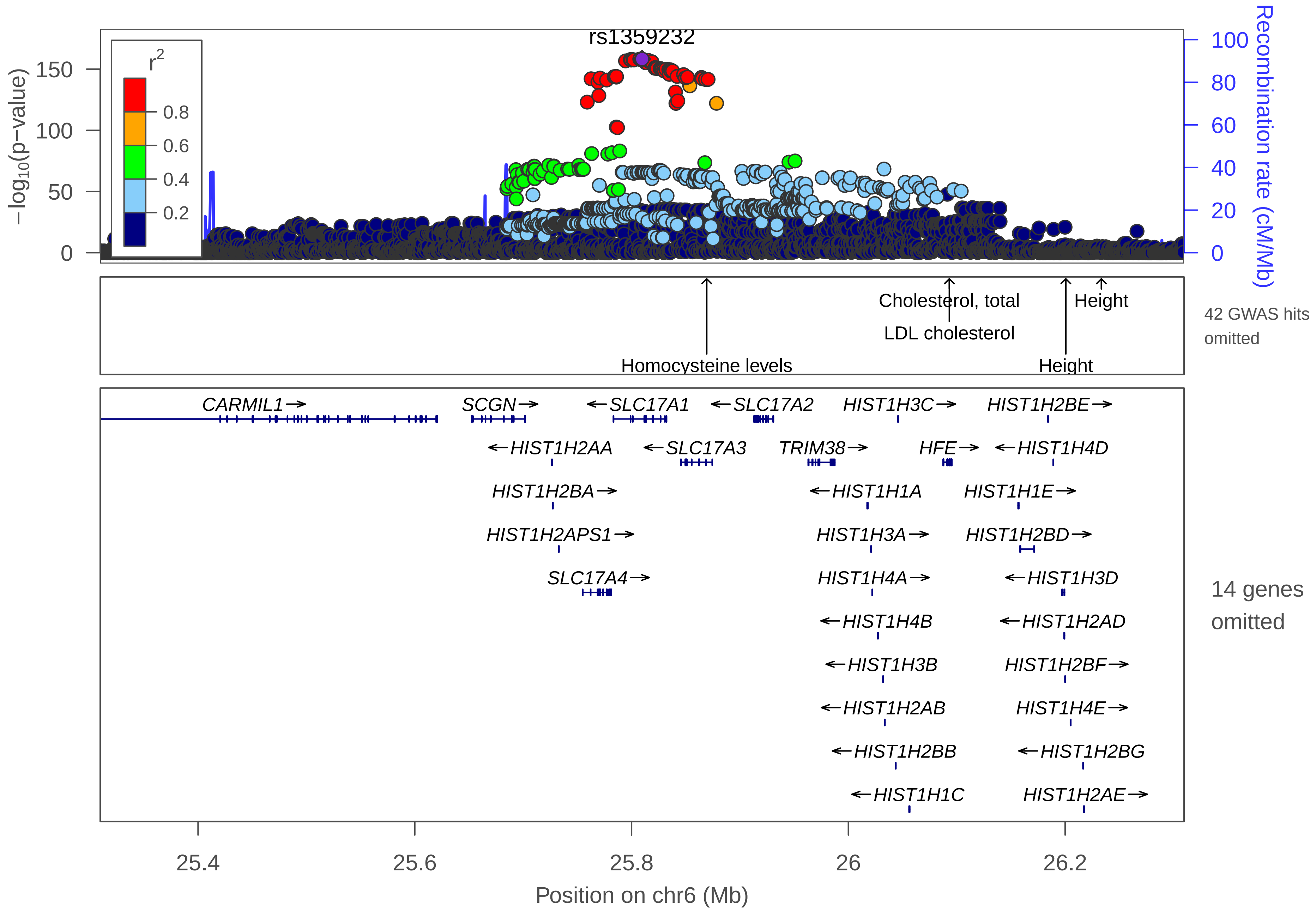

r²
0.8
0.6
0.4
0.2
rs10942549
−log₁₀(p−value)
30
25
20
15
10
5
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
Urate levels
Crohn's disease
Renal function−related traits (BUN)
←LINC02056
TNPO1→
FCHO2→
TMEM174→
LINC02230→
BTF3→
MIR4804→
TMEM171→
←FOXD1
←ANKRA2
←LOC105379030
←LINC01386
UTP15→
←LOC340090
ARHGEF28→
72
72.2
72.4
72.6
72.8
Position on chr5 (Mb)

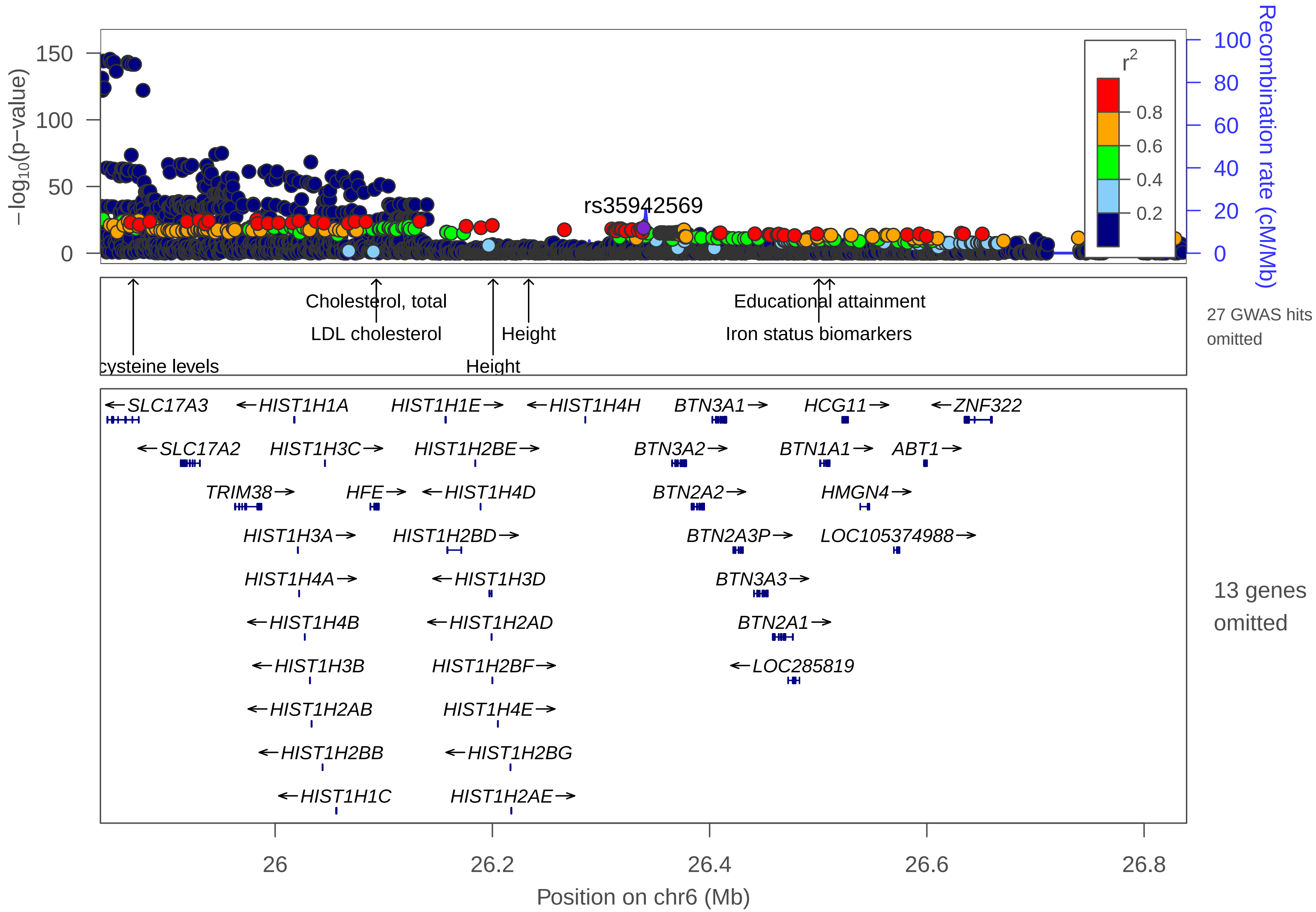

rs28362590
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Calcium levels
Obesity−related traits
Migraine without aura
Circulating vasoactive peptide levels
15 GWAS hits omitted
UNC5A→
←UIMC1
FGFR4→
←RAB24
←PFN3
←PDLIM7
TMED9→
←FAM153A
←HK3
ZNF346→
NSD1→
RGS14→
←DBN1
B4GALT7→
PRELID1→
←F12
←DOK3
←LOC202181
←MXD3
GRK6→
←FAM193B
←LMAN2
PRR7→
SLC34A1→
←DDX41
←PRR7−AS1
176.4
176.6
176.8
177
177.2
Position on chr5 (Mb)

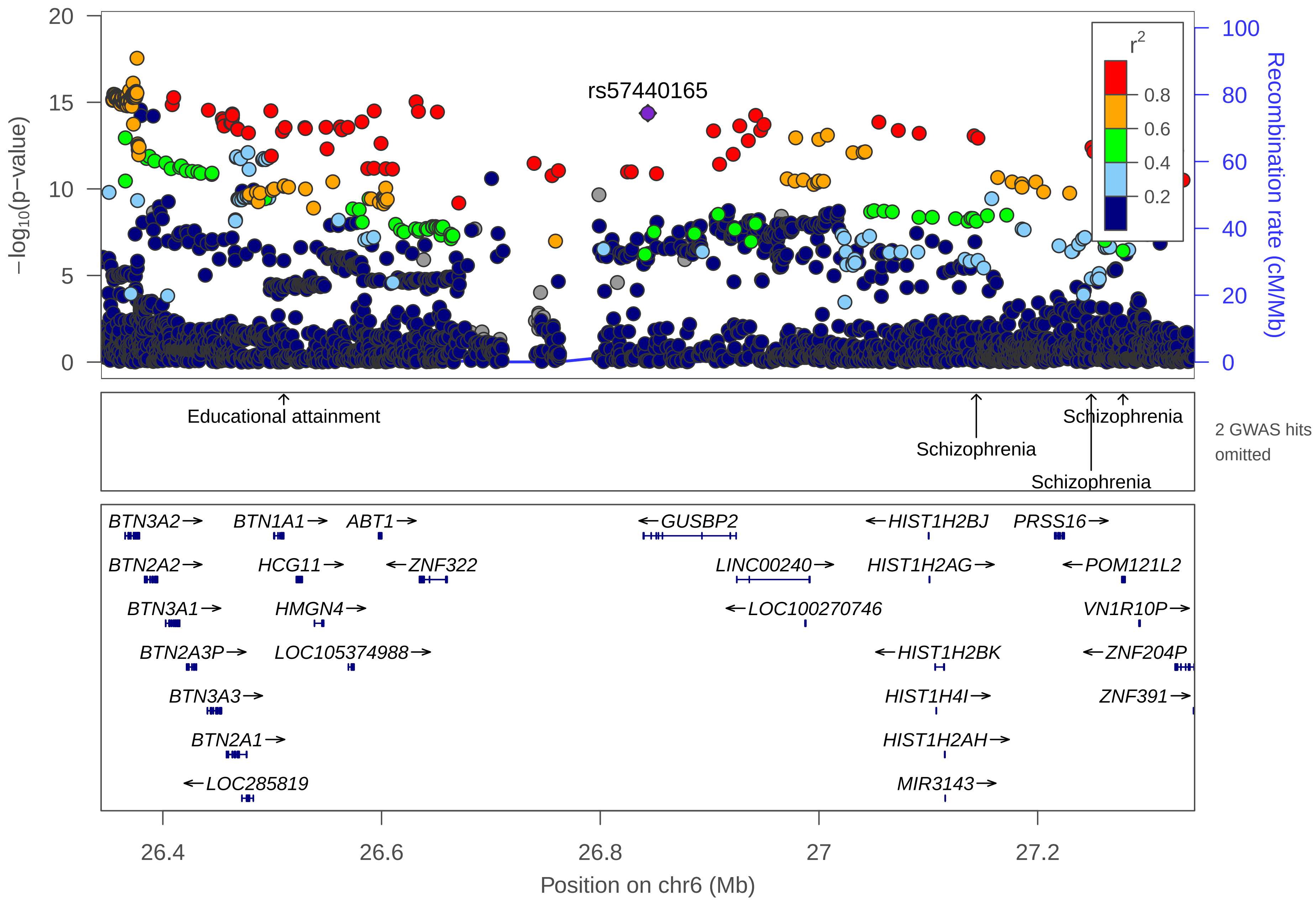

rs7757144
r²
0.8
0.6
0.4
0.2
12
10
8
6
4
2
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
els (HVA/MHPG ratio)
Obesity−related traits
Caudate nucleus volume
Tuberculosis
2 GWAS hits omitted
FOXCUT→
FOXC1→
←GMDS
GMDS−AS1→
1.6
1.8
2
2.2
2.4
Position on chr6 (Mb)

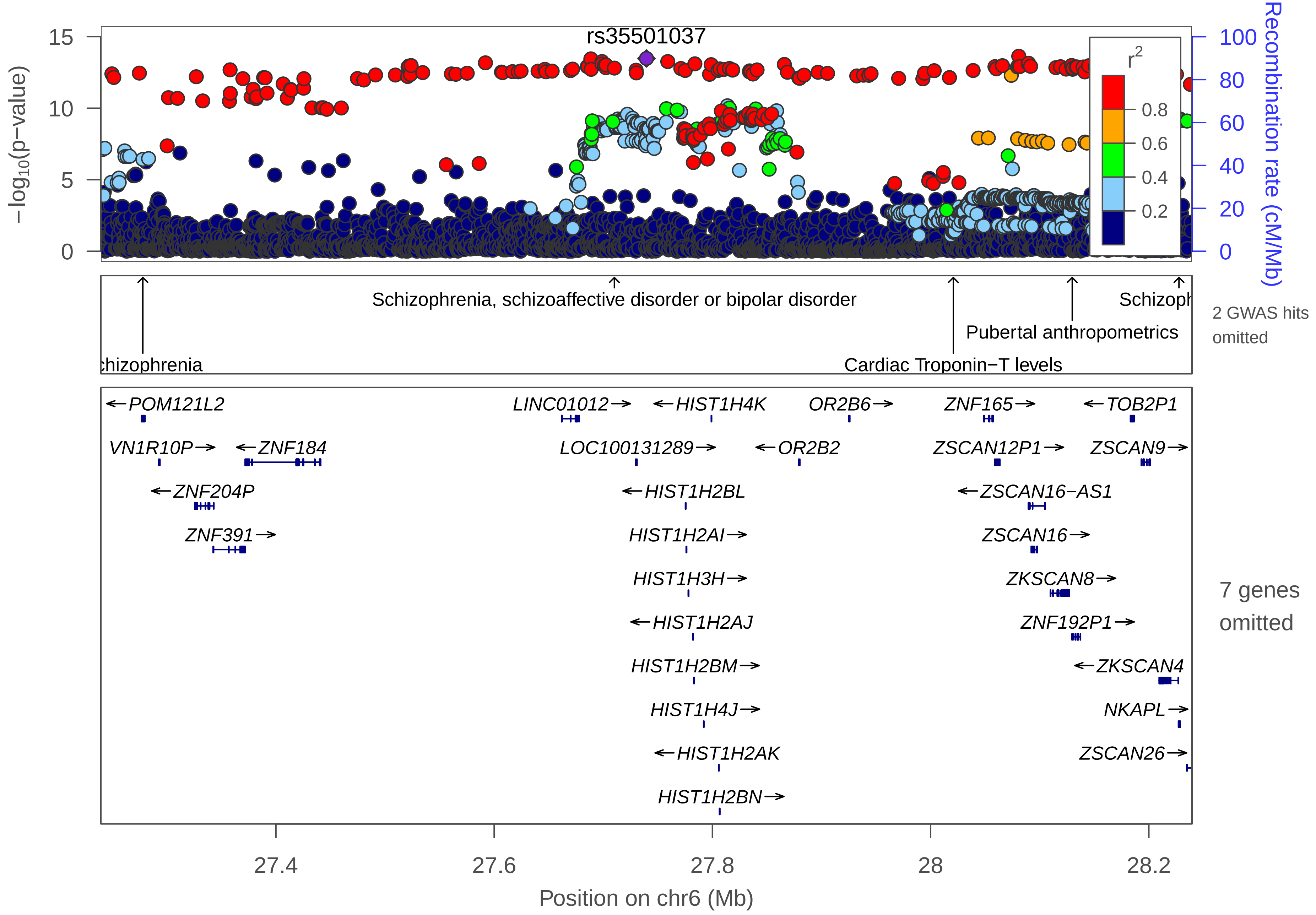

r^2
0.8
0.6
0.4
0.2
rs3904600
−log10(p−value)
0
10
20
30
40
50
Recombination rate (cM/Mb)
0
20
40
60
80
100
Waist−hip ratio
Waist−hip ratio
Urate levels
Waist−hip ratio
Fasting glucose−related traits (interaction with BMI)
Interstitial lung dis
4 GWAS hits omitted
←LY86−AS1
LY86→
RREB1→
←SSR1
←CAGE1
RIOK1→
DSP→
SNRNP48→
6.8
7
7.2
7.4
7.6
Position on chr6 (Mb)

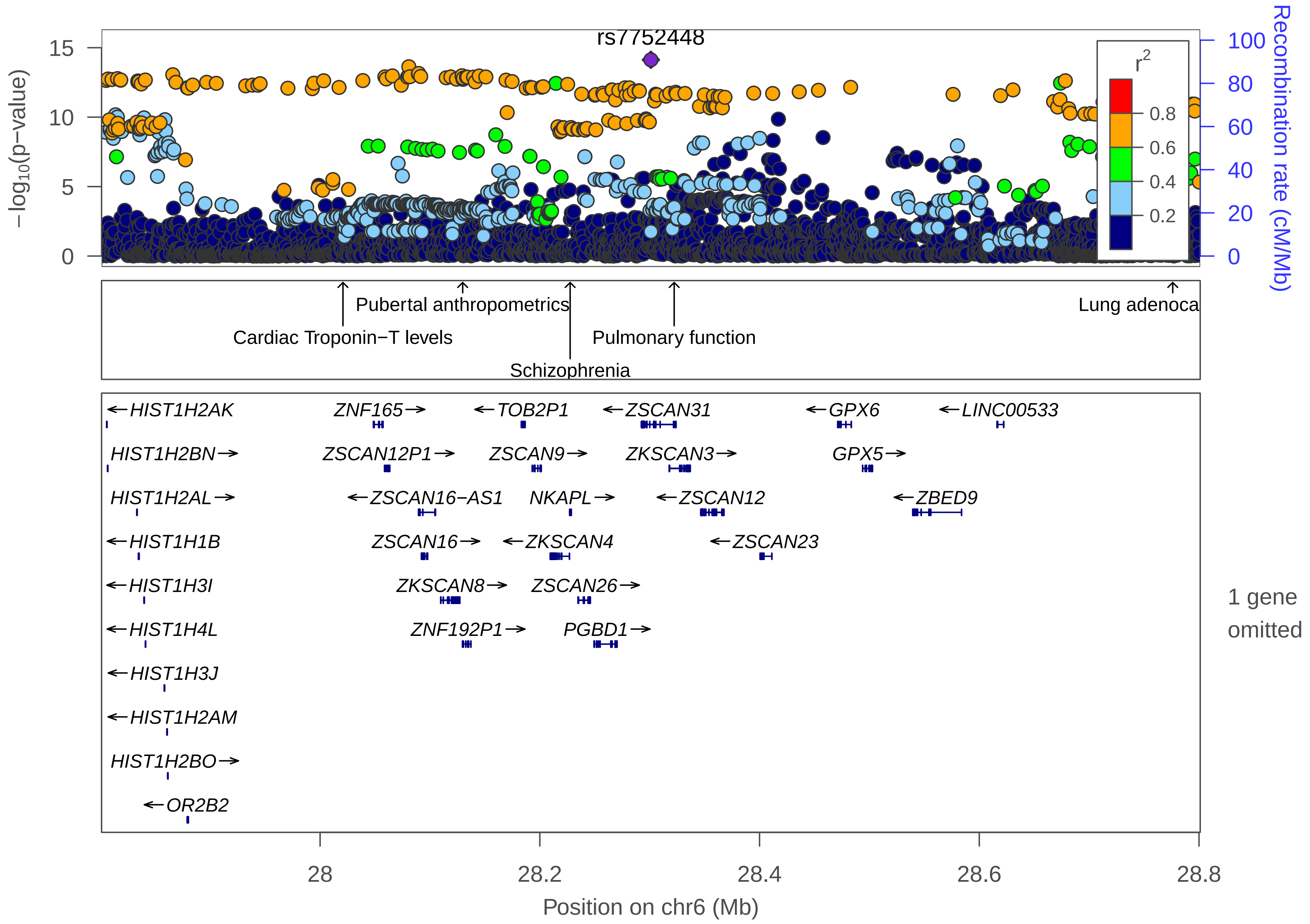

80
60
40
20
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
rs77951490
oencephalographic traits in alcoholism
phil count
Mean platelet volume
Platelet counts
Uric acid levels
2 GWAS hits omitted
GMNN→
←C6orf229
←RIPOR2
←CMAHP
←LOC101928663
CARMIL1→
SCGN→
←HIST1H2AA
HIST1H2BA→
HIST1H2APS1→
24.8
25
25.2
25.4
25.6
Position on chr6 (Mb)

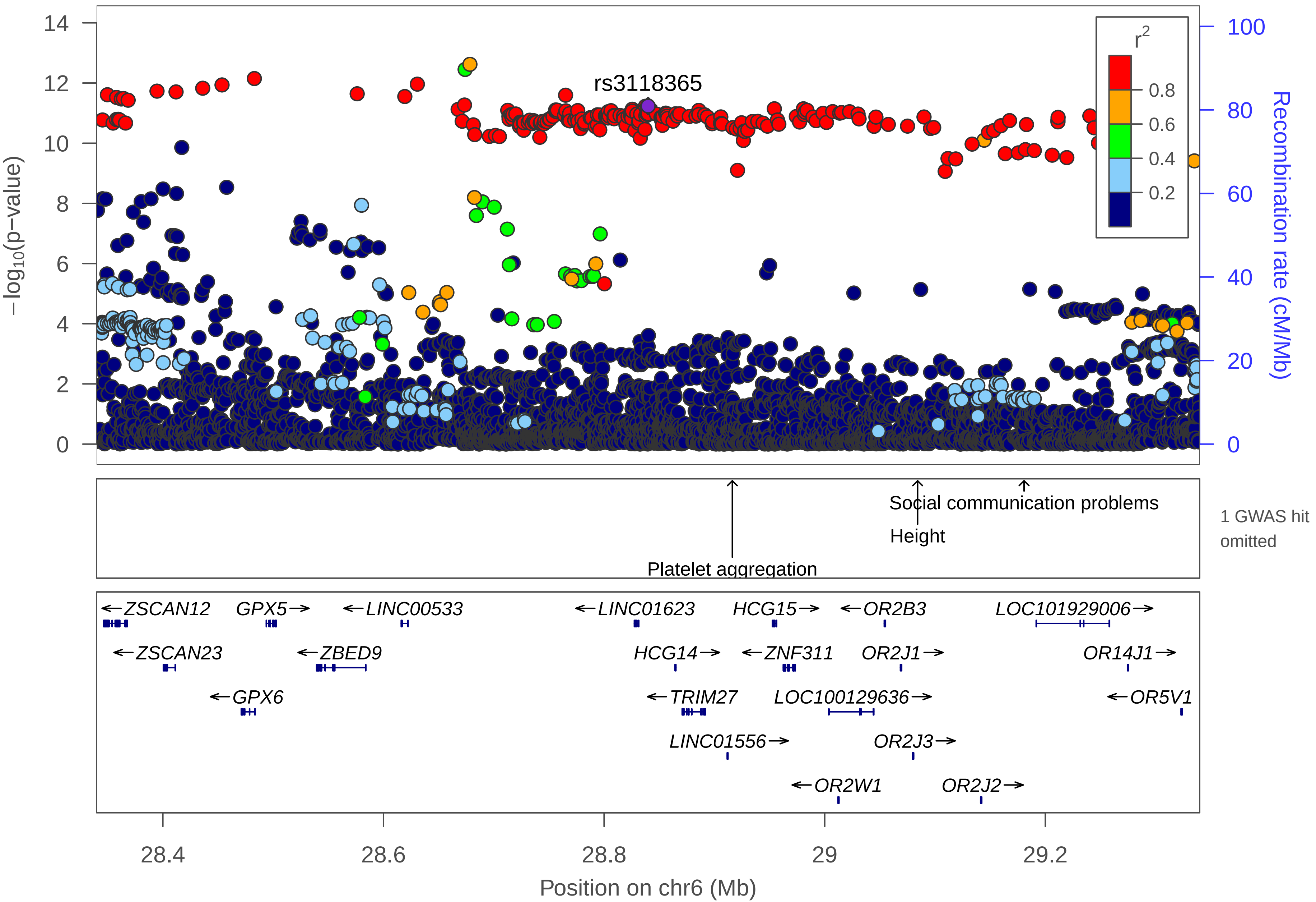

rs1359232
r2
0.8
0.6
0.4
0.2
−log10(p−value)
150
100
50
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Homocysteine levels
Cholesterol, total
LDL cholesterol
Height
Height
42 GWAS hits omitted
CARMIL1→
SCGN→
←SLC17A1
←SLC17A2
HIST1H3C→
HIST1H2BE→
←HIST1H2AA
←SLC17A3
TRIM38→
HFE→
←HIST1H4D
HIST1H2BA→
←HIST1H1A
HIST1H1E→
HIST1H2APS1→
HIST1H3A→
HIST1H2BD→
SLC17A4→
HIST1H4A→
←HIST1H3D
←HIST1H4B
←HIST1H2AD
←HIST1H3B
HIST1H2BF→
←HIST1H2AB
HIST1H4E→
←HIST1H2BB
←HIST1H2BG
←HIST1H1C
HIST1H2AE→
14 genes omitted
25.4
25.6
25.8
26
26.2
Position on chr6 (Mb)

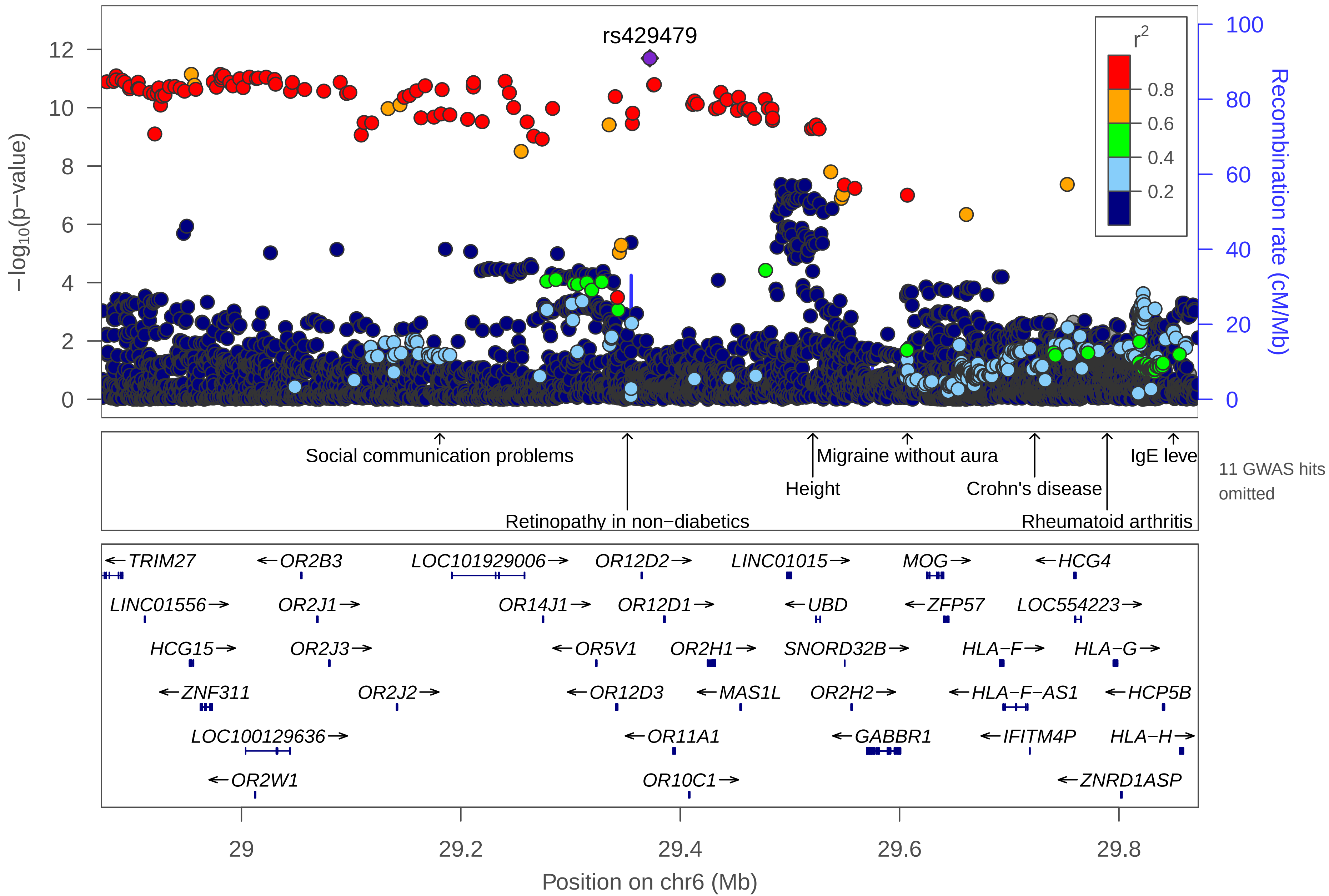

150
100
50
0
−log10(p−value)
rs35942569
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
cysteine levels
Cholesterol, total
LDL cholesterol
Height
Height
Educational attainment
Iron status biomarkers
27 GWAS hits omitted
←SLC17A3
←SLC17A2
TRIM38→
HIST1H3A→
HIST1H4A→
←HIST1H4B
←HIST1H3B
←HIST1H2AB
←HIST1H2BB
←HIST1H1C
←HIST1H1A
HIST1H3C→
HFE→
HIST1H1E→
HIST1H2BE→
←HIST1H4D
HIST1H2BD→
←HIST1H3D
←HIST1H2AD
HIST1H2BF→
HIST1H4E→
←HIST1H2BG
HIST1H2AE→
←HIST1H4H
BTN3A1→
BTN3A2→
BTN2A2→
BTN2A3P→
BTN3A3→
BTN2A1→
←LOC285819
HCG11→
BTN1A1→
HMGN4→
LOC105374988→
←ZNF322
ABT1→
13 genes omitted
26
26.2
26.4
26.6
26.8
Position on chr6 (Mb)

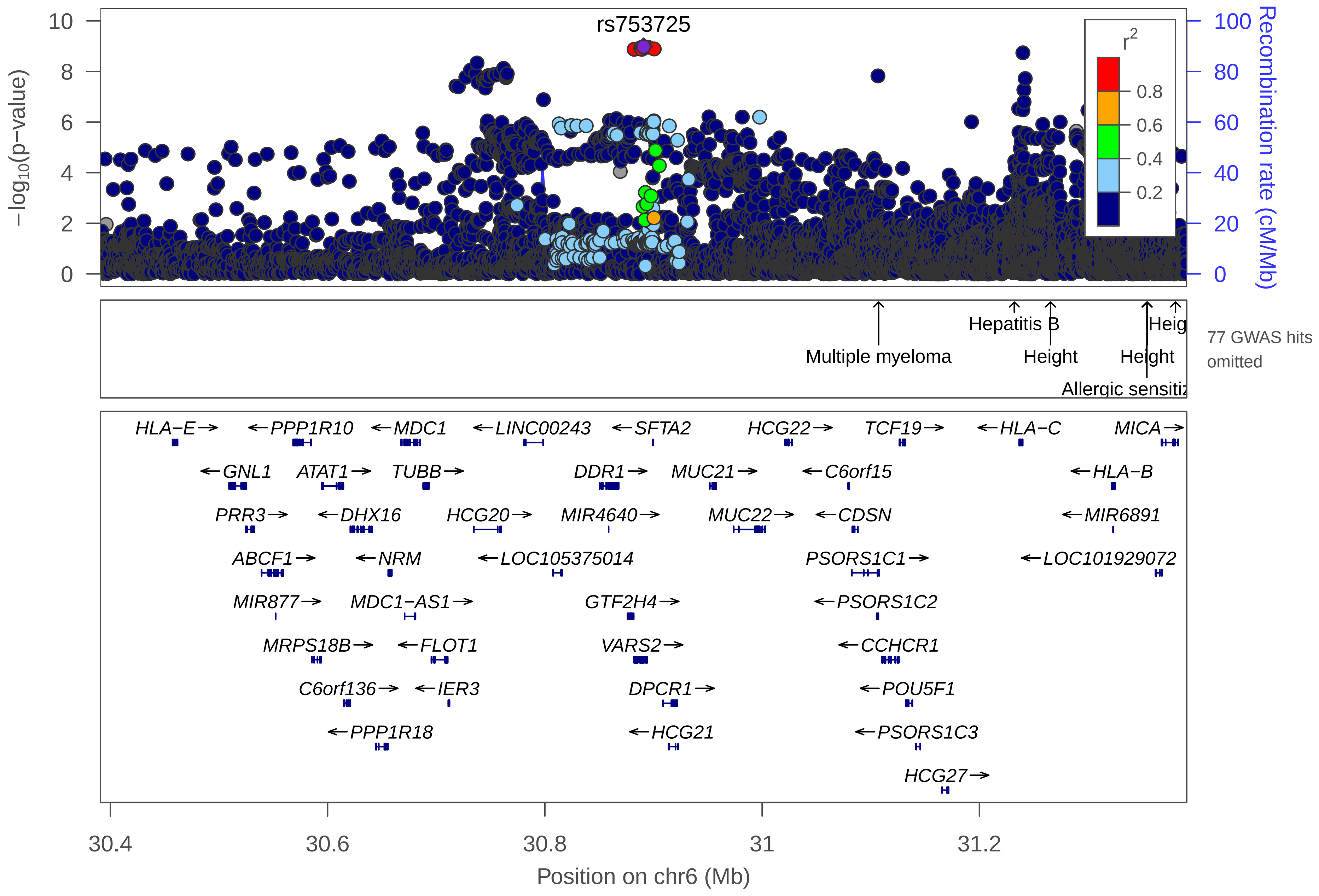

rs57440165
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
20
15
10
5
0
100
80
60
40
20
0
Educational attainment
Schizophrenia
Schizophrenia
Schizophrenia
2 GWAS hits omitted
BTN3A2→
BTN2A2→
BTN3A1→
BTN2A3P→
BTN3A3→
BTN2A1→
←LOC285819
BTN1A1→
HCG11→
HMGN4→
LOC105374988→
ABT1→
←ZNF322
←GUSBP2
LINC00240→
←LOC100270746
←HIST1H2BJ
HIST1H2AG→
←HIST1H2BK
HIST1H4I→
HIST1H2AH→
MIR3143→
PRSS16→
←POM121L2
VN1R10P→
←ZNF204P
ZNF391→
26.4
26.6
26.8
27
27.2
Position on chr6 (Mb)

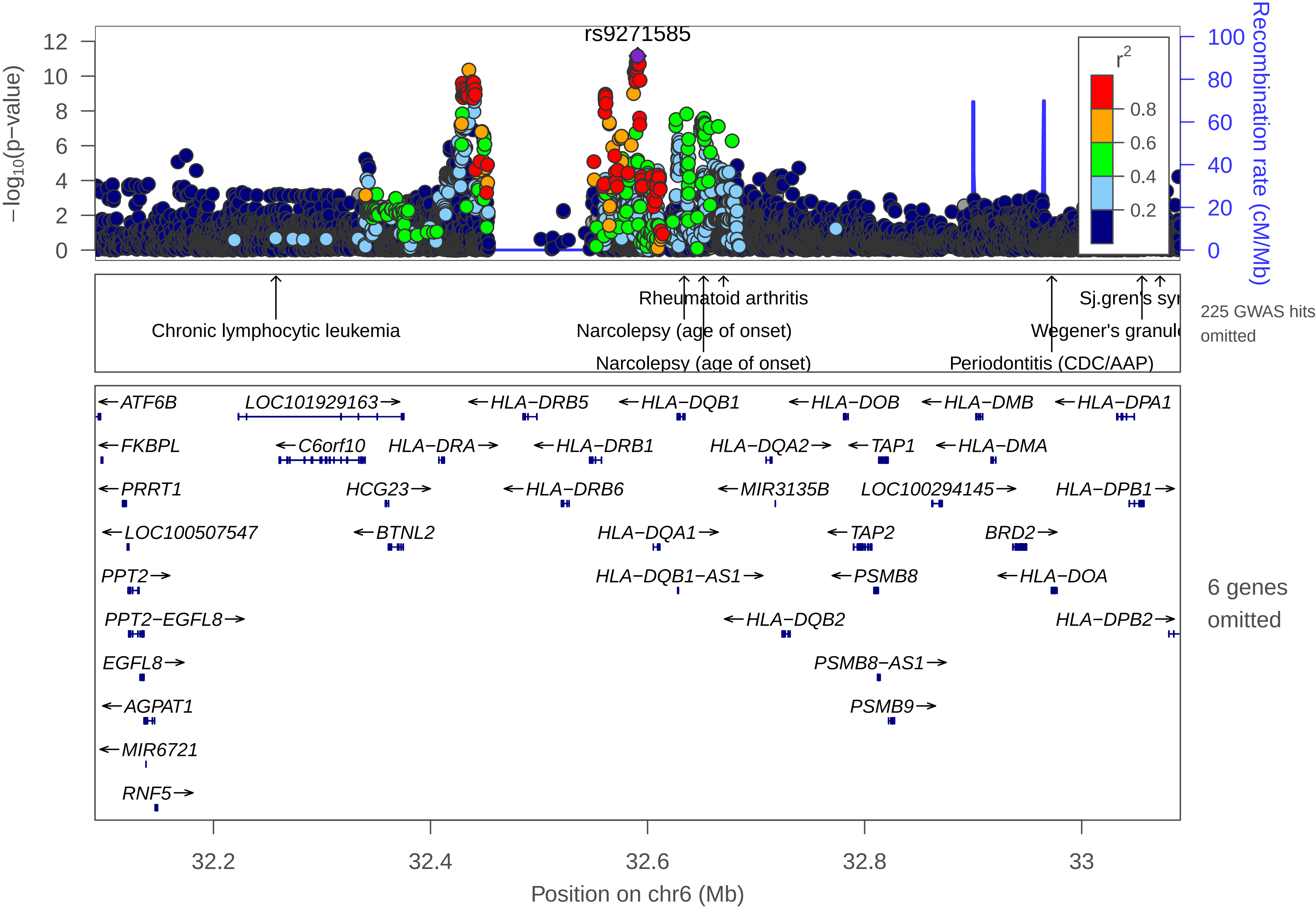

rs35501037
−log10(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r²
0.8
0.6
0.4
0.2
Schizophrenia, schizoaffective disorder or bipolar disorder
chizophrenia
Schizoph
Pubertal anthropometrics
Cardiac Troponin−T levels
2 GWAS hits omitted
←POM121L2
VN1R10P→
←ZNF184
←ZNF204P
ZNF391→
LINC01012→
LOC100131289→
←HIST1H4K
←HIST1H2BL
HIST1H2AI→
HIST1H3H→
←HIST1H2AJ
HIST1H2BM→
HIST1H4J→
←HIST1H2AK
HIST1H2BN→
OR2B6→
←OR2B2
ZNF165→
ZSCAN12P1→
←ZSCAN16−AS1
ZSCAN16→
ZKSCAN8→
ZNF192P1→
←TOB2P1
ZSCAN9→
←ZKSCAN4
NKAPL→
ZSCAN26→
7 genes omitted
27.4
27.6
27.8
28
28.2
Position on chr6 (Mb)

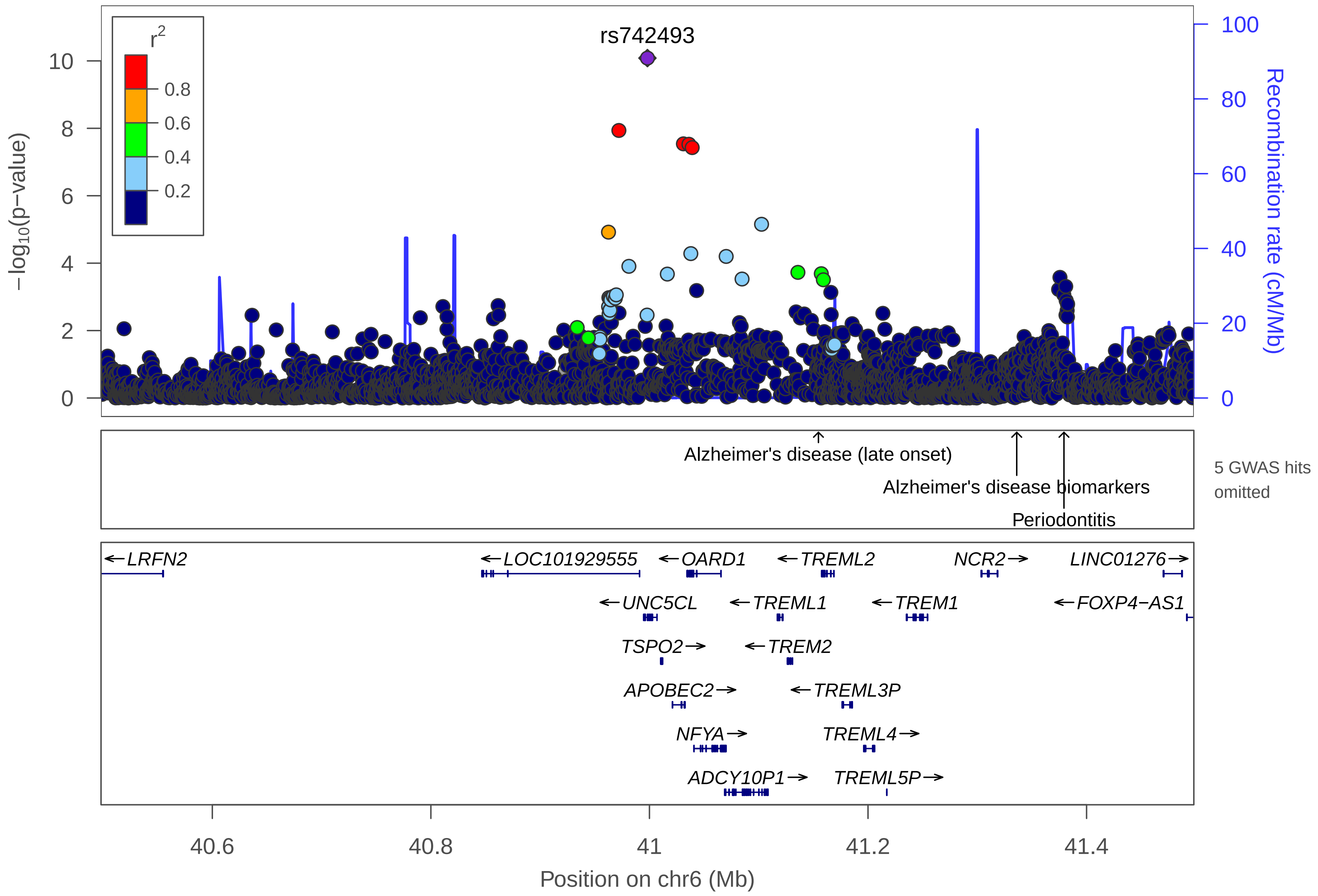

rs7752448
−log$_{10}$(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r^2
0.8
0.6
0.4
0.2
Pubertal anthropometrics
Cardiac Troponin−T levels
Schizophrenia
Pulmonary function
Lung adenoca
←HIST1H2AK
HIST1H2BN→
HIST1H2AL→
←HIST1H1B
←HIST1H3I
←HIST1H4L
←HIST1H3J
←HIST1H2AM
HIST1H2BO→
←OR2B2
ZNF165→
ZSCAN12P1→
←ZSCAN16−AS1
ZSCAN16→
ZKSCAN8→
ZNF192P1→
←TOB2P1
ZSCAN9→
NKAPL→
←ZKSCAN4
ZSCAN26→
PGBD1→
←ZSCAN31
ZKSCAN3→
←ZSCAN12
←ZSCAN23
←GPX6
GPX5→
←ZBED9
←LINC00533
1 gene omitted
28
28.2
28.4
28.6
28.8
Position on chr6 (Mb)

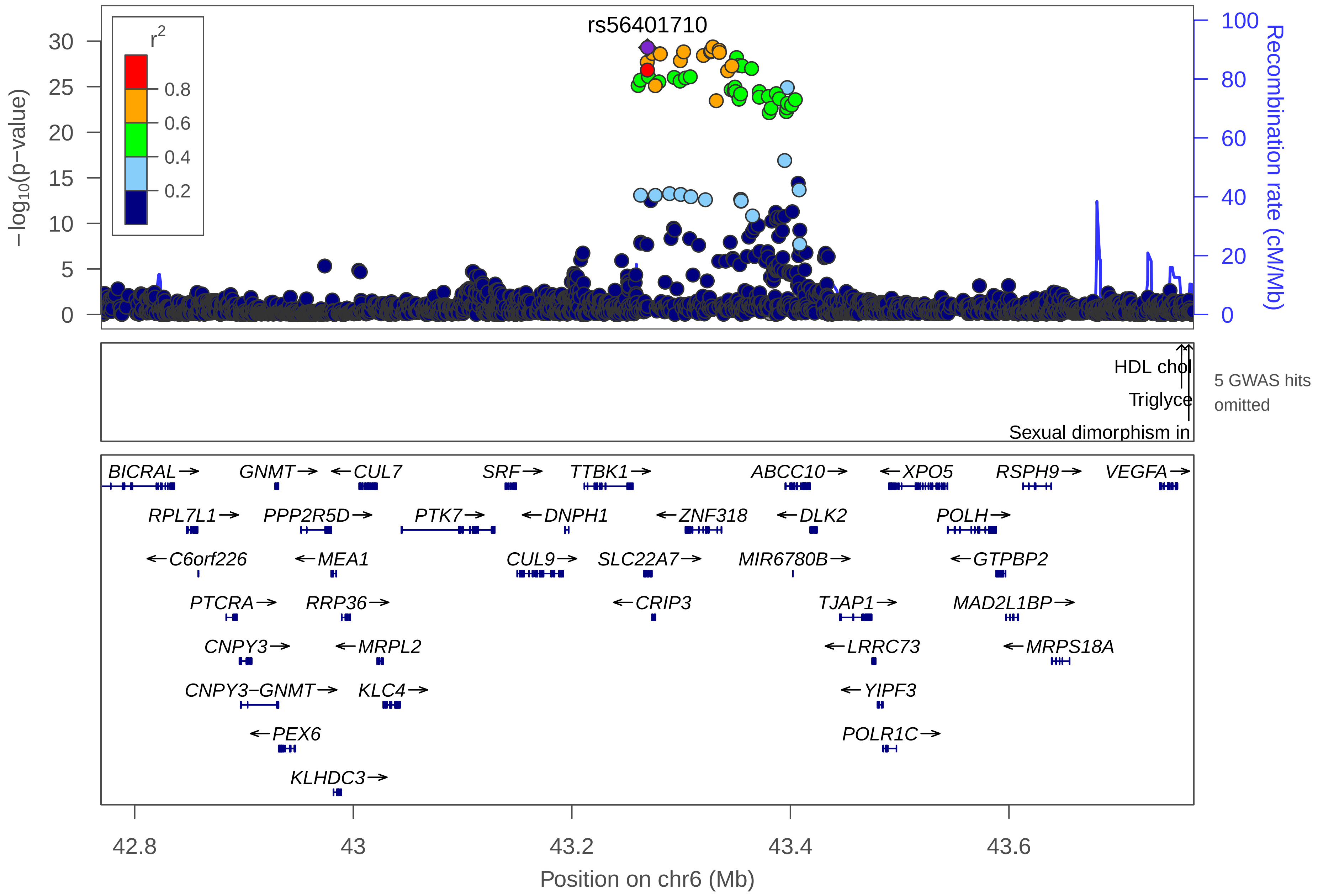

−log10(p−value)
14
12
10
8
6
4
2
0
rs3118365
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
Social communication problems
Height
Platelet aggregation
1 GWAS hit omitted
←ZSCAN12
GPX5→
←LINC00533
←LINC01623
HCG15→
←OR2B3
LOC101929006→
←ZSCAN23
←ZBED9
HCG14→
←ZNF311
OR2J1→
OR14J1→
←GPX6
←TRIM27
LOC100129636→
←OR5V1
LINC01556→
OR2J3→
←OR2W1
OR2J2→
28.4
28.6
28.8
29
29.2
Position on chr6 (Mb)

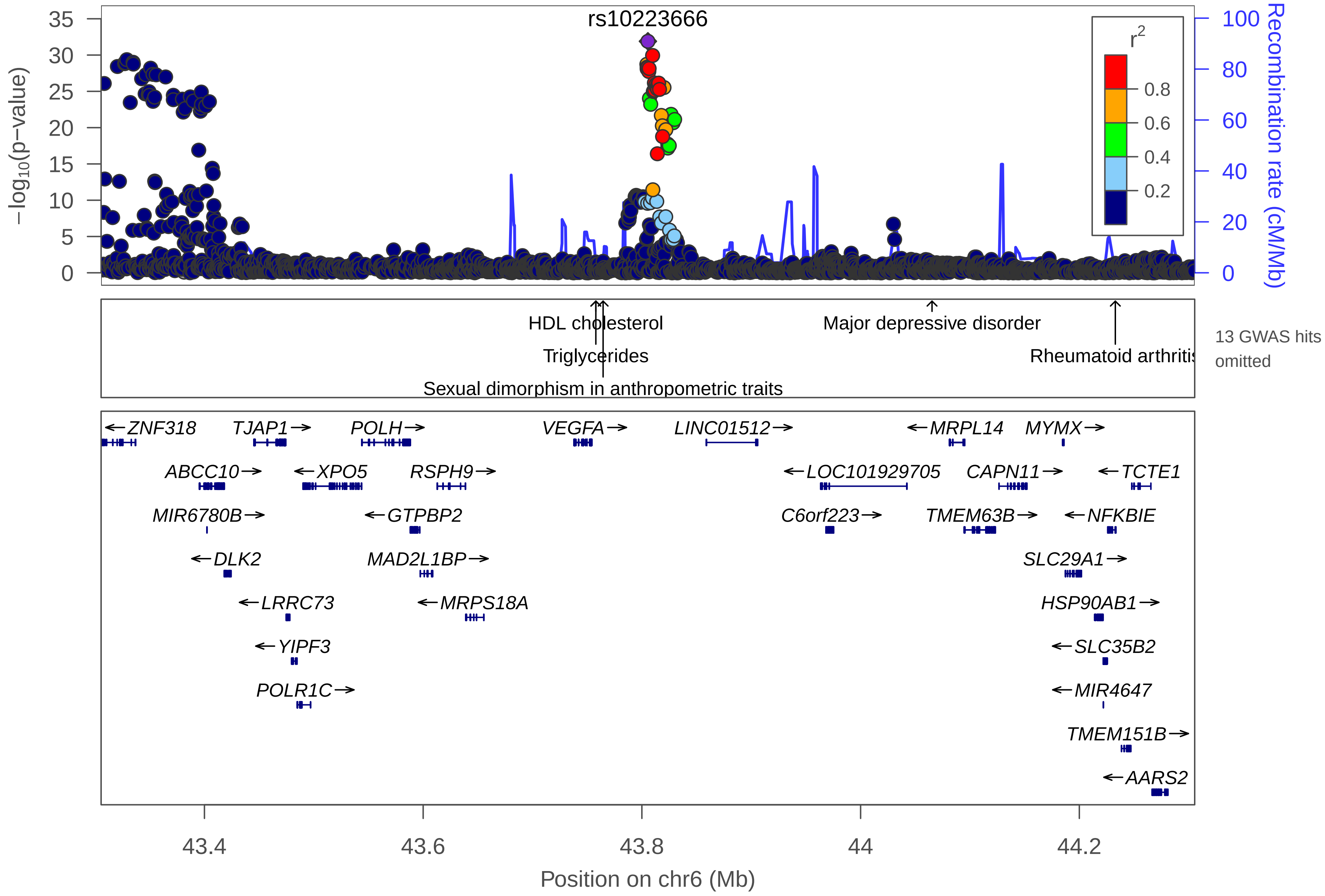

rs429479
−log10(p−value)
12
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Social communication problems
Retinopathy in non−diabetics
Height
Migraine without aura
Crohn's disease
Rheumatoid arthritis
IgE leve
11 GWAS hits omitted
←TRIM27
←OR2B3
LOC101929006→
OR12D2→
LINC01015→
MOG→
←HCG4
LINC01556→
OR2J1→
OR14J1→
OR12D1→
←UBD
←ZFP57
LOC554223→
HCG15→
OR2J3→
←OR5V1
OR2H1→
SNORD32B→
HLA−F→
HLA−G→
←ZNF311
OR2J2→
←OR12D3
←MAS1L
OR2H2→
←HLA−F−AS1
←HCP5B
LOC100129636→
←OR11A1
←GABBR1
←IFITM4P
HLA−H→
←OR2W1
OR10C1→
←ZNRD1ASP
29
29.2
29.4
29.6
29.8
Position on chr6 (Mb)

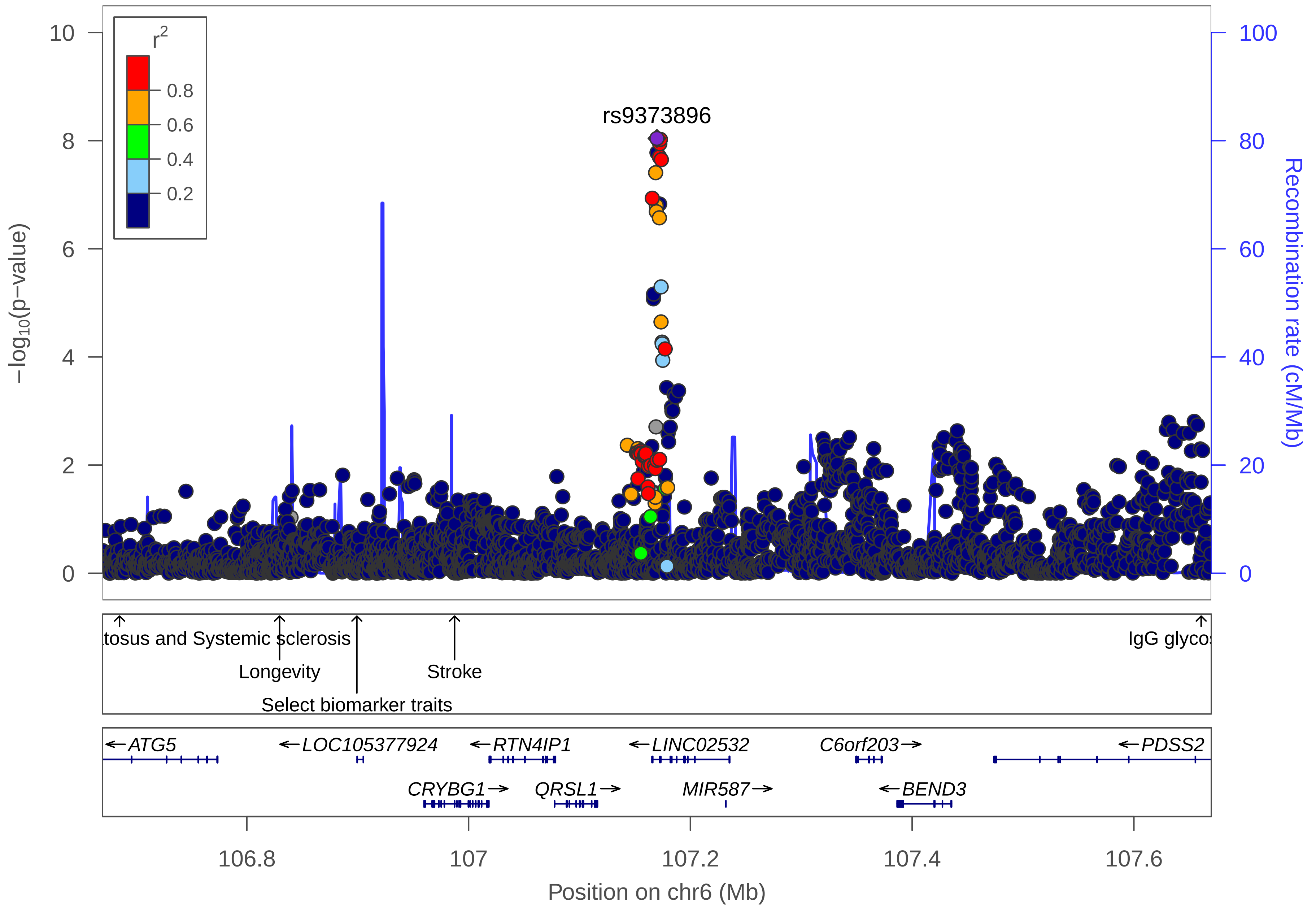

rs753725
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
Multiple myeloma
Hepatitis B
Height
Height
Heig
Allergic sensitiz
77 GWAS hits omitted
HLA−E→
←PPP1R10
←MDC1
←LINC00243
←SFTA2
HCG22→
TCF19→
←HLA−C
MICA→
←GNL1
ATAT1→
TUBB→
DDR1→
MUC21→
←C6orf15
←HLA−B
PRR3→
←DHX16
HCG20→
MIR4640→
MUC22→
←CDSN
←MIR6891
ABCF1→
←NRM
←LOC105375014
PSORS1C1→
←LOC101929072
MIR877→
MDC1−AS1→
GTF2H4→
←PSORS1C2
MRPS18B→
←FLOT1
VARS2→
←CCHCR1
C6orf136→
←IER3
DPCR1→
←POU5F1
←PPP1R18
←HCG21
←PSORS1C3
HCG27→
30.4
30.6
30.8
31
31.2
Position on chr6 (Mb)

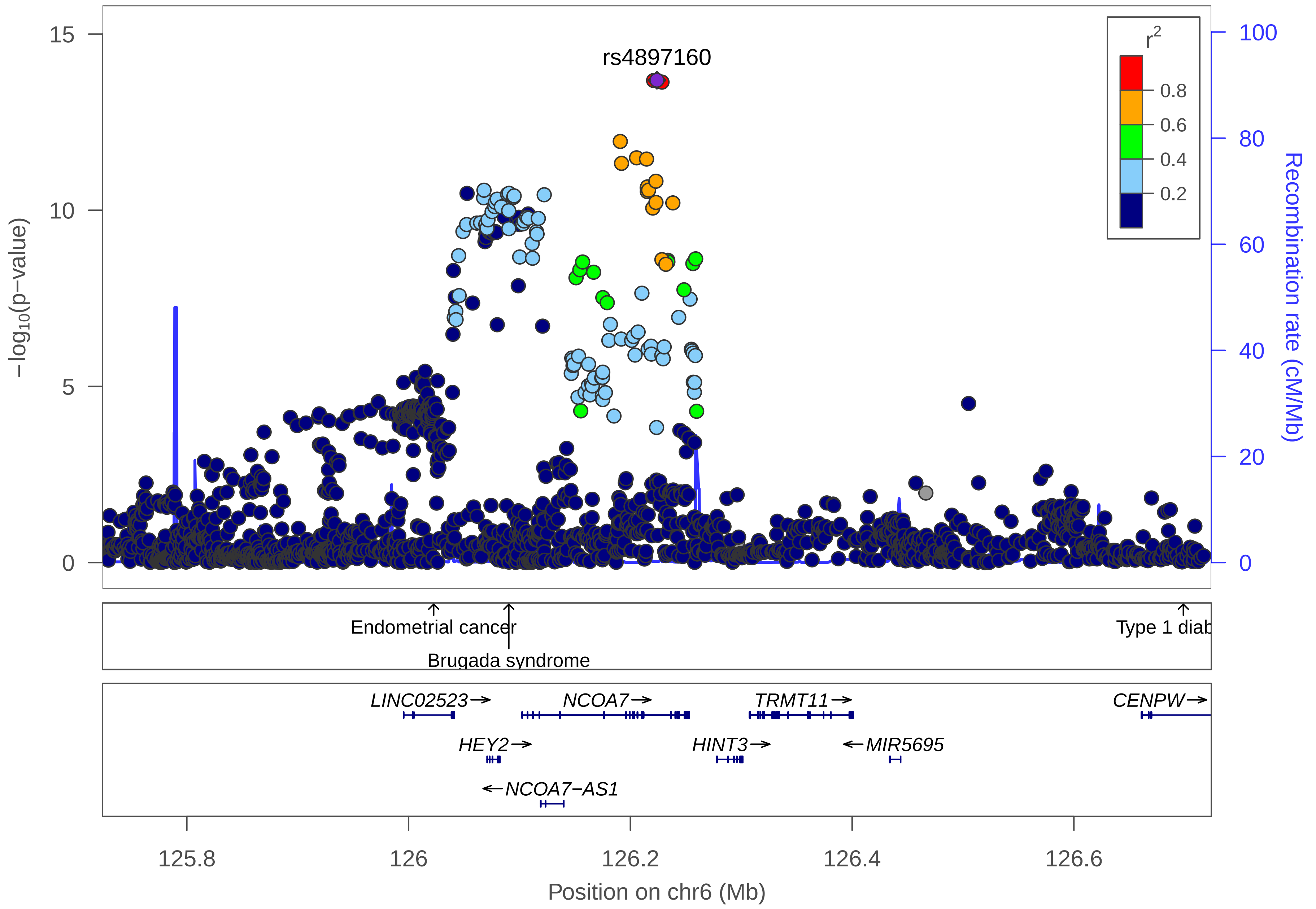

rs9271585
−log10(p−value)
12
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Chronic lymphocytic leukemia
Rheumatoid arthritis
Narcolepsy (age of onset)
Narcolepsy (age of onset)
Sj.gren's syı
Wegener's granulı
Periodontitis (CDC/AAP)
225 GWAS hits omitted
←ATF6B
LOC101929163→
←HLA−DRB5
←HLA−DQB1
←HLA−DOB
←HLA−DMB
←HLA−DPA1
←FKBPL
←C6orf10
HLA−DRA→
←HLA−DRB1
HLA−DQA2→
←TAP1
←HLA−DMA
←PRRT1
HCG23→
←HLA−DRB6
←MIR3135B
LOC100294145→
HLA−DPB1→
←LOC100507547
←BTNL2
HLA−DQA1→
←TAP2
BRD2→
PPT2→
HLA−DQB1−AS1→
←PSMB8
←HLA−DOA
PPT2−EGFL8→
←HLA−DQB2
HLA−DPB2→
EGFL8→
PSMB8−AS1→
←AGPAT1
PSMB9→
←MIR6721
RNF5→
6 genes omitted
32.2
32.4
32.6
32.8
33
Position on chr6 (Mb)

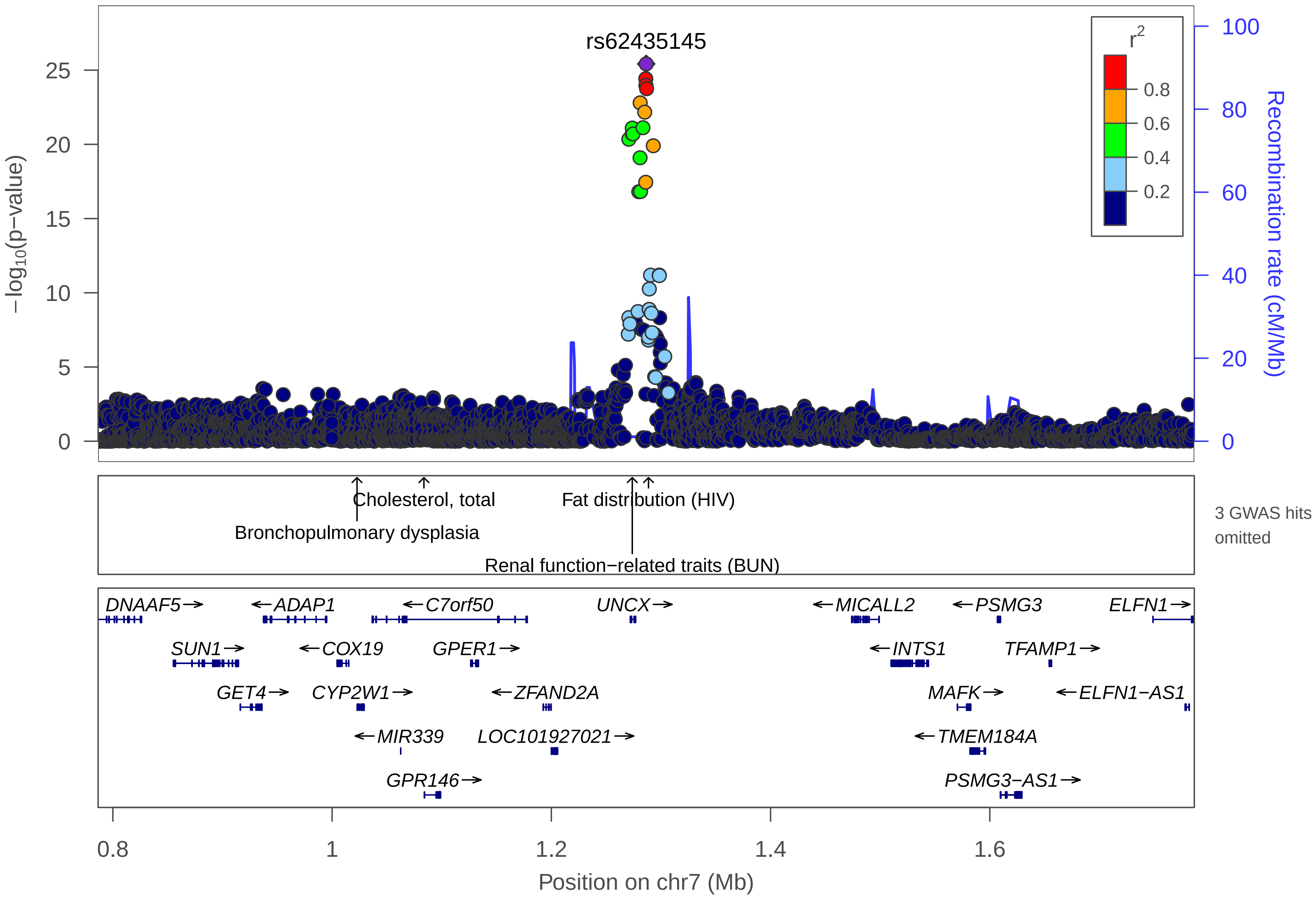

rs742493
r²
0.8
0.6
0.4
0.2
−log₁₀(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
Alzheimer's disease (late onset)
Alzheimer's disease biomarkers
Periodontitis
5 GWAS hits omitted
←LRFN2
←LOC101929555
←OARD1
←TREML2
NCR2→
LINC01276→
←UNC5CL
←TREML1
←TREM1
←FOXP4−AS1
TSPO2→
←TREM2
APOBEC2→
←TREML3P
NFYA→
TREML4→
ADCY10P1→
TREML5P→
40.6
40.8
41
41.2
41.4
Position on chr6 (Mb)

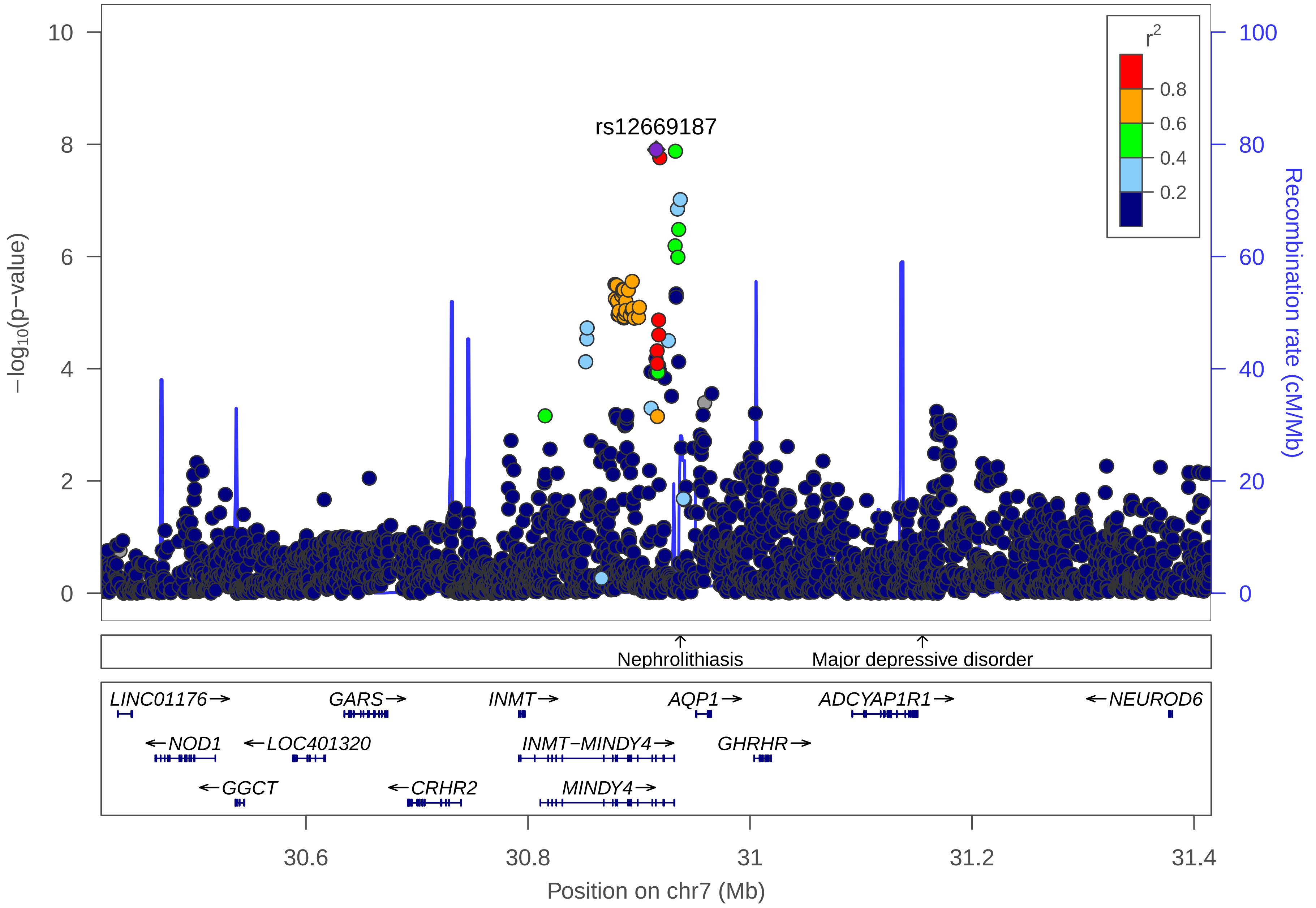

rs56401710
r²
0.8
0.6
0.4
0.2
−log10(p−value)
30
25
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
HDL chol
Triglyce
Sexual dimorphism in
5 GWAS hits omitted
BICRAL→
GNMT→
←CUL7
SRF→
TTBK1→
ABCC10→
←XPO5
RSPH9→
VEGFA→
RPL7L1→
PPP2R5D→
PTK7→
←DNPH1
←ZNF318
←DLK2
POLH→
←C6orf226
←MEA1
CUL9→
SLC22A7→
MIR6780B→
←GTPBP2
PTCRA→
RRP36→
←CRIP3
TJAP1→
MAD2L1BP→
CNPY3→
←MRPL2
←LRRC73
←MRPS18A
CNPY3−GNMT→
KLC4→
←YIPF3
←PEX6
POLR1C→
KLHDC3→
42.8
43
43.2
43.4
43.6
Position on chr6 (Mb)

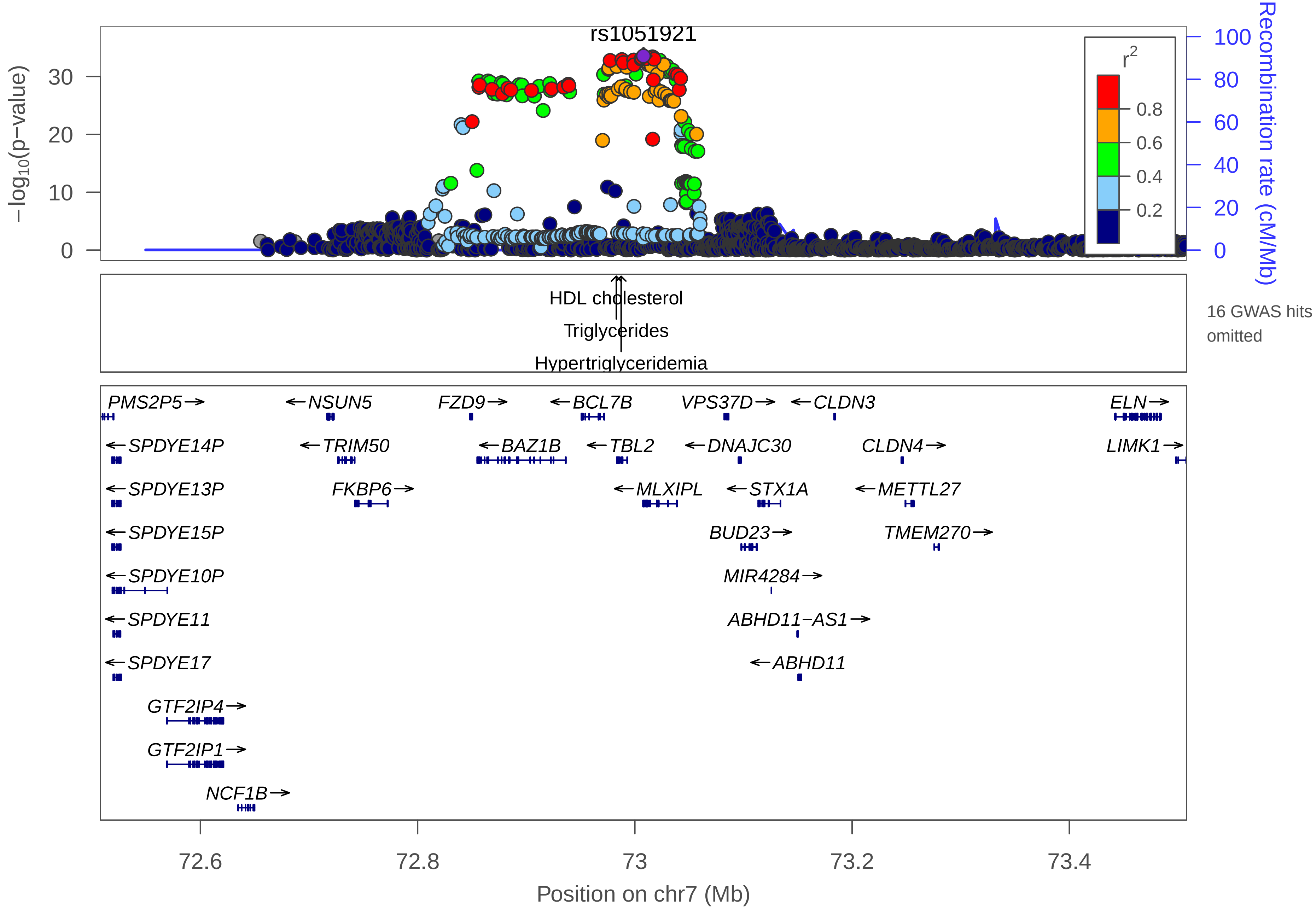

rs10223666
−log10(p−value)
35
30
25
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
HDL cholesterol
Triglycerides
Sexual dimorphism in anthropometric traits
Major depressive disorder
Rheumatoid arthritis
13 GWAS hits omitted
←ZNF318
TJAP1→
POLH→
VEGFA→
LINC01512→
←MRPL14
MYMX→
ABCC10→
←XPO5
RSPH9→
←LOC101929705
CAPN11→
←TCTE1
MIR6780B→
←GTPBP2
C6orf223→
TMEM63B→
←NFKBIE
←DLK2
MAD2L1BP→
SLC29A1→
←LRRC73
←MRPS18A
HSP90AB1→
←YIPF3
←SLC35B2
POLR1C→
←MIR4647
TMEM151B→
←AARS2
43.4
43.6
43.8
44
44.2
Position on chr6 (Mb)

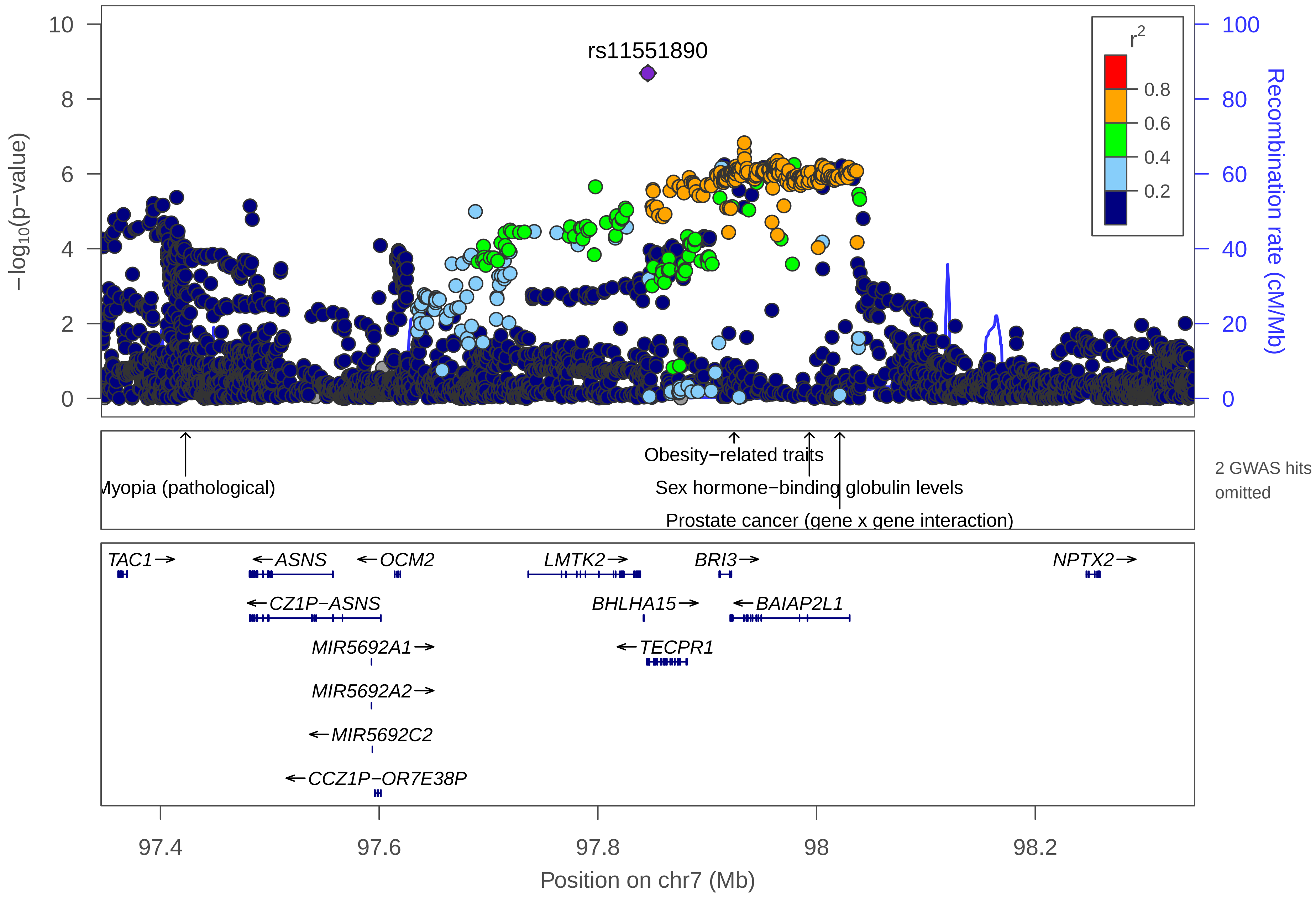

rs9373896
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
tosus and Systemic sclerosis
Longevity
Select biomarker traits
Stroke
IgG glyco
←ATG5
←LOC105377924
←RTN4IP1
←LINC02532
C6orf203→
←PDSS2
CRYBG1→
QRSL1→
MIR587→
←BEND3
106.8
107
107.2
107.4
107.6
Position on chr6 (Mb)


rs4897160
r2
0.8
0.6
0.4
0.2
−log10(p−value)
15
10
5
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
Endometrial cancer
Brugada syndrome
Type 1 diab
LINC02523→
NCOA7→
TRMT11→
CENPW→
HEY2→
HINT3→
←MIR5695
←NCOA7−AS1
125.8
126
126.2
126.4
126.6
Position on chr6 (Mb)

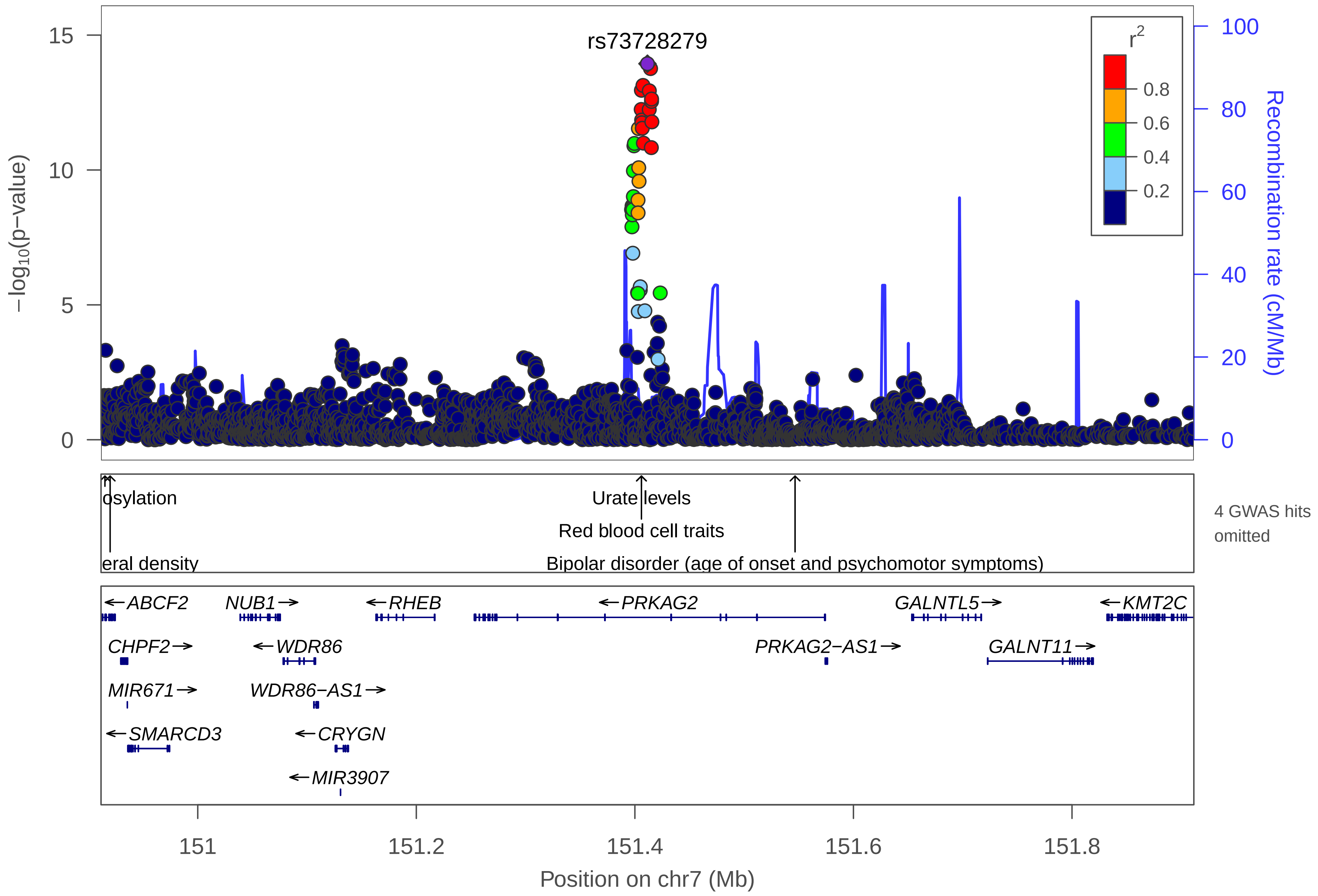

rs62435145
r^2
0.8
0.6
0.4
0.2
−log$_{10}$(p−value)
25
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Cholesterol, total
Bronchopulmonary dysplasia
Fat distribution (HIV)
Renal function−related traits (BUN)
3 GWAS hits omitted
DNAAF5→
←ADAP1
←C7orf50
UNCX→
←MICALL2
←PSMG3
ELFN1→
SUN1→
←COX19
GPER1→
←INTS1
TFAMP1→
GET4→
CYP2W1→
←ZFAND2A
MAFK→
←ELFN1−AS1
←MIR339
LOC101927021→
←TMEM184A
GPR146→
PSMG3−AS1→
0.8
1
1.2
1.4
1.6
Position on chr7 (Mb)

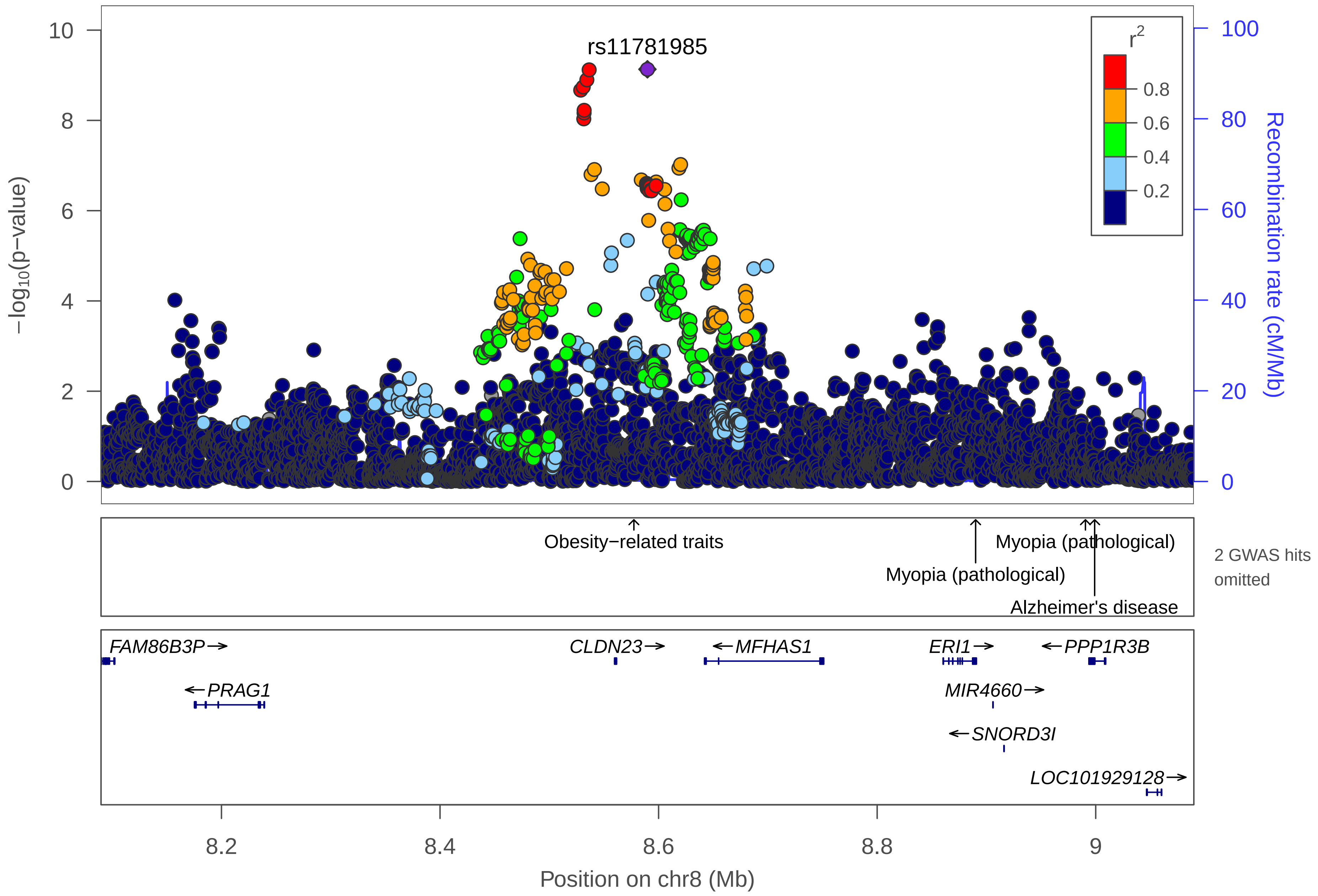

rs12669187
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
Nephrolithiasis
Major depressive disorder
LINC01176→
GARS→
INMT→
AQP1→
ADCYAP1R1→
←NEUROD6
←NOD1
←LOC401320
INMT−MINDY4→
GHRHR→
←GGCT
←CRHR2
MINDY4→
30.6
30.8
31
31.2
31.4
Position on chr7 (Mb)


rs1051921
−log10(p−value)
0
10
20
30
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.2
0.4
0.6
0.8
HDL cholesterol
Triglycerides
Hypertriglyceridemia
16 GWAS hits omitted
PMS2P5→
←SPDYE14P
←SPDYE13P
←SPDYE15P
←SPDYE10P
←SPDYE11
←SPDYE17
GTF2IP4→
GTF2IP1→
NCF1B→
←NSUN5
←TRIM50
FKBP6→
FZD9→
←BAZ1B
←BCL7B
←TBL2
←MLXIPL
VPS37D→
←DNAJC30
←STX1A
BUD23→
MIR4284→
ABHD11−AS1→
←ABHD11
←CLDN3
CLDN4→
←METTL27
TMEM270→
ELN→
LIMK1→
72.6
72.8
73
73.2
73.4
Position on chr7 (Mb)

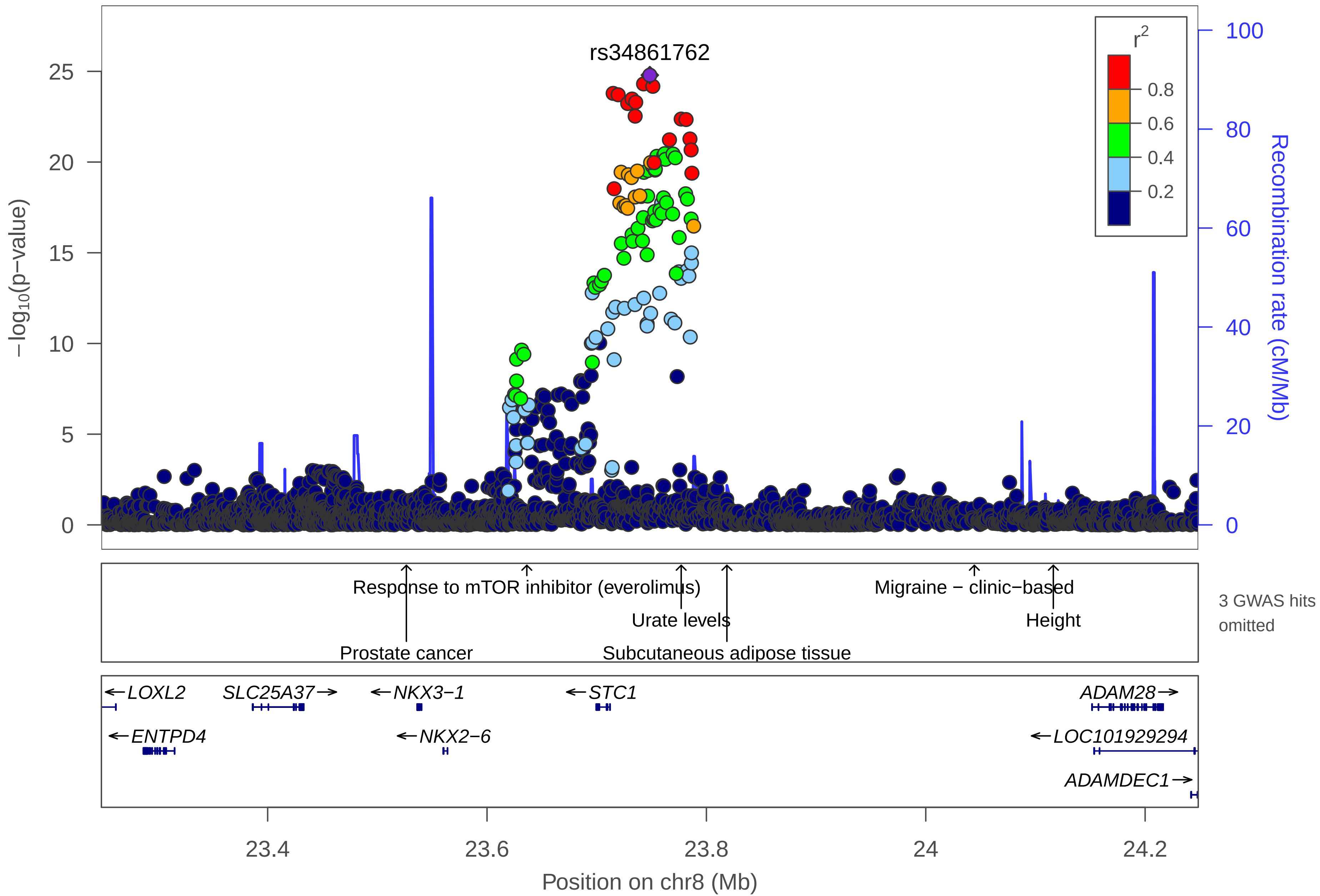


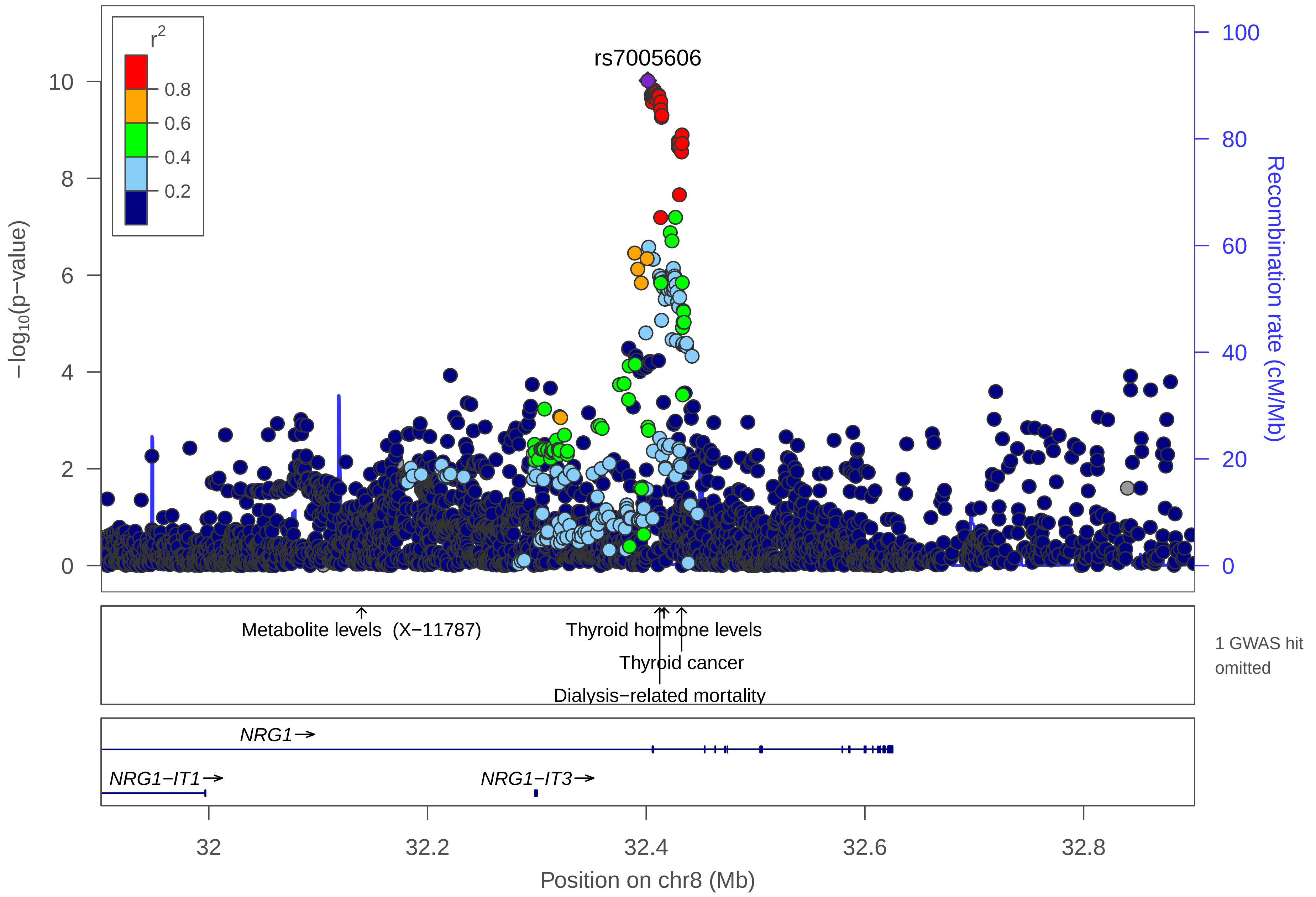
rs11551890
r^2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
$-\log_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Myopia (pathological)
Obesity−related traits
Sex hormone−binding globulin levels
Prostate cancer (gene x gene interaction)
2 GWAS hits omitted
TAC1→
←ASNS
←OCM2
LMTK2→
BRI3→
NPTX2→
←CZ1P−ASNS
BHLHA15→
←BAIAP2L1
MIR5692A1→
←TECPR1
MIR5692A2→
←MIR5692C2
←CCZ1P−OR7E38P
97.4
97.6
97.8
98
98.2
Position on chr7 (Mb)

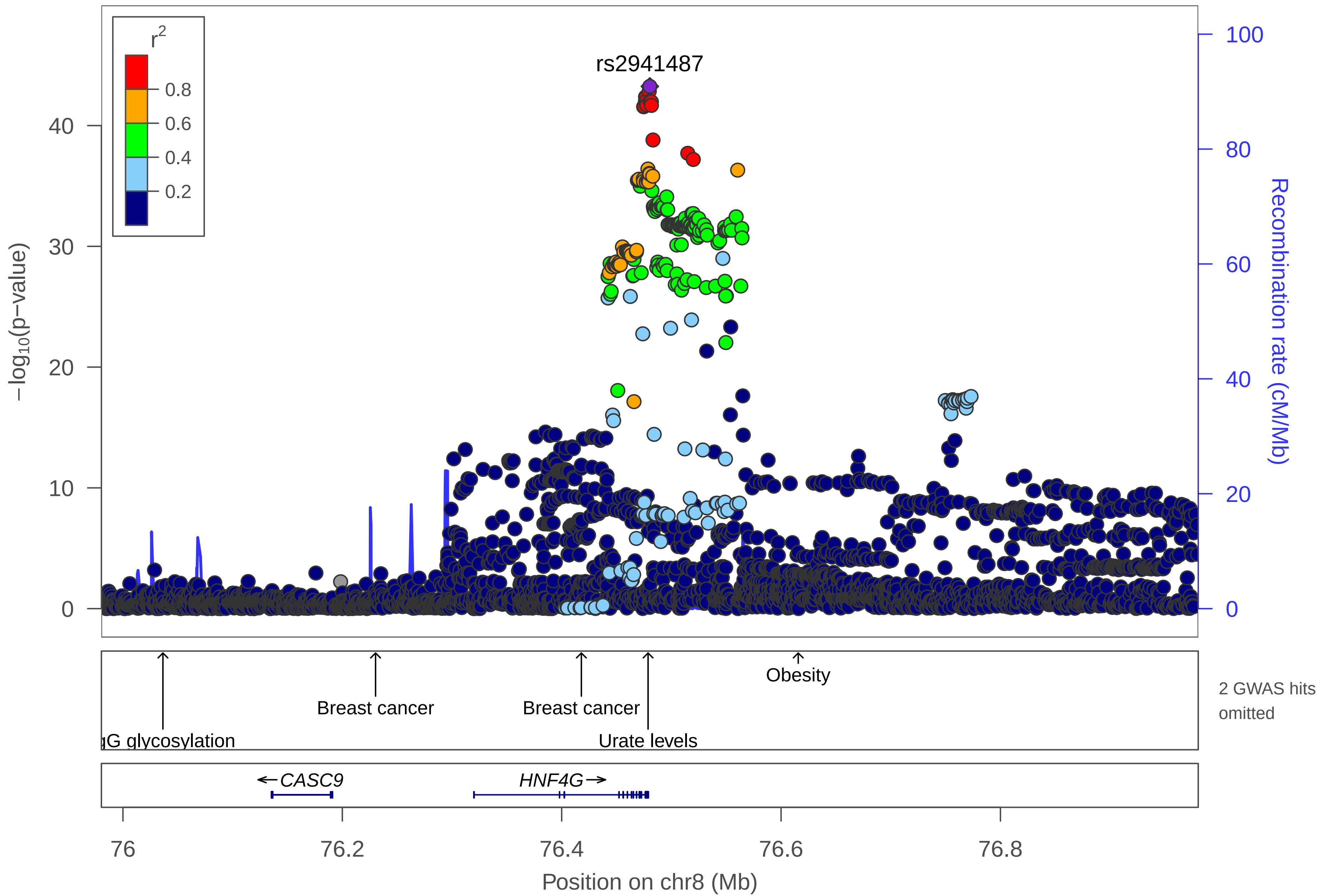

rs73728279
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
osylation
eral density
Urate levels
Red blood cell traits
Bipolar disorder (age of onset and psychomotor symptoms)
4 GWAS hits omitted
←ABCF2
NUB1→
←RHEB
←PRKAG2
GALNTL5→
←KMT2C
CHPF2→
←WDR86
PRKAG2−AS1→
GALNT11→
MIR671→
WDR86−AS1→
←SMARCD3
←CRYGN
←MIR3907
151
151.2
151.4
151.6
151.8
Position on chr7 (Mb)

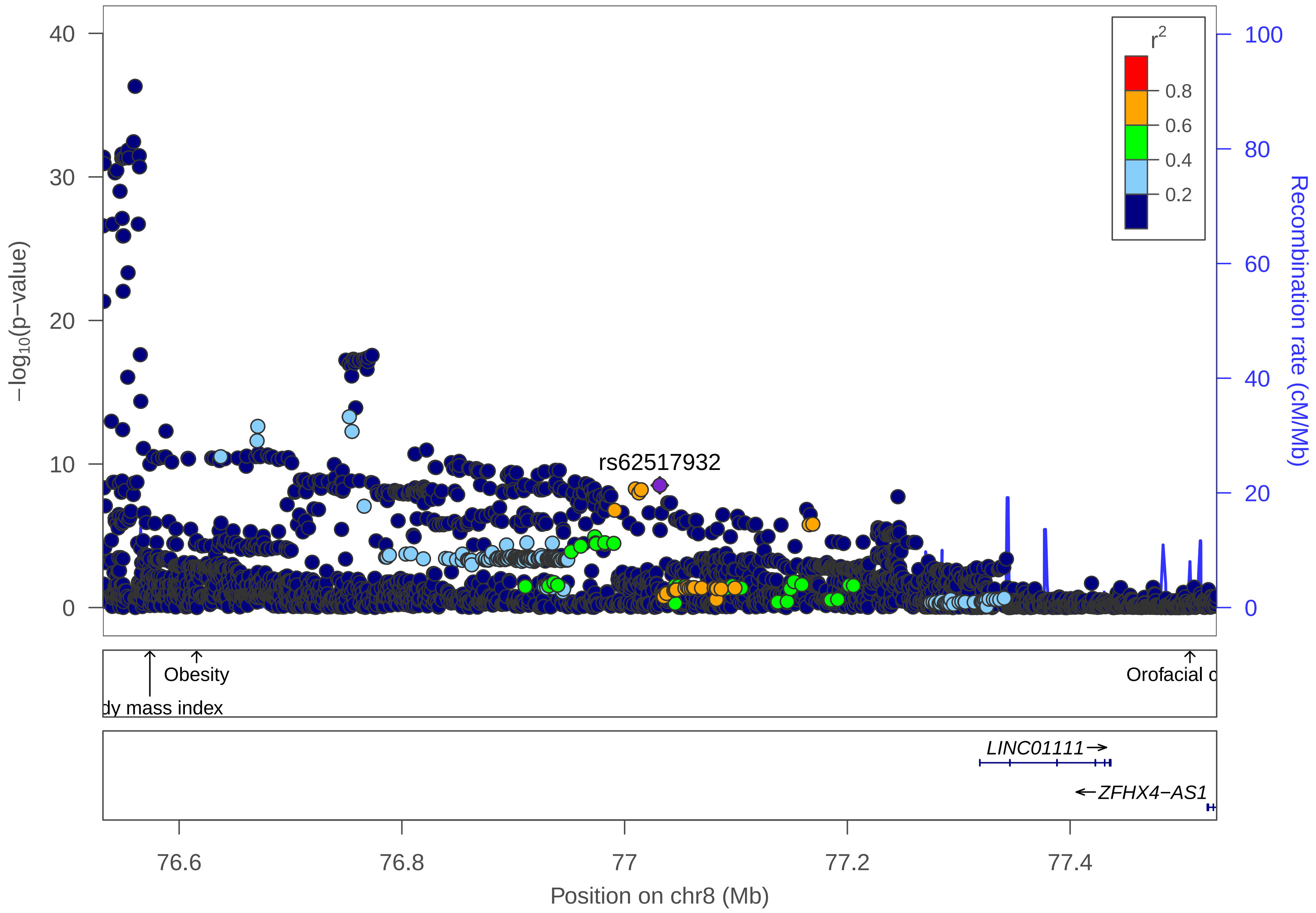


rs11781985
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Obesity−related traits
Myopia (pathological)
Myopia (pathological)
Alzheimer's disease
2 GWAS hits omitted
FAM86B3P
PRAG1
CLDN23
MFHAS1
ERI1
MIR4660
SNORD3I
PPP1R3B
LOC101929128
8.2
8.4
8.6
8.8
9
Position on chr8 (Mb)

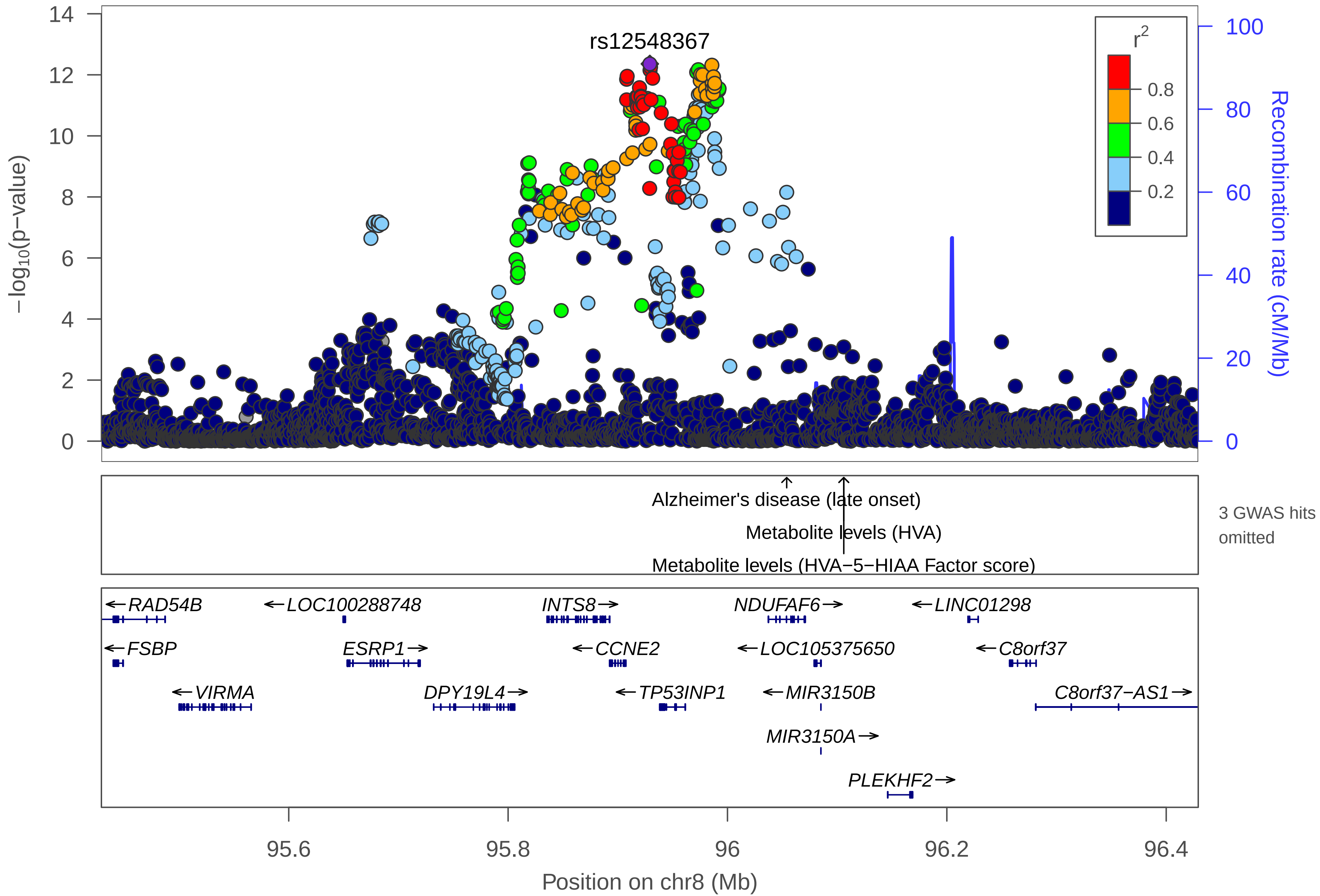

rs34861762
r²
0.8
0.6
0.4
0.2
25
20
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Response to mTOR inhibitor (everolimus)
Migraine − clinic−based
Urate levels
Height
Prostate cancer
Subcutaneous adipose tissue
3 GWAS hits omitted
←LOXL2
SLC25A37→
←NKX3−1
←STC1
ADAM28→
←ENTPD4
←NKX2−6
←LOC101929294
ADAMDEC1→
23.4
23.6
23.8
24
24.2
Position on chr8 (Mb)

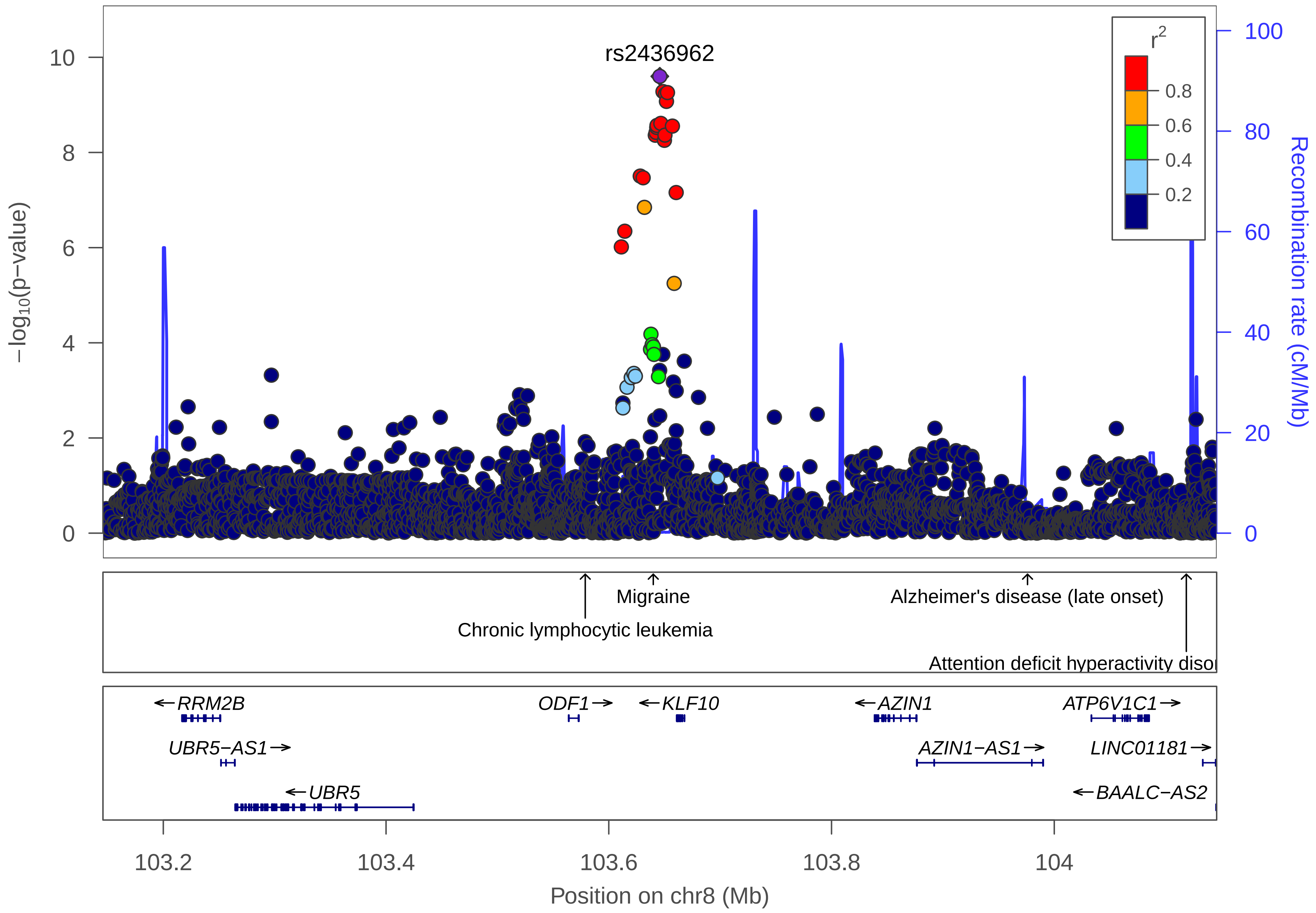

r²
0.8
0.6
0.4
0.2
rs7005606
−log10(p−value)
Recombination rate (cM/Mb)
0
2
4
6
8
10
0
20
40
60
80
100
Metabolite levels (X−11787)
Thyroid hormone levels
Thyroid cancer
Dialysis−related mortality
1 GWAS hit omitted
NRG1→
NRG1−IT1→
NRG1−IT3→
32
32.2
32.4
32.6
32.8
Position on chr8 (Mb)

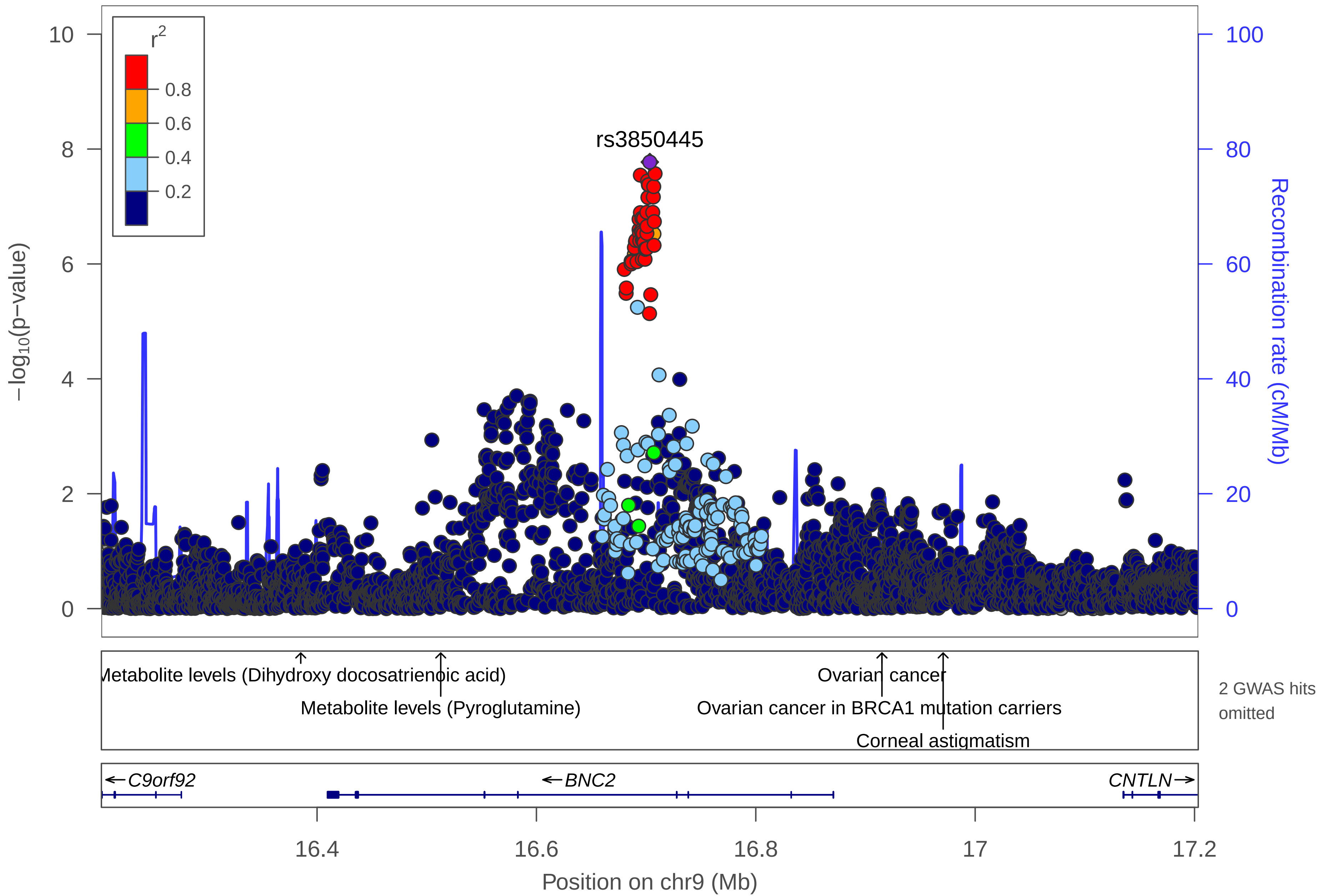

r^2
0.8
0.6
0.4
0.2
rs2941487
$-\log_{10}$(p−value)
0
10
20
30
40
Recombination rate (cM/Mb)
0
20
40
60
80
100
Breast cancer
Breast cancer
Obesity
gG glycosylation
Urate levels
2 GWAS hits omitted
←CASC9
HNF4G→
76
76.2
76.4
76.6
76.8
Position on chr8 (Mb)

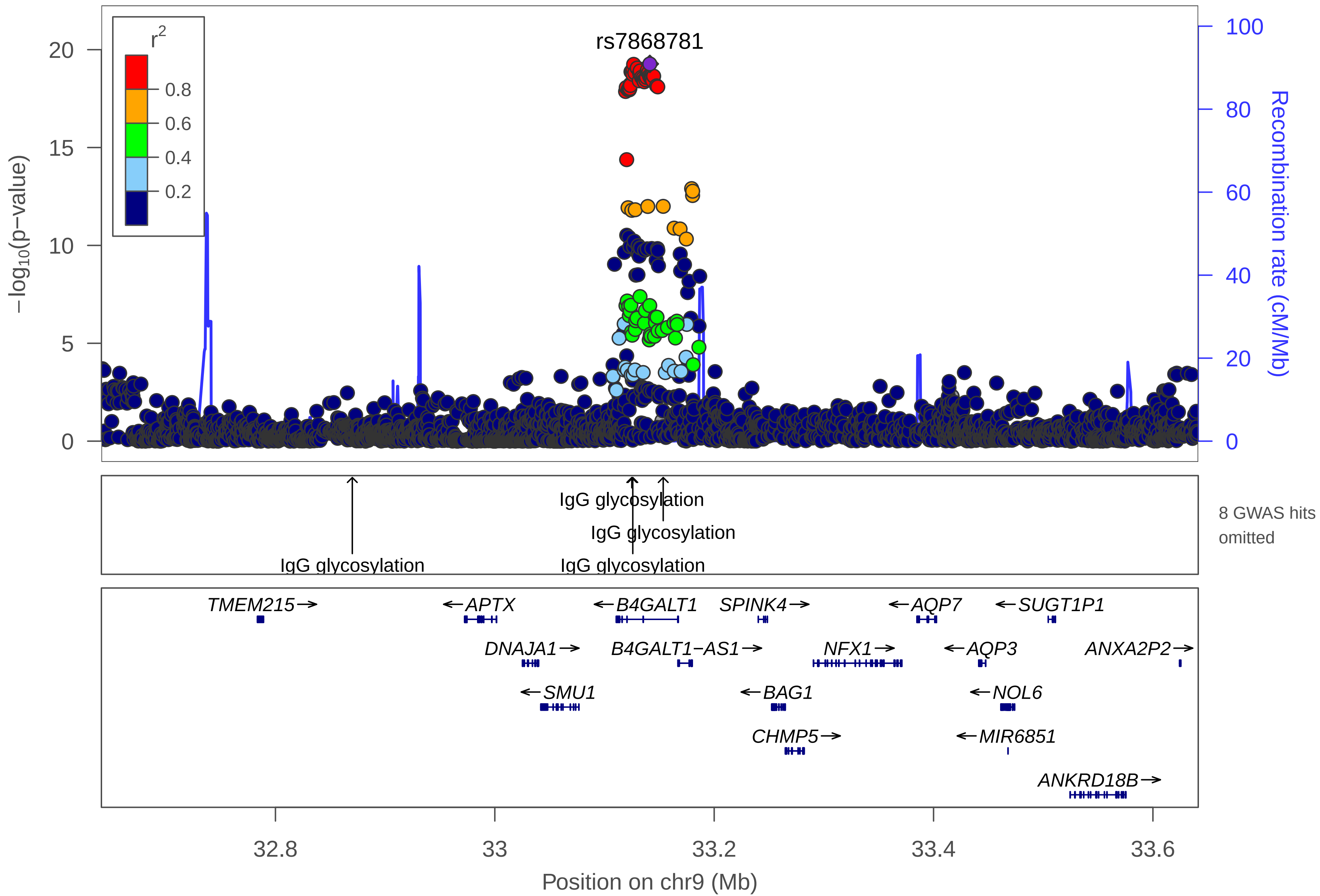


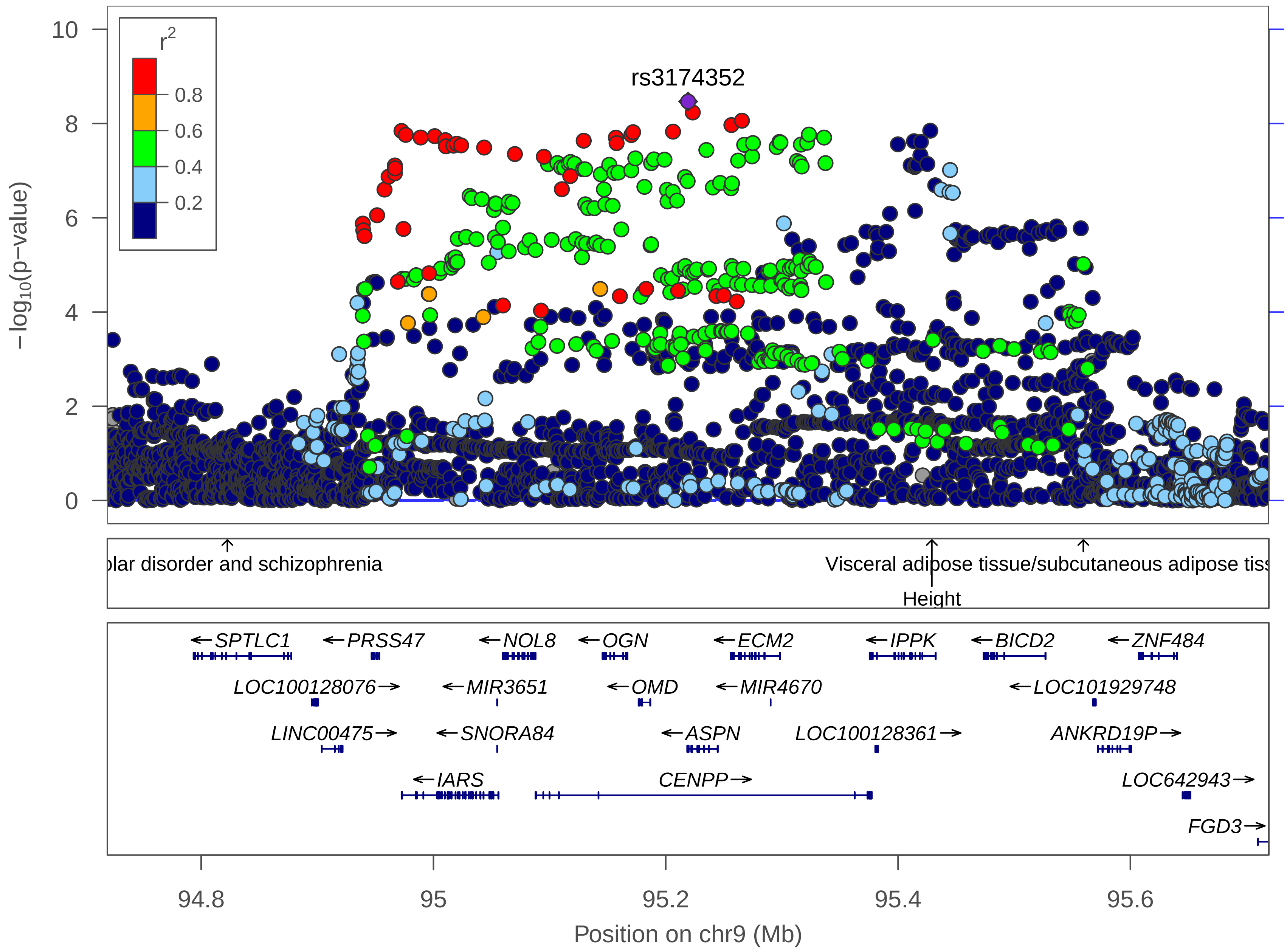
40
30
20
10
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
rs62517932
Obesity
dy mass index
Orofacial c
LINC01111→
←ZFHX4−AS1
76.6
76.8
77
77.2
77.4
Position on chr8 (Mb)

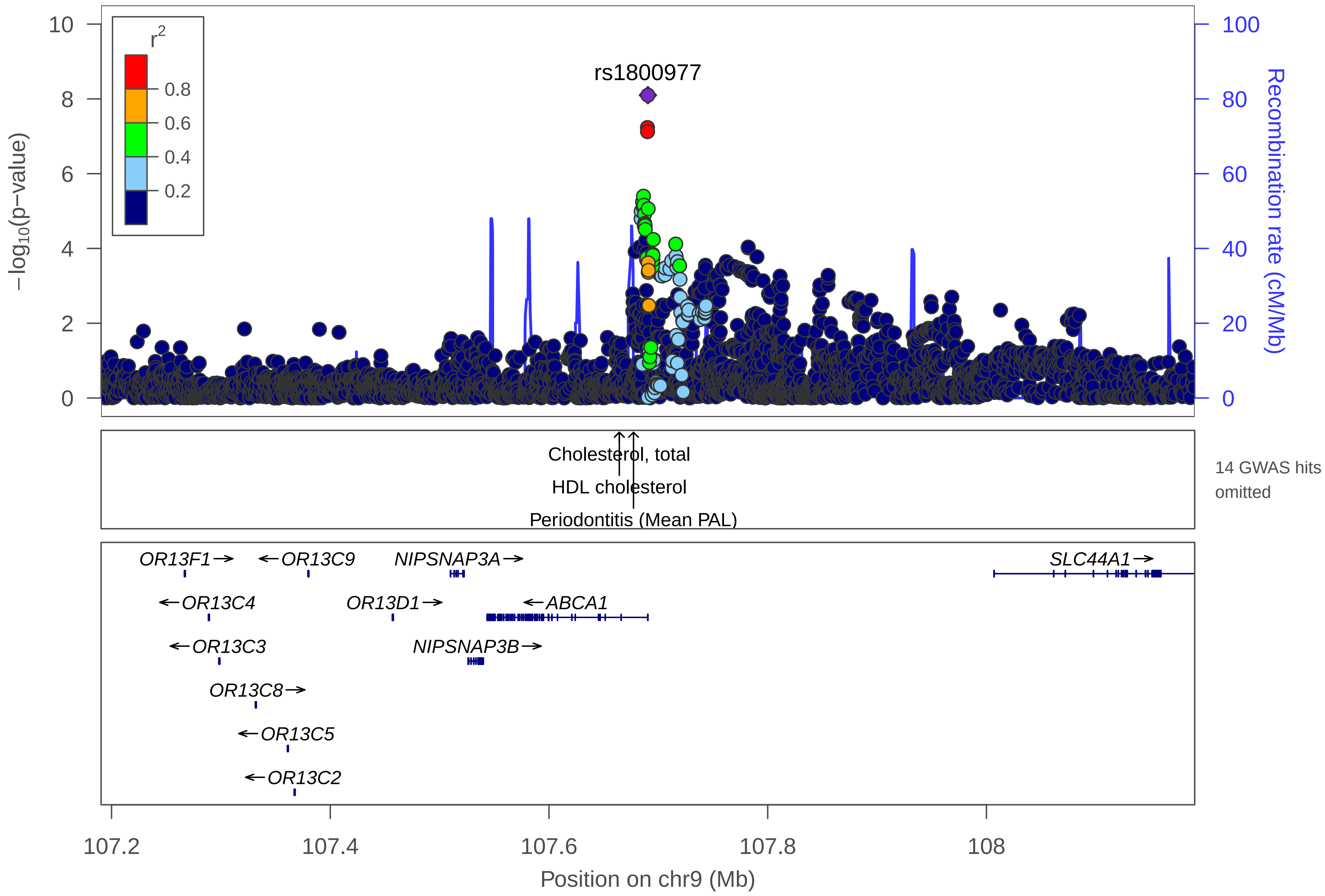

rs12548367
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
14
12
10
8
6
4
2
0
100
80
60
40
20
0
Alzheimer's disease (late onset)
Metabolite levels (HVA)
Metabolite levels (HVA−5−HIAA Factor score)
3 GWAS hits omitted
←RAD54B
←LOC100288748
INTS8→
NDUFAF6→
←LINC01298
←FSBP
ESRP1→
←CCNE2
←LOC105375650
←C8orf37
←VIRMA
DPY19L4→
←TP53INP1
←MIR3150B
C8orf37−AS1→
MIR3150A→
PLEKHF2→
95.6
95.8
96
96.2
96.4
Position on chr8 (Mb)


rs2436962
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.8
0.6
0.4
0.2
Migraine
Chronic lymphocytic leukemia
Alzheimer's disease (late onset)
Attention deficit hyperactivity disor
← RRM2B
ODF1 →
← KLF10
← AZIN1
ATP6V1C1 →
UBR5−AS1 →
AZIN1−AS1 →
LINC01181 →
← UBR5
← BAALC−AS2
103.2
103.4
103.6
103.8
104
Position on chr8 (Mb)

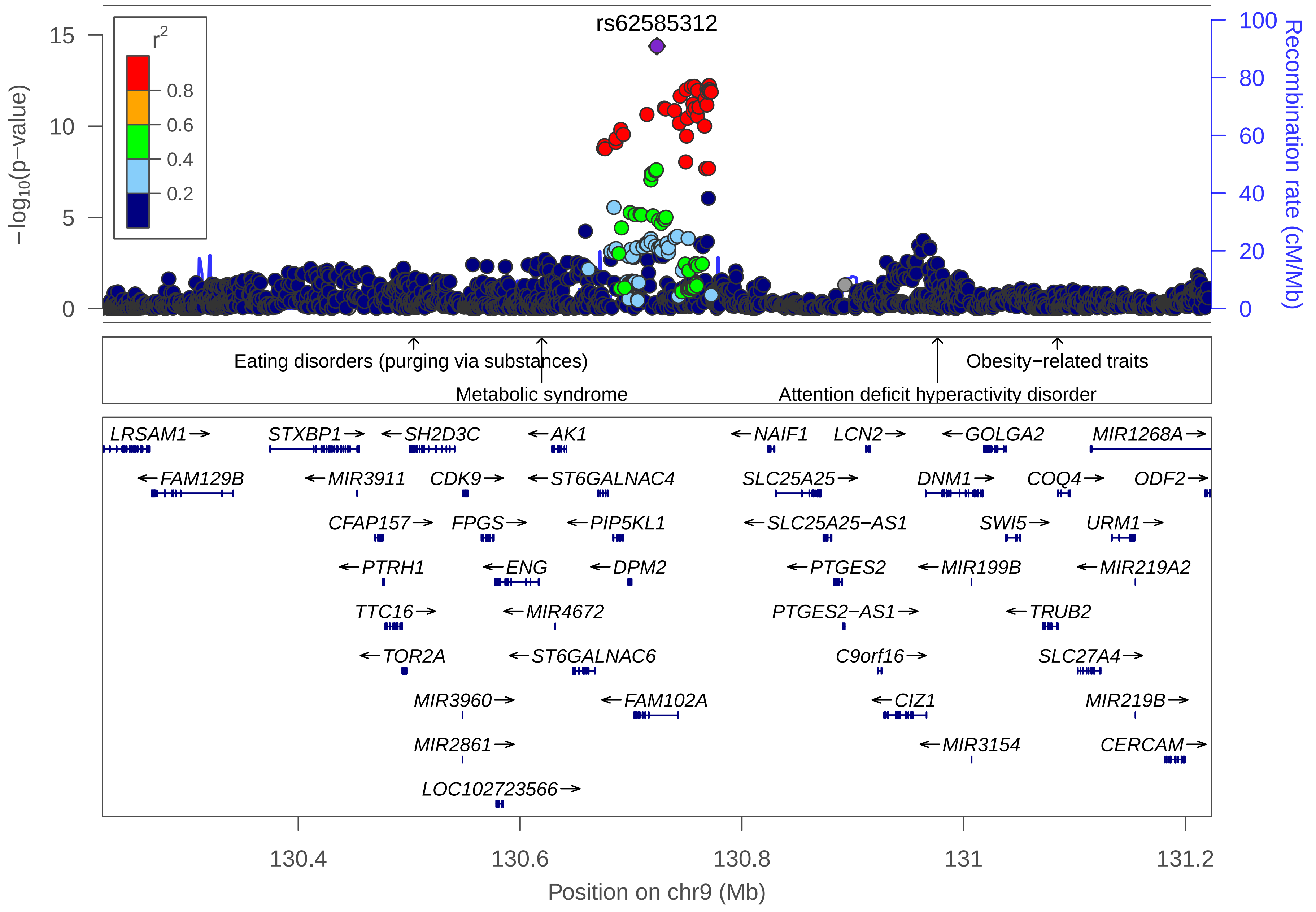

r^2
0.8
0.6
0.4
0.2
rs3850445
10
8
6
4
2
0
−log$_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
letabolite levels (Dihydroxy docosatrienoic acid)
Metabolite levels (Pyroglutamine)
Ovarian cancer
Ovarian cancer in BRCA1 mutation carriers
Corneal astigmatism
2 GWAS hits omitted
←C9orf92
←BNC2
CNTLN→
16.4
16.6
16.8
17
17.2
Position on chr9 (Mb)

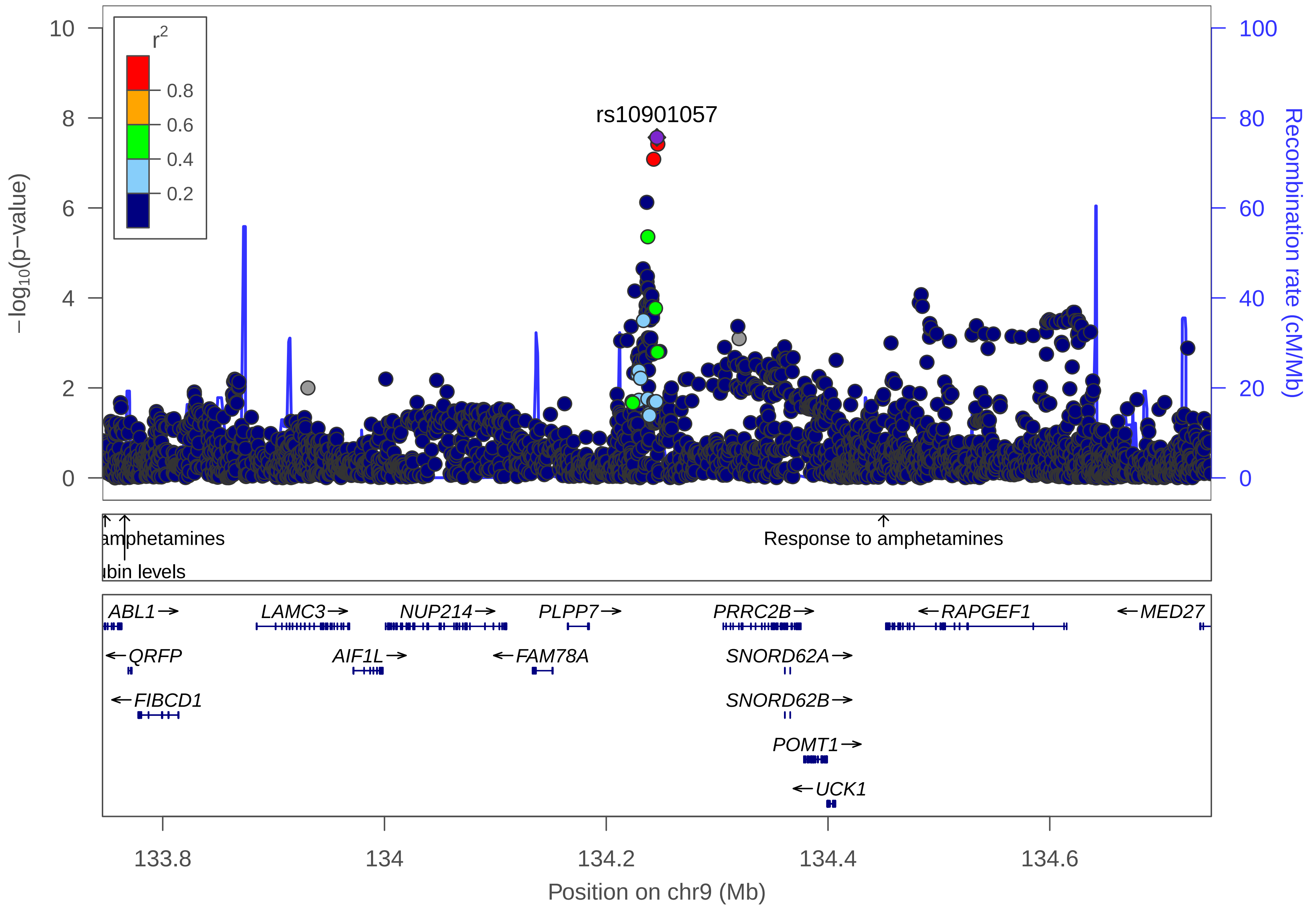

r2
0.8
0.6
0.4
0.2
rs7868781
−log10(p−value)
0
5
10
15
20
Recombination rate (cM/Mb)
0
20
40
60
80
100
IgG glycosylation
IgG glycosylation
IgG glycosylation
IgG glycosylation
8 GWAS hits omitted
TMEM215→
←APTX
←B4GALT1
SPINK4→
←AQP7
←SUGT1P1
DNAJA1→
B4GALT1−AS1→
NFX1→
←AQP3
ANXA2P2→
←SMU1
←BAG1
←NOL6
CHMP5→
←MIR6851
ANKRD18B→
32.8
33
33.2
33.4
33.6
Position on chr9 (Mb)

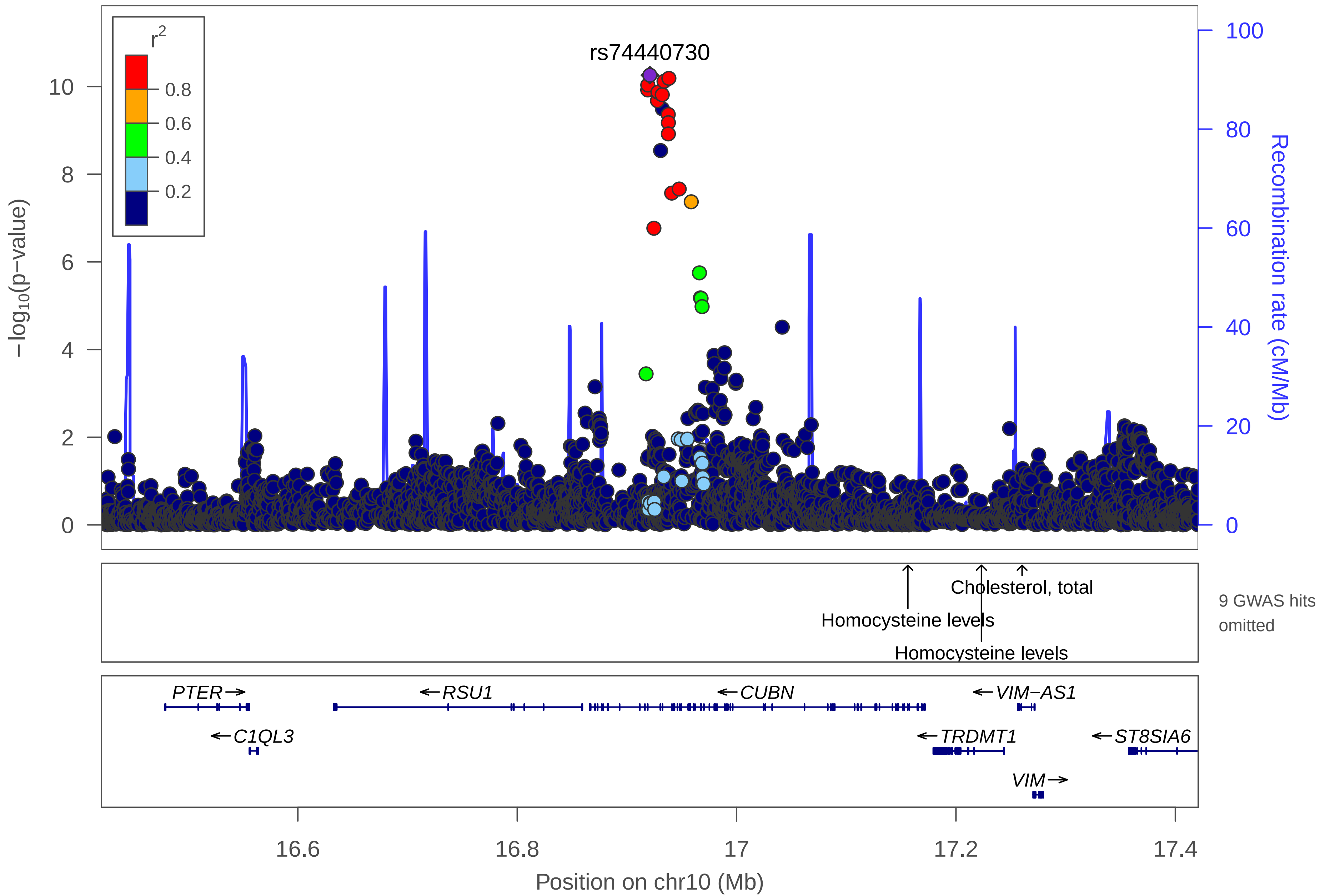

r2
0.8
0.6
0.4
0.2
rs3174352
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
olar disorder and schizophrenia
Visceral adipose tissue/subcutaneous adipose tiss
Height
←SPTLC1
←PRSS47
←NOL8
←OGN
←ECM2
←IPPK
←BICD2
←ZNF484
LOC100128076→
←MIR3651
←OMD
←MIR4670
←LOC101929748
LINC00475→
←SNORA84
←ASPN
LOC100128361→
ANKRD19P→
←IARS
CENPP→
LOC642943→
FGD3→
94.8
95
95.2
95.4
95.6
Position on chr9 (Mb)

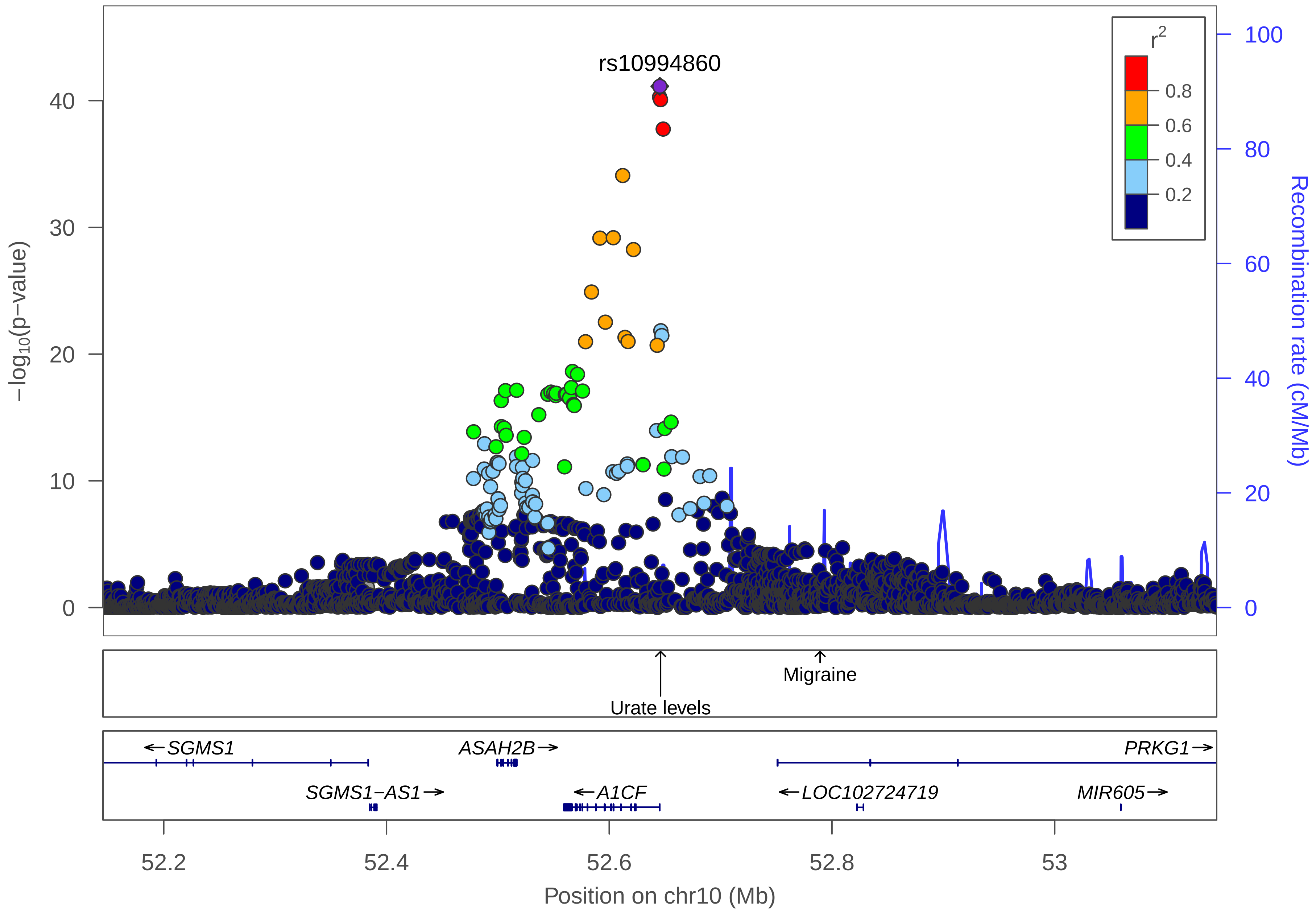


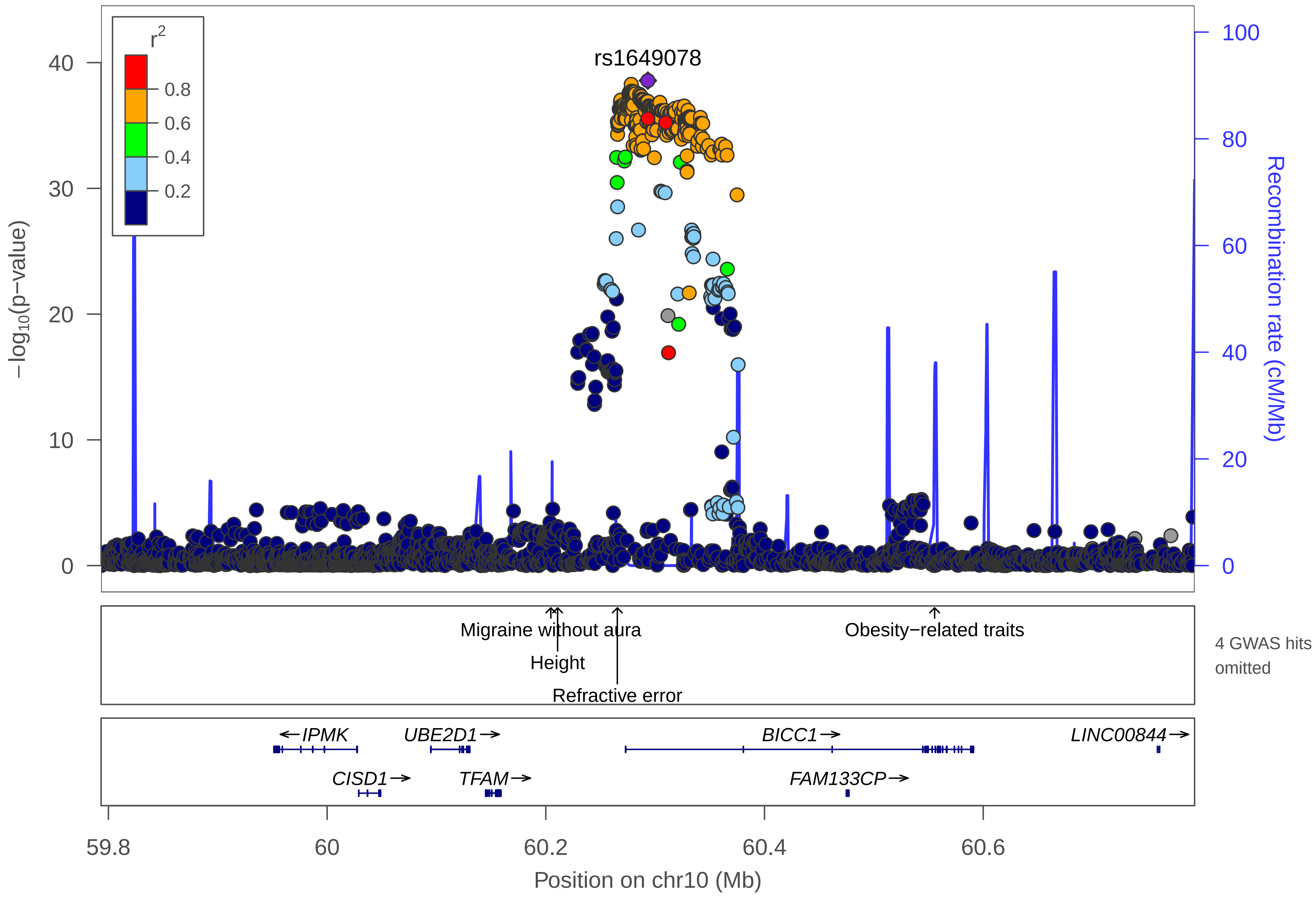
rs1800977
r2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Cholesterol, total
HDL cholesterol
Periodontitis (Mean PAL)
14 GWAS hits omitted
OR13F1→
←OR13C9
NIPSNAP3A→
SLC44A1→
←OR13C4
OR13D1→
←ABCA1
←OR13C3
NIPSNAP3B→
OR13C8→
←OR13C5
←OR13C2
107.2
107.4
107.6
107.8
108
Position on chr9 (Mb)

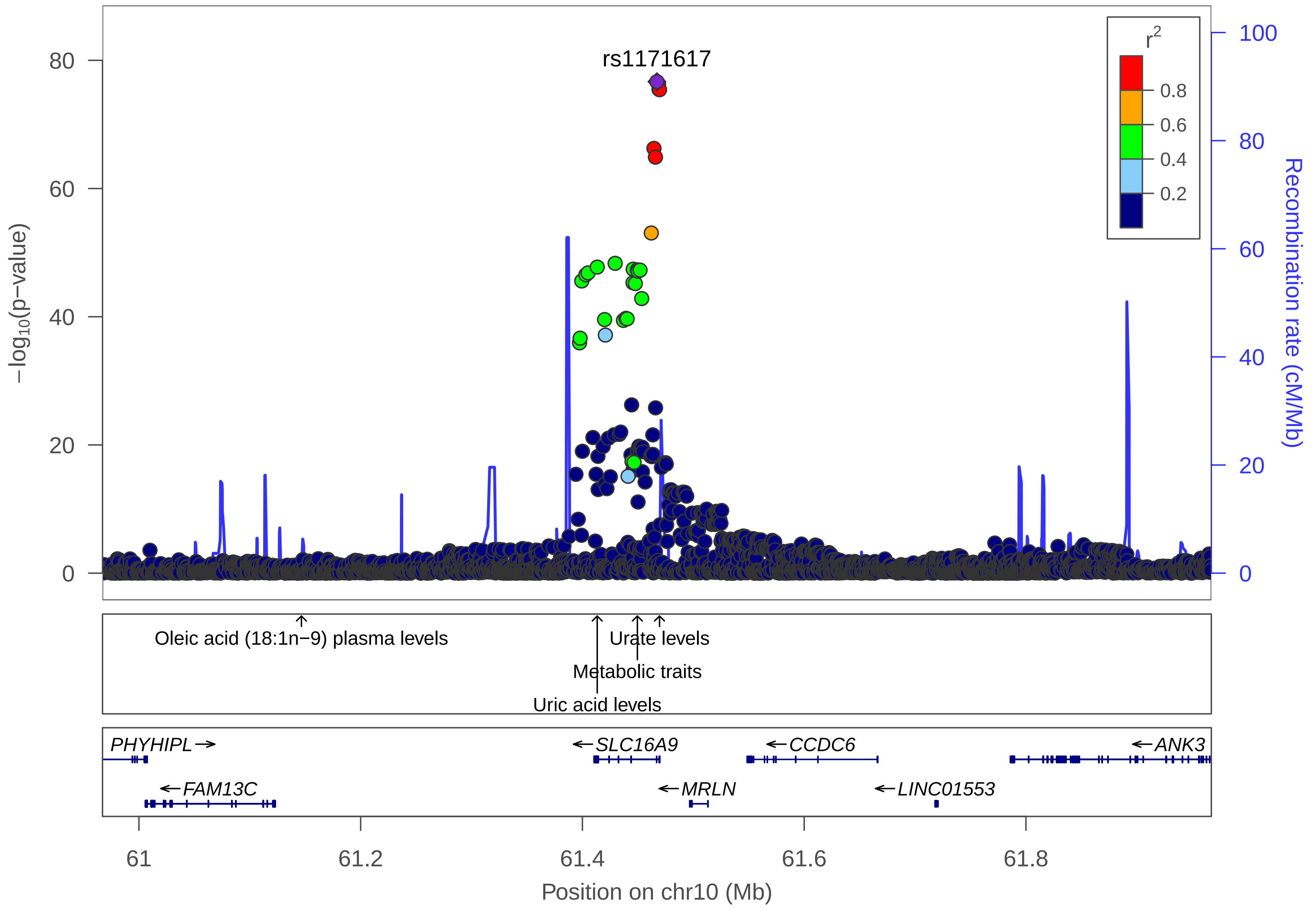

rs62585312
r2
0.8
0.6
0.4
0.2
−log10(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Eating disorders (purging via substances)
Metabolic syndrome
Attention deficit hyperactivity disorder
Obesity−related traits
LRSAM1→
FAM129B
STXBP1→
←MIR3911
CFAP157→
←PTRH1
TTC16→
←TOR2A
←SH2D3C
CDK9→
FPGS→
←ENG
←MIR4672
←ST6GALNAC6
MIR3960→
MIR2861→
LOC102723566→
←AK1
←ST6GALNAC4
←PIP5KL1
←DPM2
←FAM102A
←NAIF1
SLC25A25→
←SLC25A25−AS1
←PTGES2
PTGES2−AS1→
LCN2→
C9orf16→
←CIZ1
DNM1→
←GOLGA2
SWI5→
←MIR199B
←TRUB2
←MIR3154
COQ4→
MIR1268A→
URM1→
←MIR219A2
SLC27A4→
MIR219B→
ODF2→
CERCAM→
130.4
130.6
130.8
131
131.2
Position on chr9 (Mb)

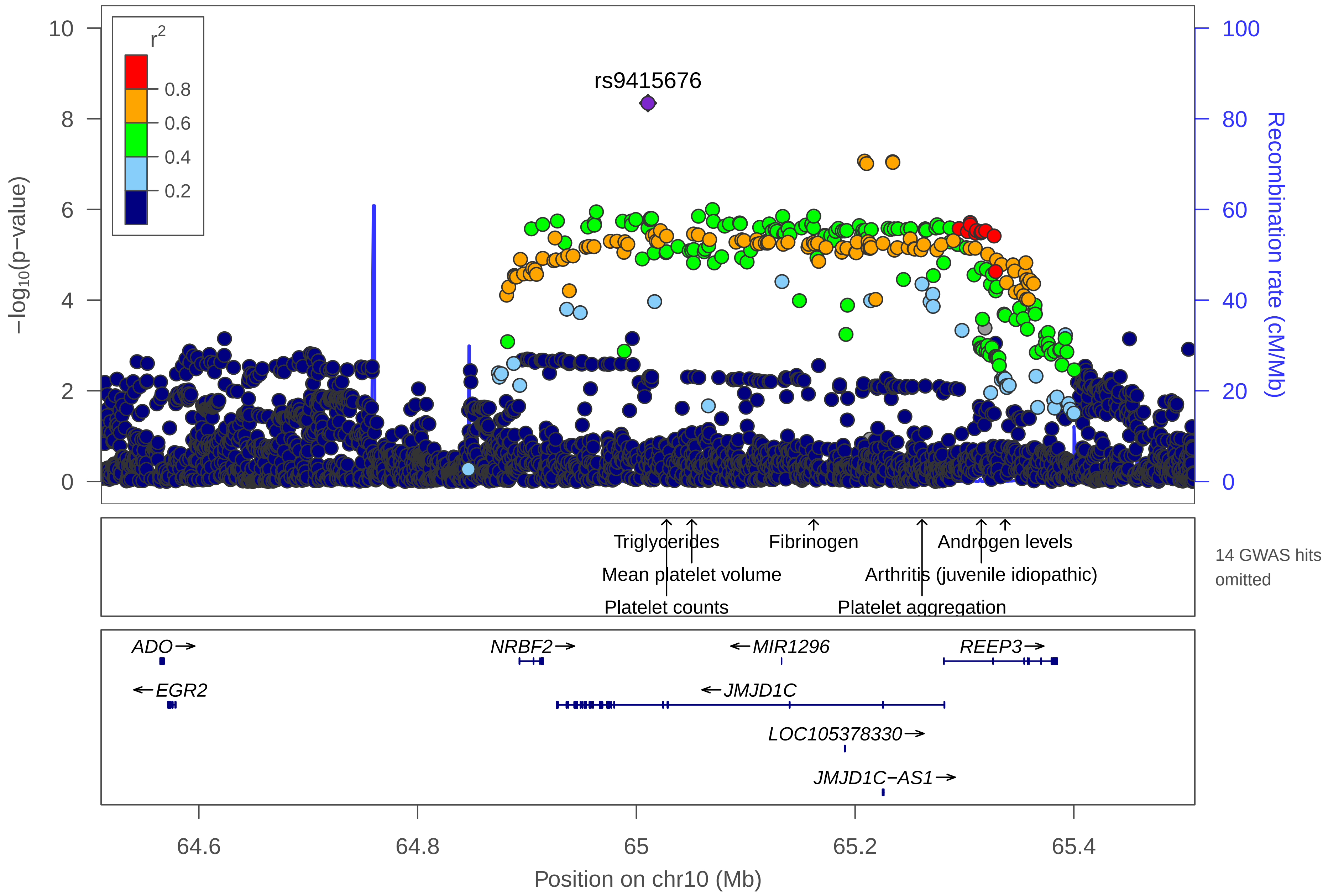

rs10901057
r^2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
amphetamines
bin levels
Response to amphetamines
ABL1→
QRFP
←FIBCD1
LAMC3→
AIF1L→
NUP214→
←FAM78A
PLPP7→
PRRC2B→
SNORD62A→
SNORD62B→
POMT1→
←UCK1
←RAPGEF1
←MED27
133.8
134
134.2
134.4
134.6
Position on chr9 (Mb)

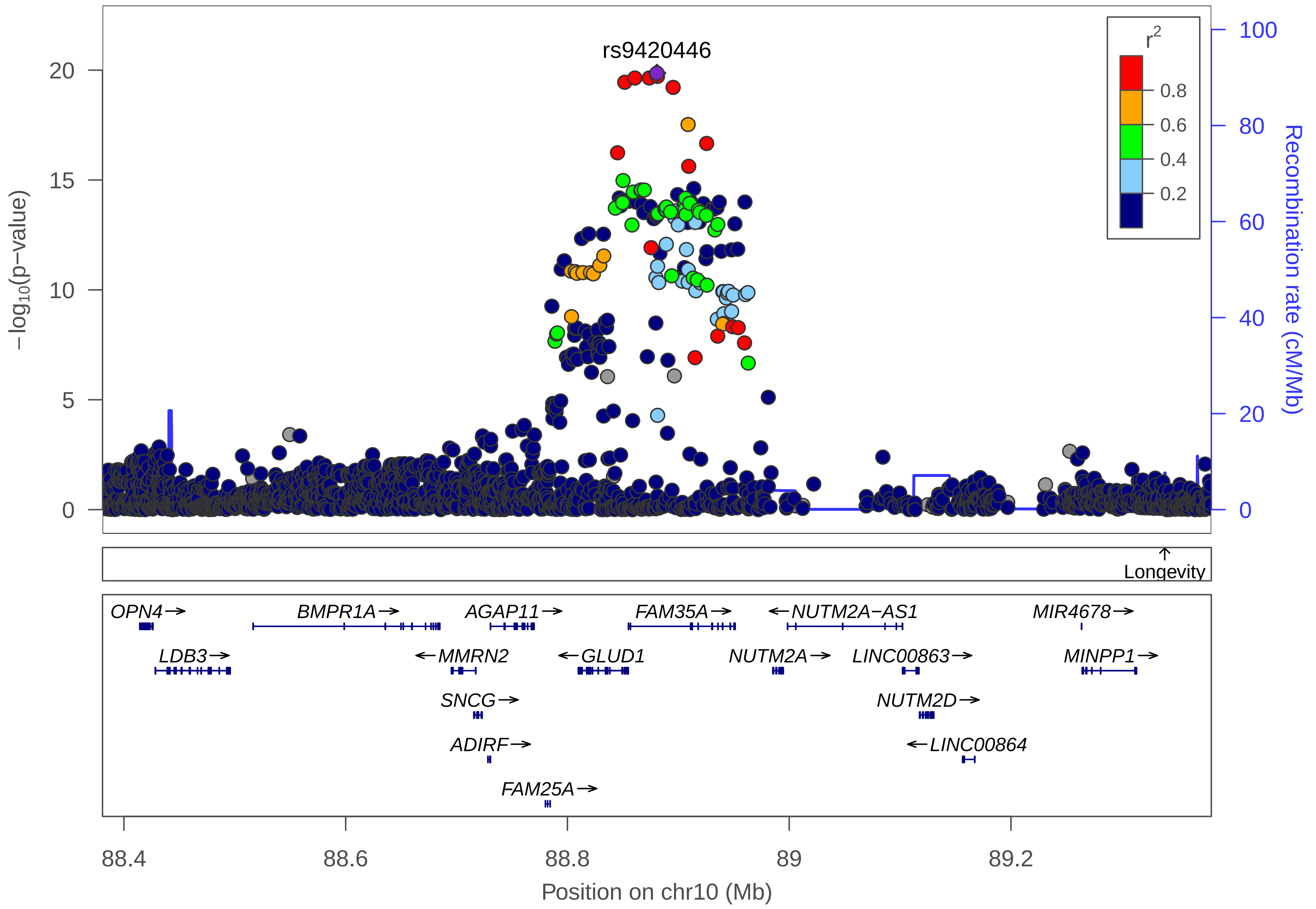

r2
0.8
0.6
0.4
0.2
rs74440730
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Cholesterol, total
Homocysteine levels
Homocysteine levels
9 GWAS hits omitted
PTER
RSU1
CUBN
VIM−AS1
C1QL3
TRDMT1
ST8SIA6
VIM
16.6
16.8
17
17.2
17.4
Position on chr10 (Mb)

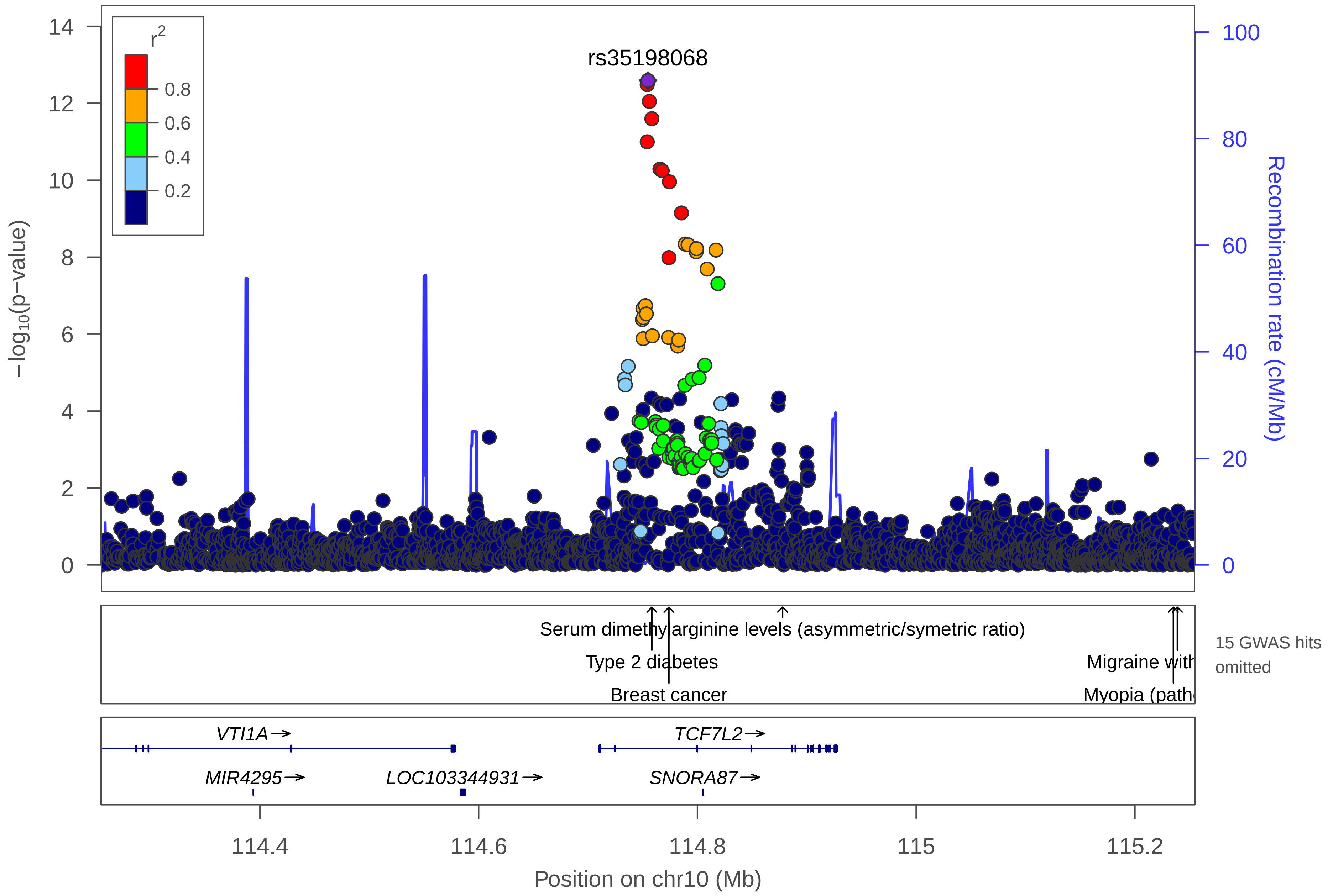

rs10994860
r2
0.8
0.6
0.4
0.2
−log10(p−value)
40
30
20
10
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Urate levels
Migraine
←SGMS1
ASAH2B→
PRKG1→
SGMS1−AS1→
←A1CF
←LOC102724719
MIR605→
52.2
52.4
52.6
52.8
53
Position on chr10 (Mb)

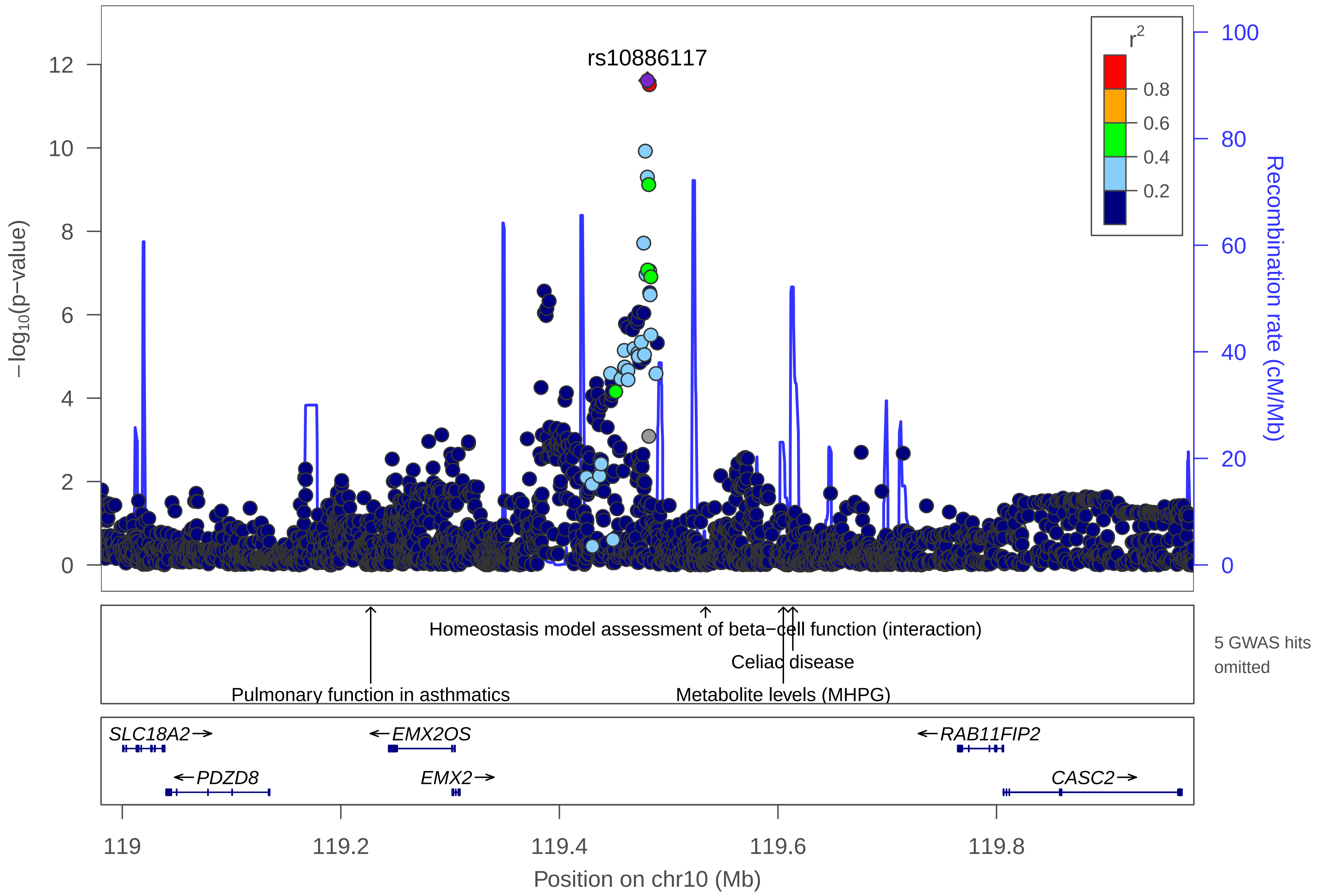

r2
0.8
0.6
0.4
0.2
rs1649078
40
30
20
10
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Migraine without aura
Height
Refractive error
Obesity−related traits
4 GWAS hits omitted
IPMK
UBE2D1
BICC1
LINC00844
CISD1
TFAM
FAM133CP
59.8
60
60.2
60.4
60.6
Position on chr10 (Mb)

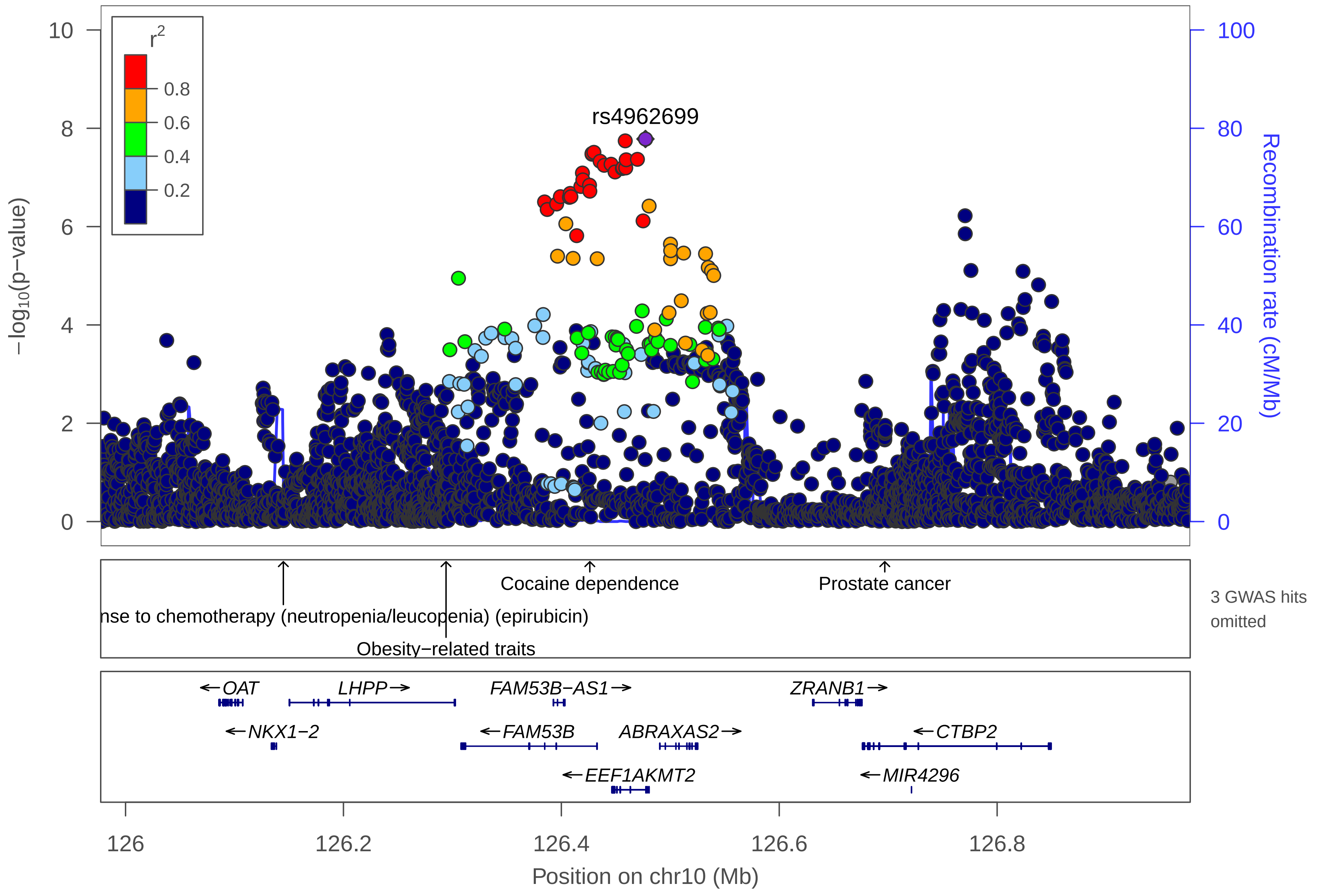

rs1171617
−log10(p−value)
0
20
40
60
80
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.8
0.6
0.4
0.2
Oleic acid (18:1n−9) plasma levels
Urate levels
Metabolic traits
Uric acid levels
PHYHIPL →
← SLC16A9
← CCDC6
← ANK3
← FAM13C
← MRLN
← LINC01553
61
61.2
61.4
61.6
61.8
Position on chr10 (Mb)

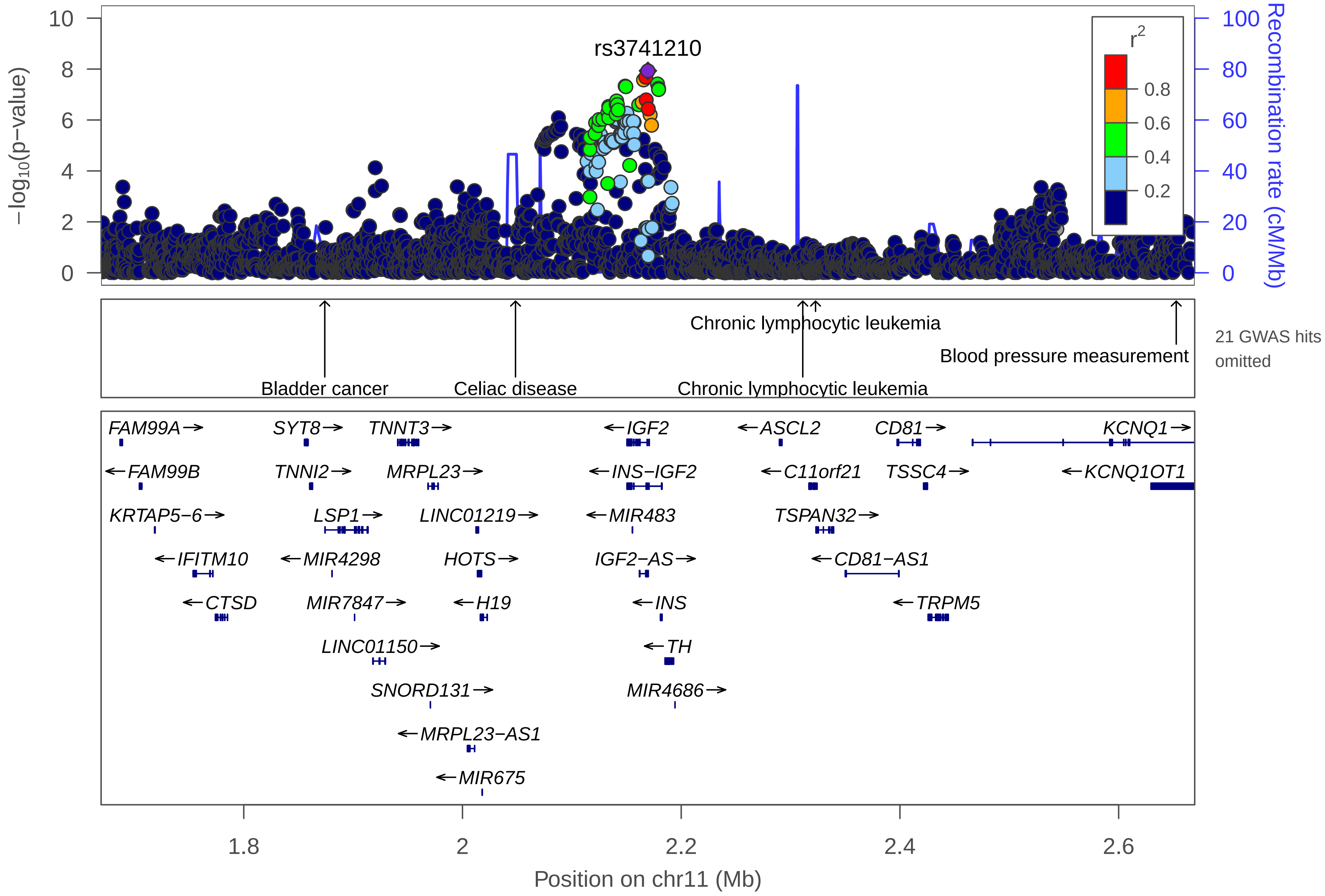

r2
0.8
0.6
0.4
0.2
rs9415676
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Triglycerides
Mean platelet volume
Platelet counts
Fibrinogen
Androgen levels
Arthritis (juvenile idiopathic)
Platelet aggregation
14 GWAS hits omitted
ADO→
←EGR2
NRBF2→
←MIR1296
←JMJD1C
LOC105378330→
JMJD1C−AS1→
REEP3→
64.6
64.8
65
65.2
65.4
Position on chr10 (Mb)

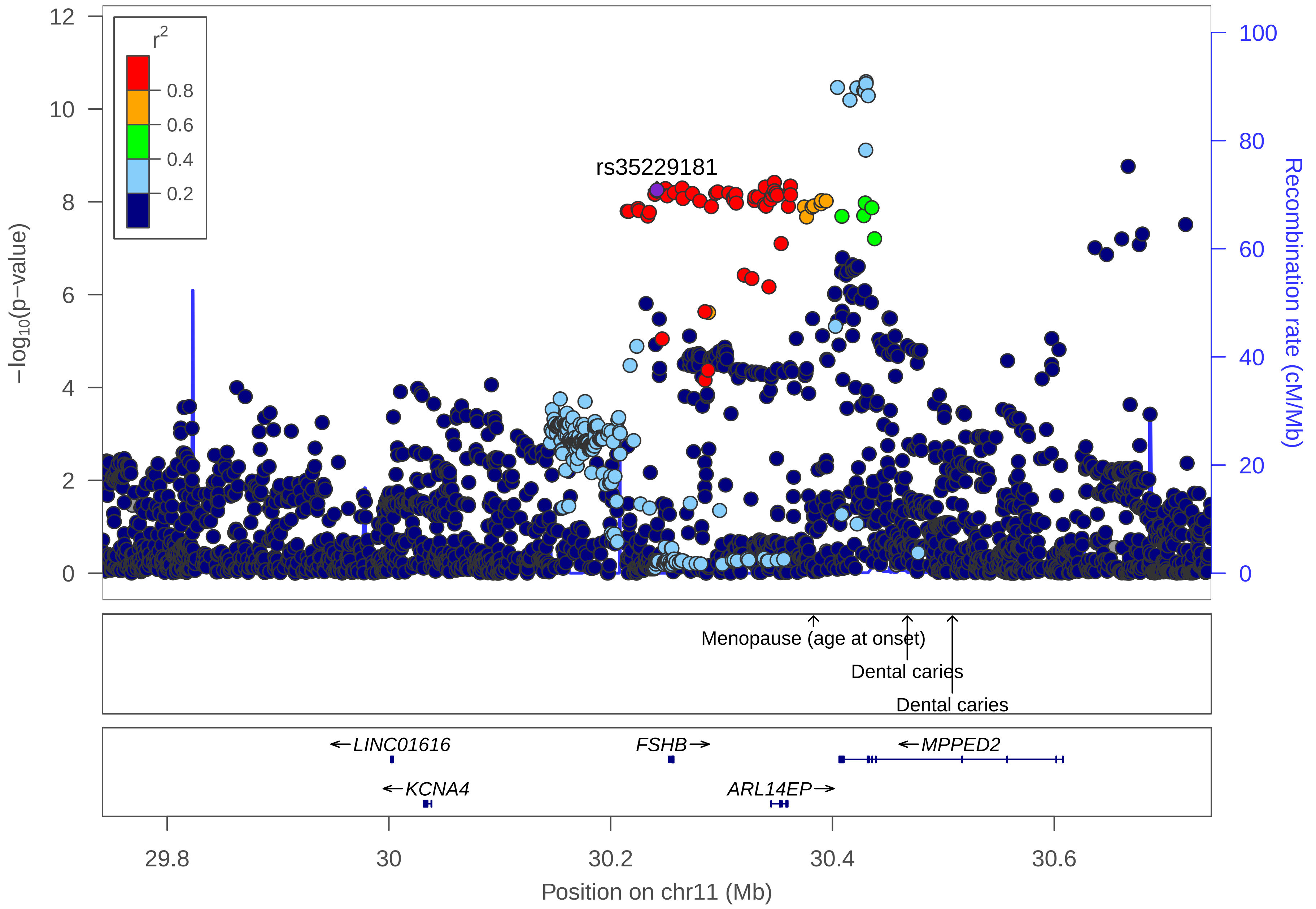

rs9420446
r^2
0.8
0.6
0.4
0.2
−log$_{10}$(p−value)
20
15
10
5
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
Longevity
OPN4→
BMPR1A→
AGAP11→
FAM35A→
←NUTM2A−AS1
MIR4678→
LDB3→
←MMRN2
←GLUD1
NUTM2A→
LINC00863→
MINPP1→
SNCG→
NUTM2D→
ADIRF→
←LINC00864
FAM25A→
88.4
88.6
88.8
89
89.2
Position on chr10 (Mb)

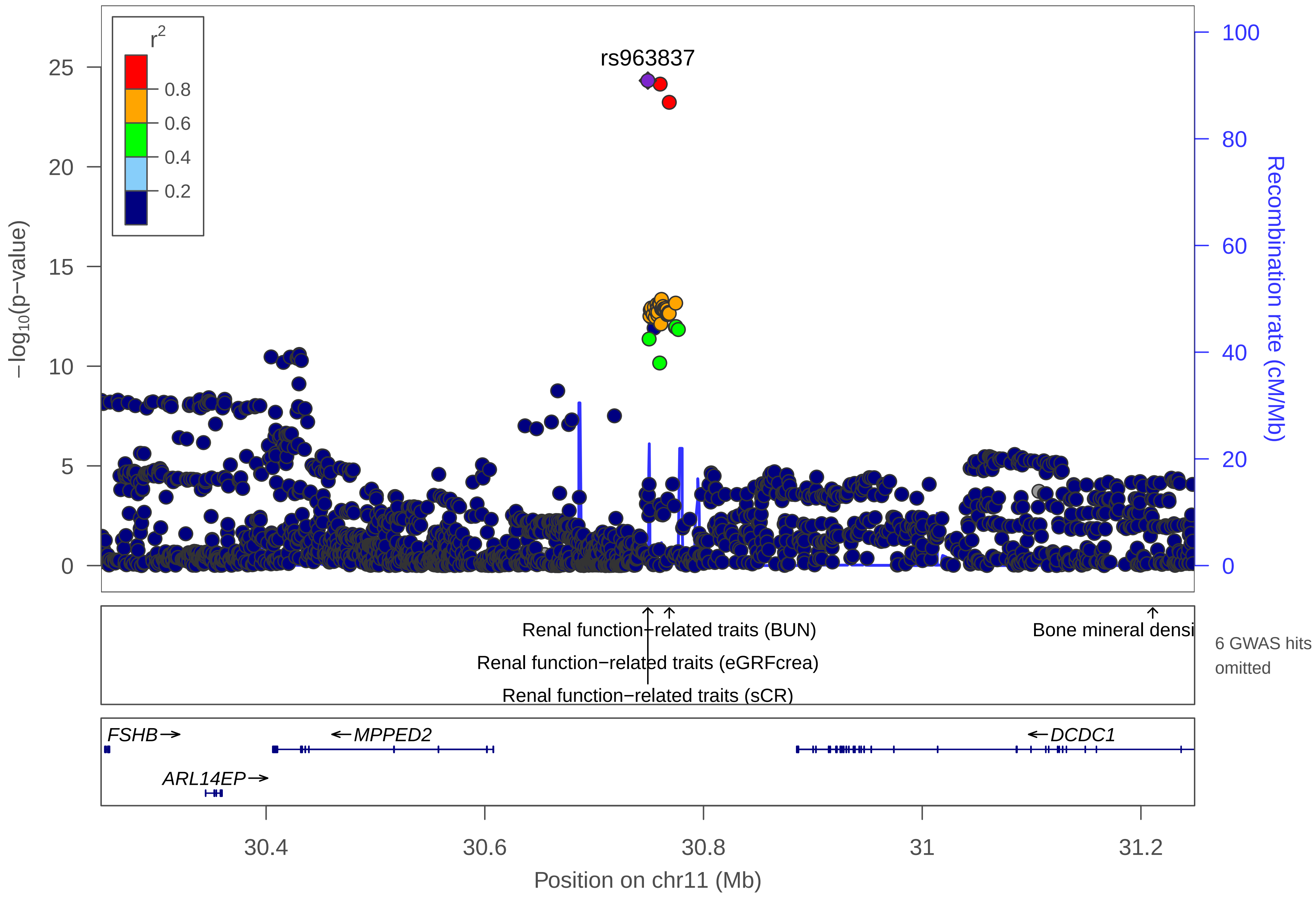

rs35198068
r²
0.8
0.6
0.4
0.2
−log10(p−value)
0
2
4
6
8
10
12
14
Recombination rate (cM/Mb)
0
20
40
60
80
100
Serum dimethylarginine levels (asymmetric/symetric ratio)
Type 2 diabetes
Breast cancer
Migraine with
Myopia (path
15 GWAS hits omitted
VTI1A→
TCF7L2→
MIR4295→
LOC103344931→
SNORA87→
114.4
114.6
114.8
115
115.2
Position on chr10 (Mb)


rs10886117
r^2
0.8
0.6
0.4
0.2
$-\log_{10}$(p−value)
12
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Homeostasis model assessment of beta−cell function (interaction)
Celiac disease
Pulmonary function in asthmatics
Metabolite levels (MHPG)
5 GWAS hits omitted
SLC18A2→
←PDZD8
←EMX2OS
EMX2→
←RAB11FIP2
CASC2→
119
119.2
119.4
119.6
119.8
Position on chr10 (Mb)

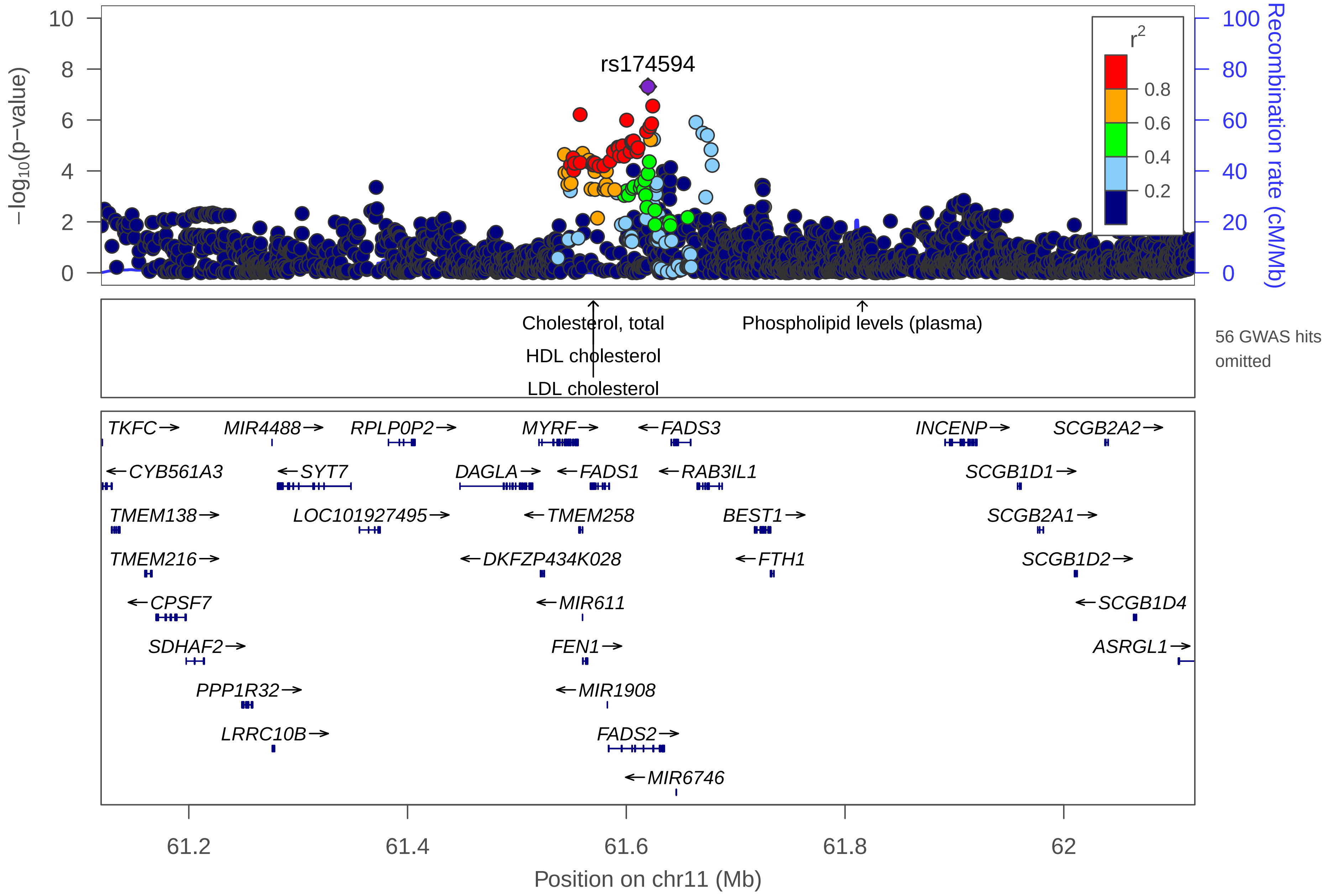

r²
0.8
0.6
0.4
0.2
rs4962699
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Cocaine dependence
Prostate cancer
nse to chemotherapy (neutropenia/leucopenia) (epirubicin)
Obesity−related traits
3 GWAS hits omitted
←OAT
LHPP→
FAM53B−AS1→
ZRANB1→
←NKX1−2
←FAM53B
ABRAXAS2→
←CTBP2
←EEF1AKMT2
←MIR4296
126
126.2
126.4
126.6
126.8
Position on chr10 (Mb)


rs3741210
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.2
0.4
0.6
0.8
Bladder cancer
Celiac disease
Chronic lymphocytic leukemia
Chronic lymphocytic leukemia
Blood pressure measurement
21 GWAS hits omitted
FAM99A→
←FAM99B
KRTAP5−6→
←IFITM10
←CTSD
SYT8→
TNNI2→
LSP1→
←MIR4298
MIR7847→
LINC01150→
SNORD131→
←MRPL23−AS1
←MIR675
TNNT3→
MRPL23→
LINC01219→
HOTS→
←H19
←IGF2
←INS−IGF2
←MIR483
IGF2−AS→
←INS
←TH
MIR4686→
←ASCL2
←C11orf21
TSPAN32→
←CD81−AS1
CD81→
TSSC4→
←TRPM5
KCNQ1→
←KCNQ1OT1
1.8
2
2.2
2.4
2.6
Position on chr11 (Mb)

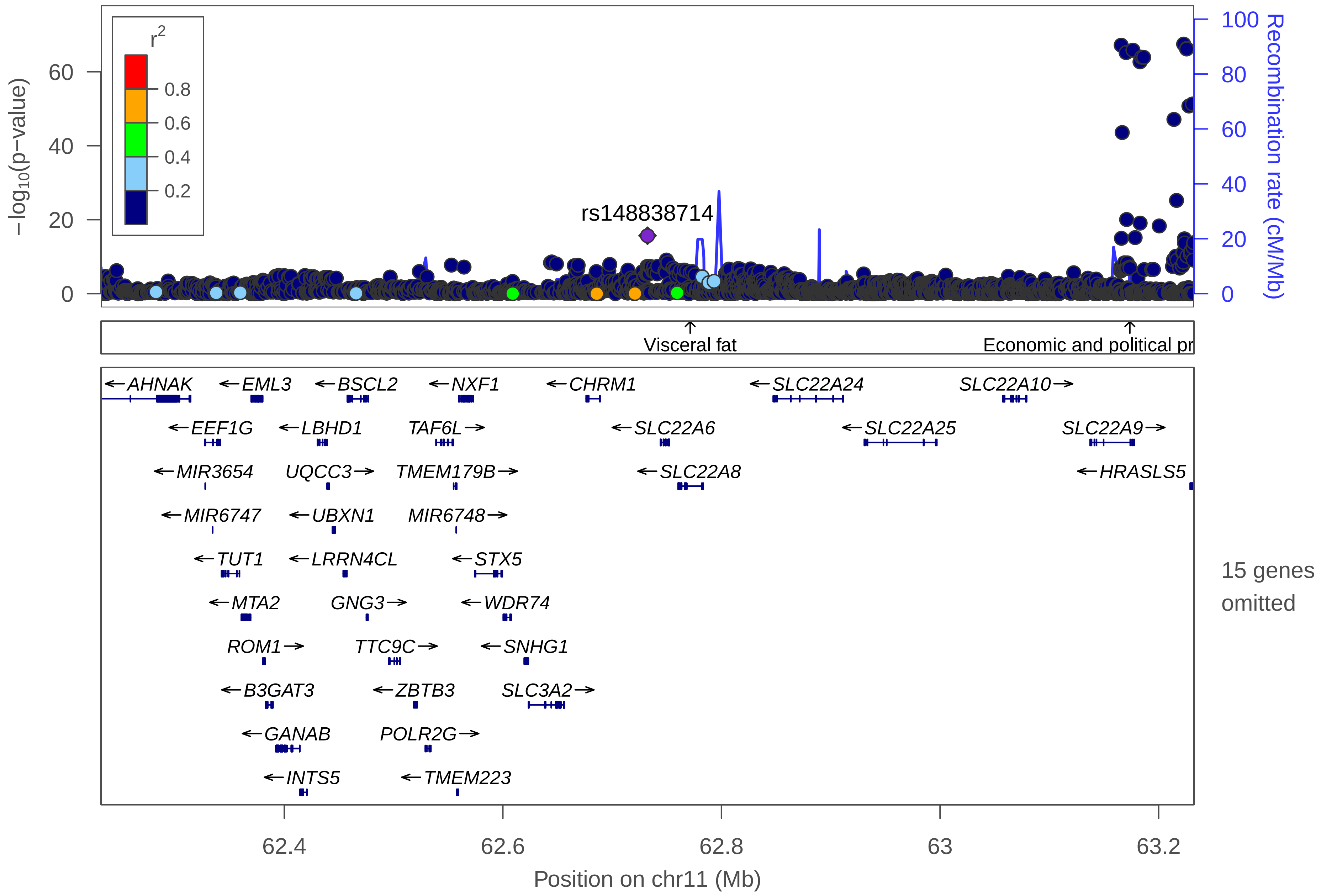

r2
0.8
0.6
0.4
0.2
rs35229181
12
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Menopause (age at onset)
Dental caries
Dental caries
←LINC01616
FSHB→
←MPPED2
←KCNA4
ARL14EP→
29.8
30
30.2
30.4
30.6
Position on chr11 (Mb)

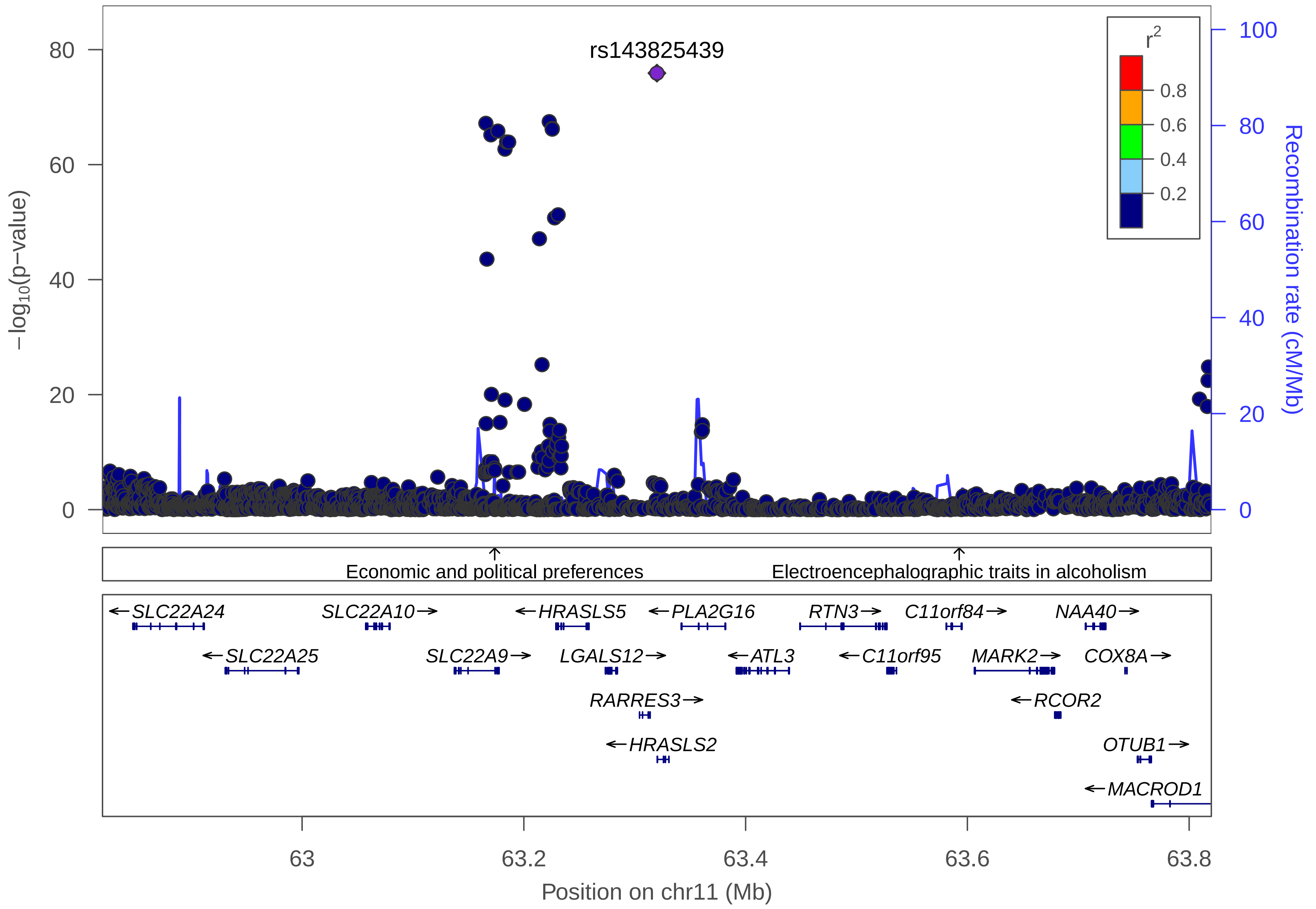


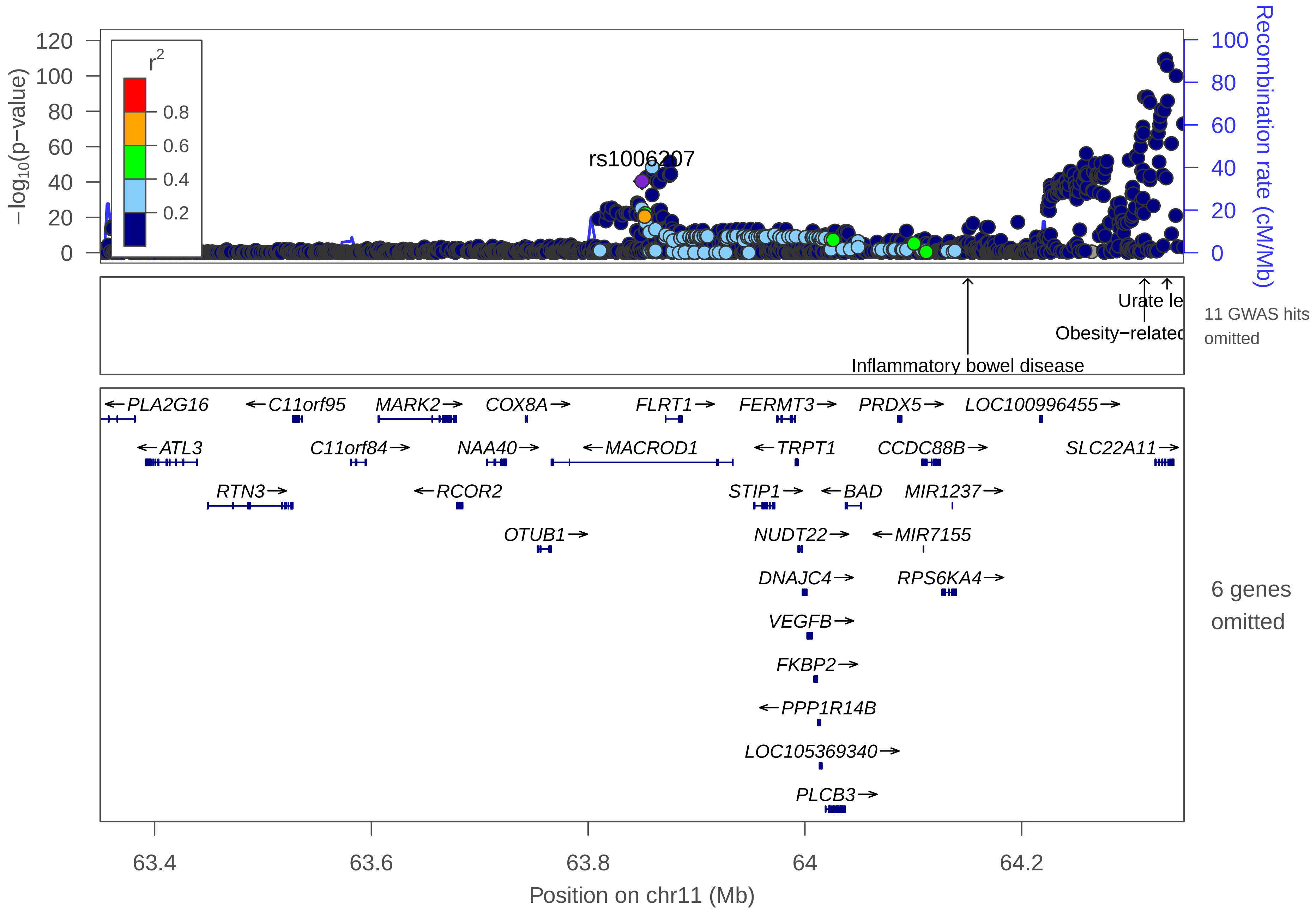
r^2
0.8
0.6
0.4
0.2
rs963837
25
20
15
10
5
0
$-\log_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Renal function−related traits (BUN)
Renal function−related traits (eGRFcrea)
Renal function−related traits (sCR)
Bone mineral densi
6 GWAS hits omitted
FSHB→
←MPPED2
←DCDC1
ARL14EP→
30.4
30.6
30.8
31
31.2
Position on chr11 (Mb)

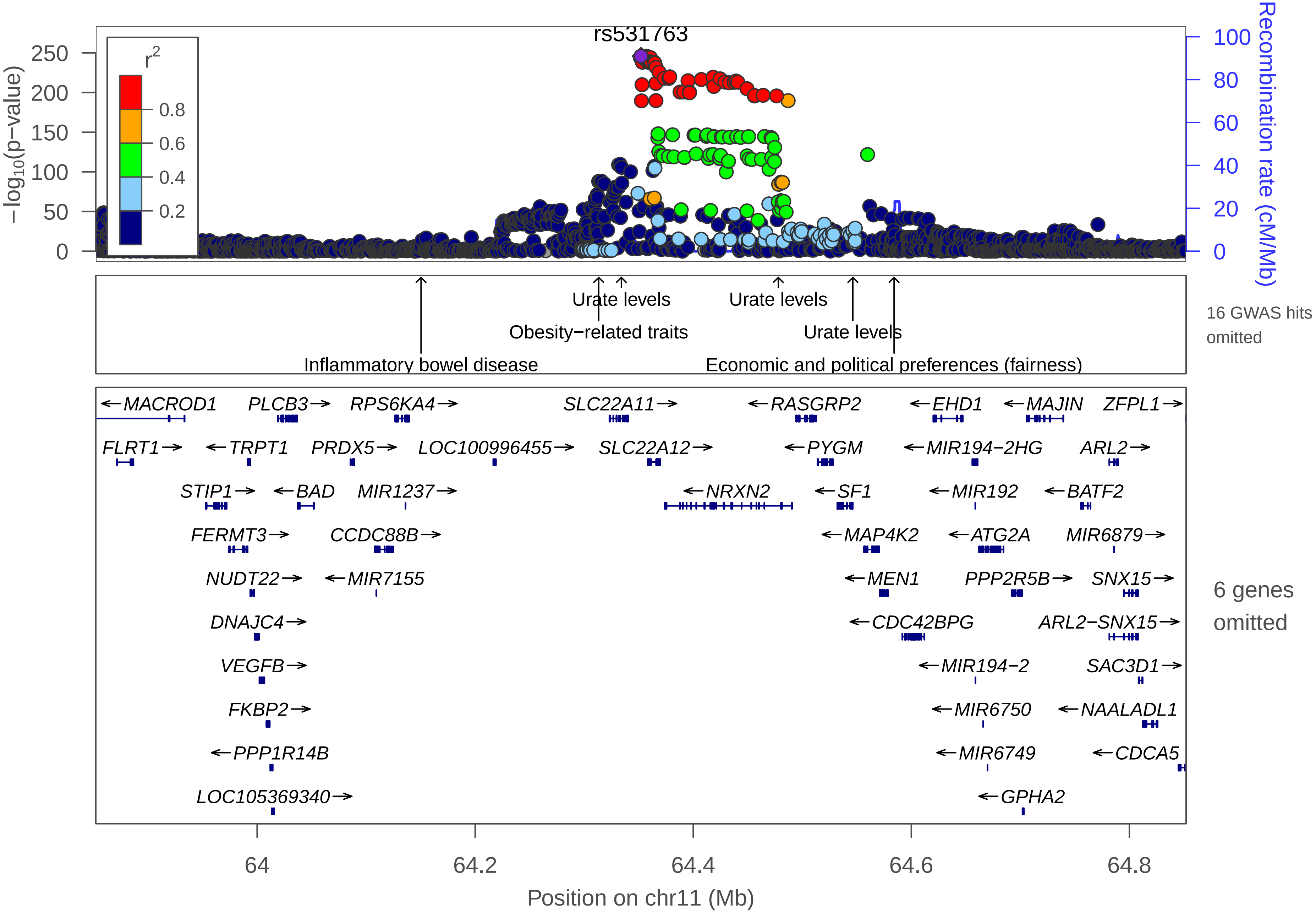


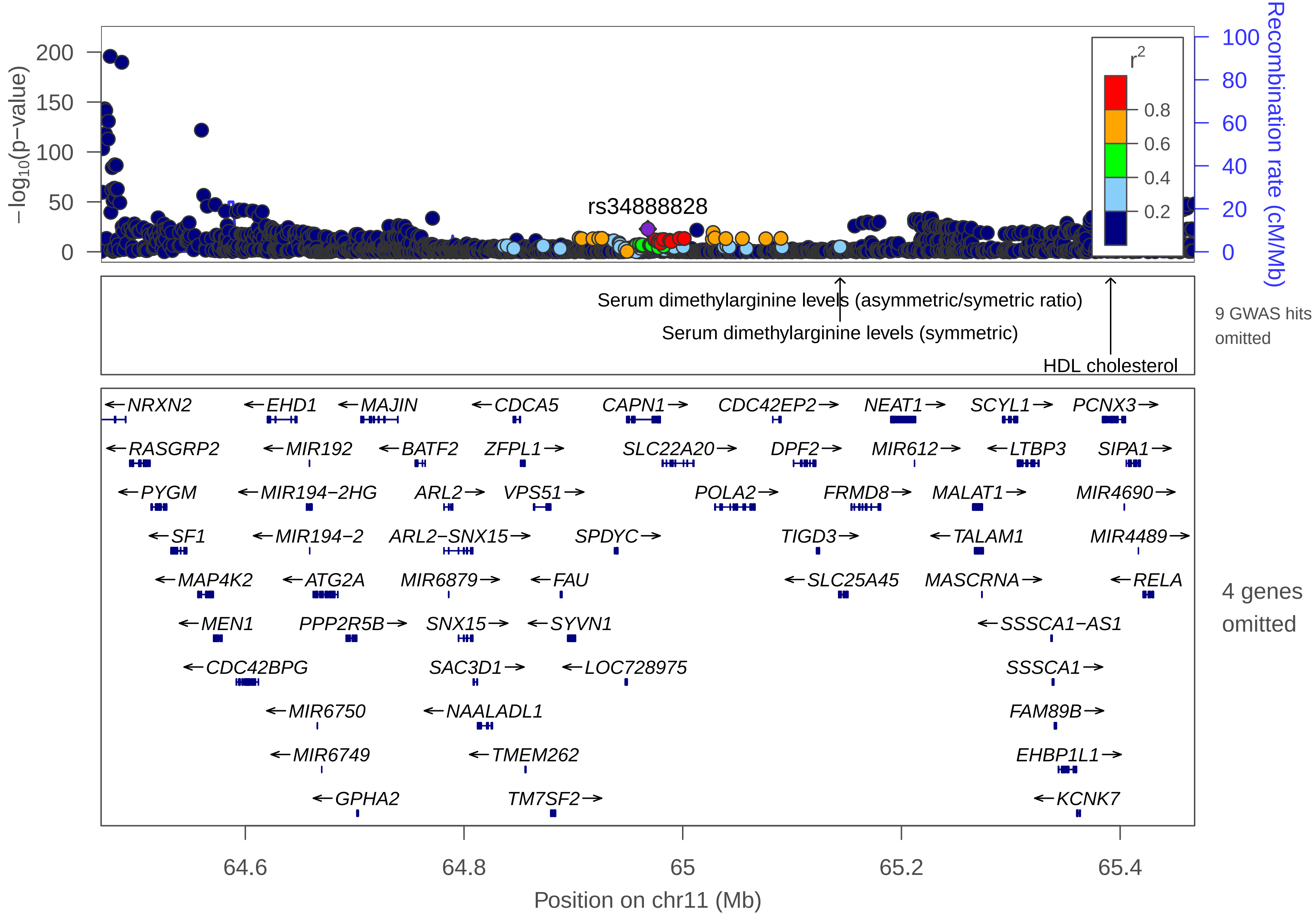
rs174594
−log$_{10}$(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r^2
0.8
0.6
0.4
0.2
Cholesterol, total
HDL cholesterol
LDL cholesterol
Phospholipid levels (plasma)
56 GWAS hits omitted
TKFC→
MIR4488→
RPLP0P2→
MYRF→
←FADS3
INCENP→
SCGB2A2→
←CYB561A3
←SYT7
DAGLA→
←FADS1
←RAB3IL1
SCGB1D1→
TMEM138→
LOC101927495→
←TMEM258
BEST1→
SCGB2A1→
TMEM216→
←DKFZP434K028
←FTH1
SCGB1D2→
←CPSF7
←MIR611
←SCGB1D4
SDHAF2→
FEN1→
ASRGL1→
PPP1R32→
←MIR1908
LRRC10B→
FADS2→
←MIR6746
61.2
61.4
61.6
61.8
62
Position on chr11 (Mb)

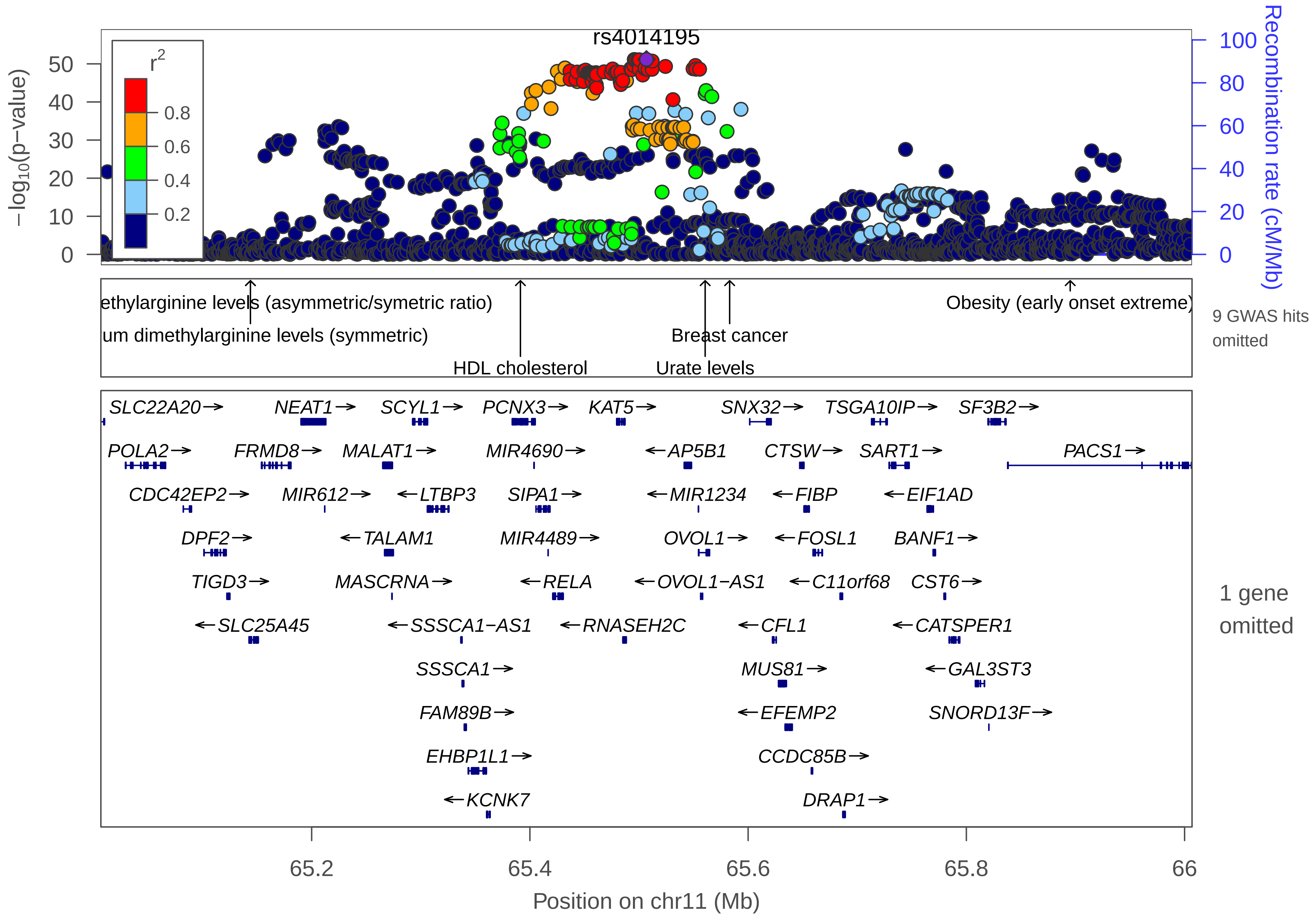

r^2
0.8
0.6
0.4
0.2
$-\log_{10}$(p−value)
0
20
40
60
Recombination rate (cM/Mb)
0
20
40
60
80
100
rs148838714
Visceral fat
Economic and political pr
←AHNAK
←EML3
←BSCL2
←NXF1
←CHRM1
←SLC22A24
SLC22A10→
←EEF1G
←LBHD1
TAF6L→
←SLC22A6
←SLC22A25
SLC22A9→
←MIR3654
UQCC3→
TMEM179B→
←SLC22A8
←HRASLS5
←MIR6747
←UBXN1
MIR6748→
←TUT1
←LRRN4CL
←STX5
←MTA2
GNG3→
←WDR74
ROM1→
TTC9C→
←SNHG1
←B3GAT3
←ZBTB3
SLC3A2→
←GANAB
POLR2G→
←INTS5
←TMEM223
15 genes omitted
62.4
62.6
62.8
63
63.2
Position on chr11 (Mb)

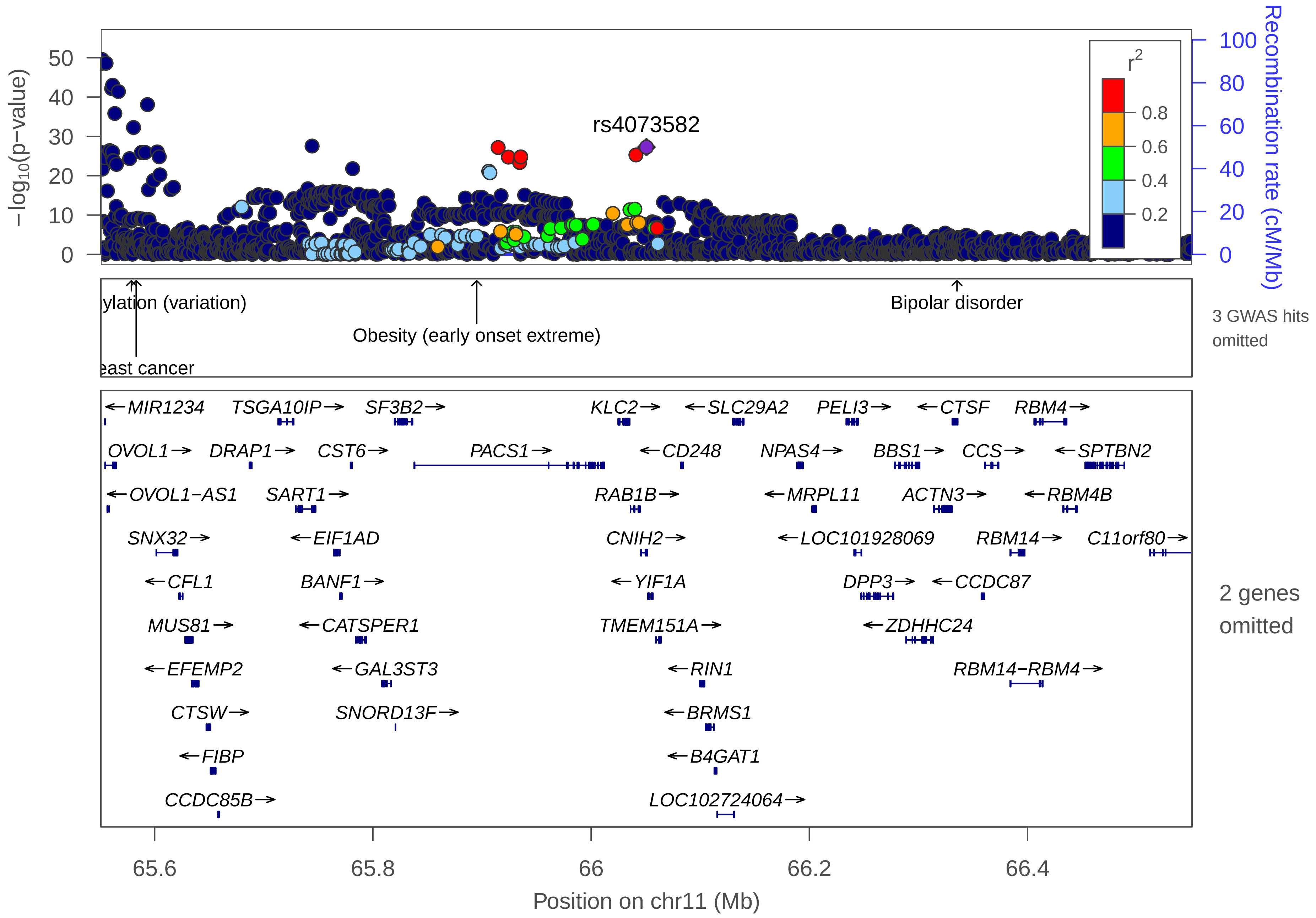

rs143825439
−log10(p−value)
80
60
40
20
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Economic and political preferences
Electroencephalographic traits in alcoholism
←SLC22A24
SLC22A10→
←HRASLS5
←PLA2G16
RTN3→
C11orf84→
NAA40→
←SLC22A25
SLC22A9→
LGALS12→
←ATL3
←C11orf95
MARK2→
COX8A→
RARRES3→
←RCOR2
←HRASLS2
OTUB1→
←MACROD1
63
63.2
63.4
63.6
63.8
Position on chr11 (Mb)


−log10(p−value)
120
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
rs1006207
Recombination rate (cM/Mb)
100
80
60
40
20
0
Urate le
Obesity−related
Inflammatory bowel disease
11 GWAS hits omitted
←PLA2G16
←C11orf95
MARK2→
COX8A→
FLRT1→
FERMT3→
PRDX5→
LOC100996455→
←ATL3
C11orf84→
NAA40→
←MACROD1
←TRPT1
CCDC88B→
SLC22A11→
RTN3→
←RCOR2
STIP1→
←BAD
MIR1237→
OTUB1→
NUDT22→
←MIR7155
DNAJC4→
RPS6KA4→
VEGFB→
FKBP2→
←PPP1R14B
LOC105369340→
PLCB3→
6 genes omitted
63.4
63.6
63.8
64
64.2
Position on chr11 (Mb)

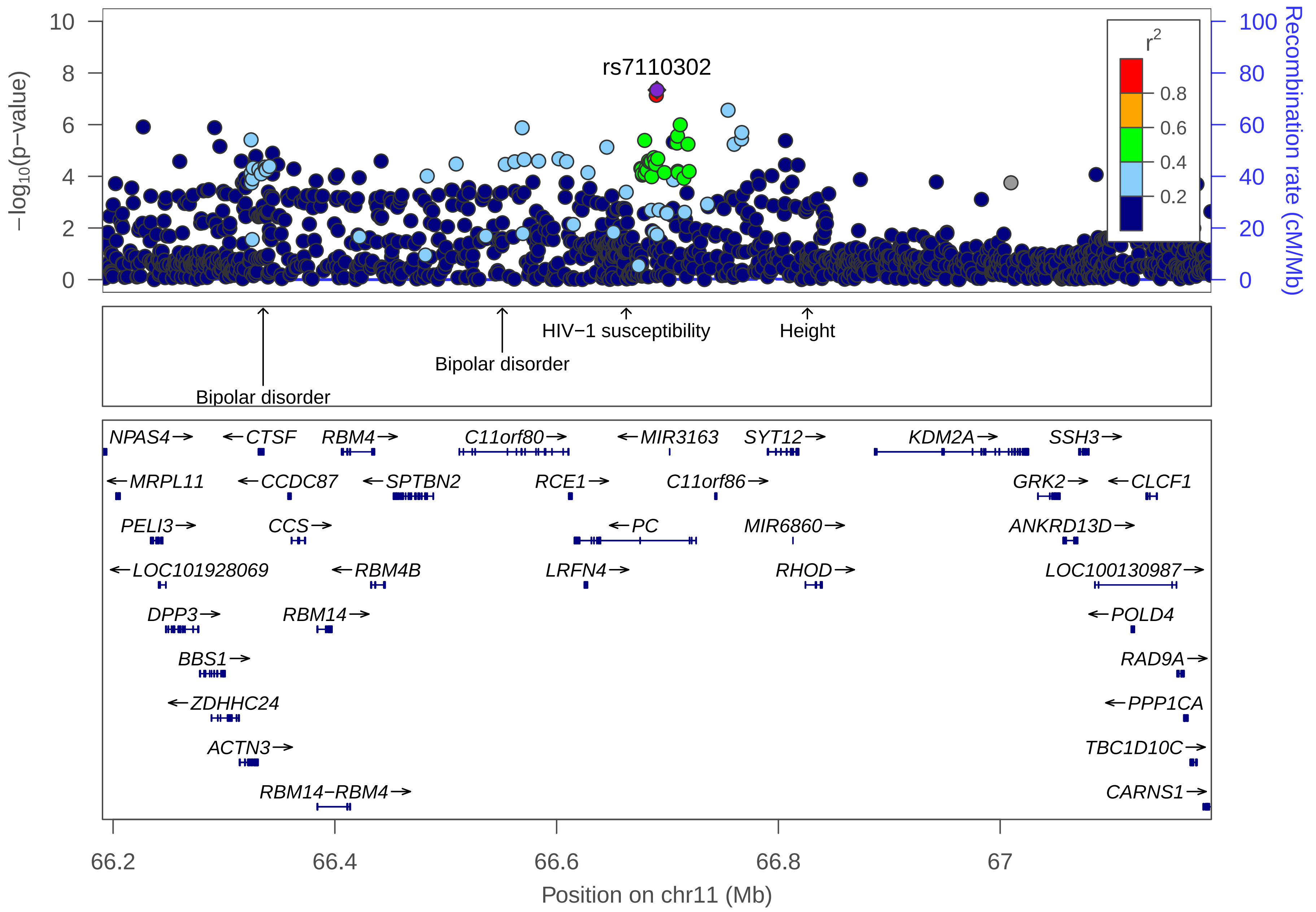

rs531763
r2
0.8
0.6
0.4
0.2
250
200
150
100
50
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Urate levels
Urate levels
Obesity−related traits
Urate levels
Inflammatory bowel disease
Economic and political preferences (fairness)
16 GWAS hits omitted
←MACROD1
PLCB3→
RPS6KA4→
SLC22A11→
←RASGRP2
←EHD1
←MAJIN
ZFPL1→
FLRT1→
←TRPT1
PRDX5→
LOC100996455→
SLC22A12→
←PYGM
←MIR194−2HG
ARL2→
STIP1→
←BAD
MIR1237→
←NRXN2
←SF1
←MIR192
←BATF2
FERMT3→
CCDC88B→
←MAP4K2
←ATG2A
MIR6879→
NUDT22→
←MIR7155
←MEN1
PPP2R5B→
SNX15→
DNAJC4→
←CDC42BPG
ARL2−SNX15→
VEGFB→
←MIR194−2
SAC3D1→
FKBP2→
←MIR6750
←NAALADL1
←PPP1R14B
←MIR6749
←CDCA5
LOC105369340→
←GPHA2
6 genes omitted
64
64.2
64.4
64.6
64.8
Position on chr11 (Mb)

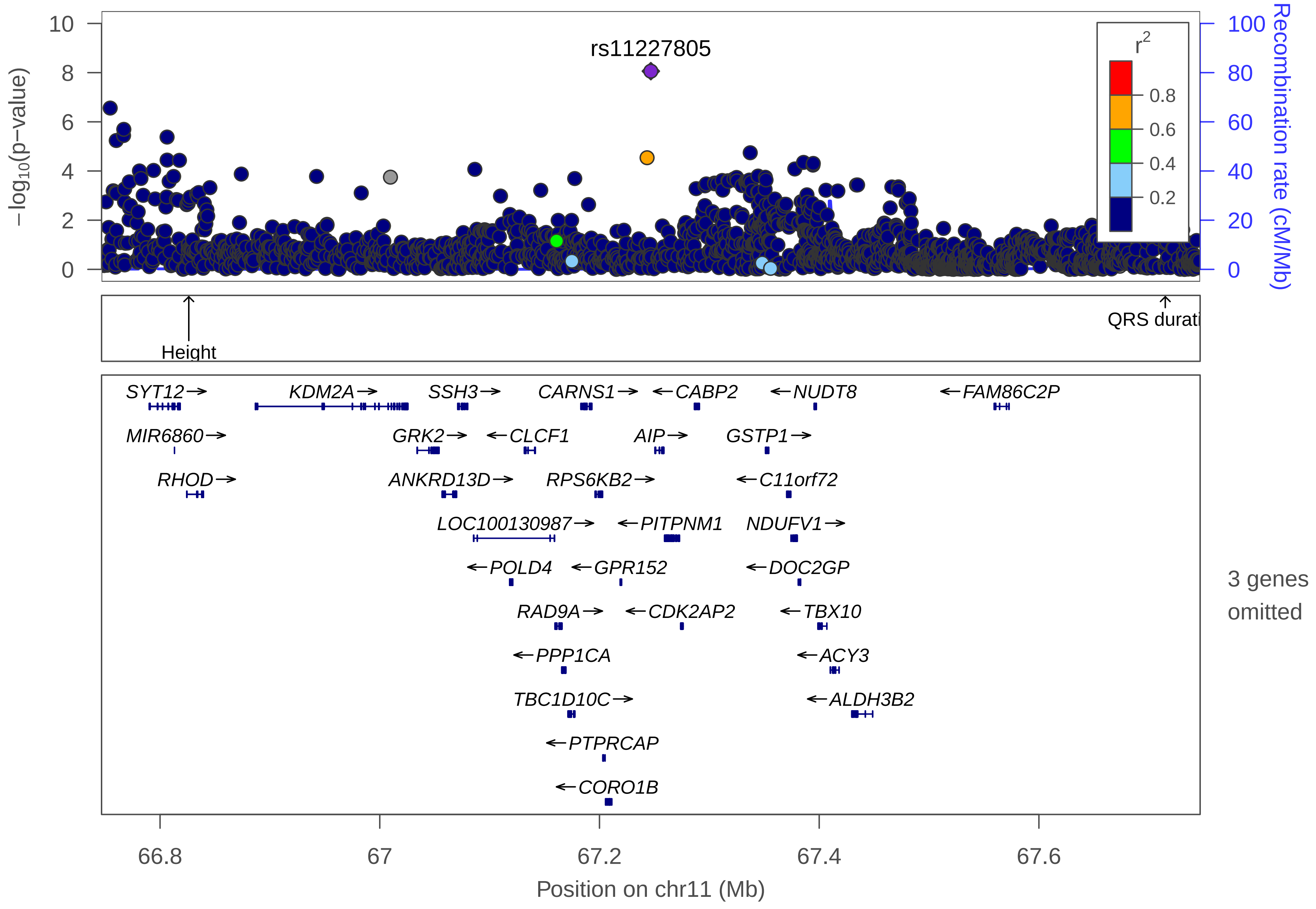

rs34888828
−log10(p−value)
200
150
100
50
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Serum dimethylarginine levels (asymmetric/symetric ratio)
Serum dimethylarginine levels (symmetric)
HDL cholesterol
9 GWAS hits omitted
←NRXN2
←EHD1
←MAJIN
←CDCA5
CAPN1→
CDC42EP2→
NEAT1→
SCYL1→
PCNX3→
←RASGRP2
←MIR192
←BATF2
ZFPL1→
SLC22A20→
DPF2→
MIR612→
←LTBP3
SIPA1→
←PYGM
←MIR194−2HG
ARL2→
VPS51→
POLA2→
FRMD8→
MALAT1→
MIR4690→
←SF1
←MIR194−2
ARL2−SNX15→
SPDYC→
TIGD3→
←TALAM1
MIR4489→
←MAP4K2
←ATG2A
MIR6879→
←FAU
←SLC25A45
MASCRNA→
←RELA
←MEN1
PPP2R5B→
SNX15→
←SYVN1
←SSSCA1−AS1
←CDC42BPG
SAC3D1→
←LOC728975
SSSCA1→
←MIR6750
←NAALADL1
FAM89B→
←MIR6749
←TMEM262
EHBP1L1→
←GPHA2
TM7SF2→
←KCNK7
4 genes omitted
64.6
64.8
65
65.2
65.4
Position on chr11 (Mb)

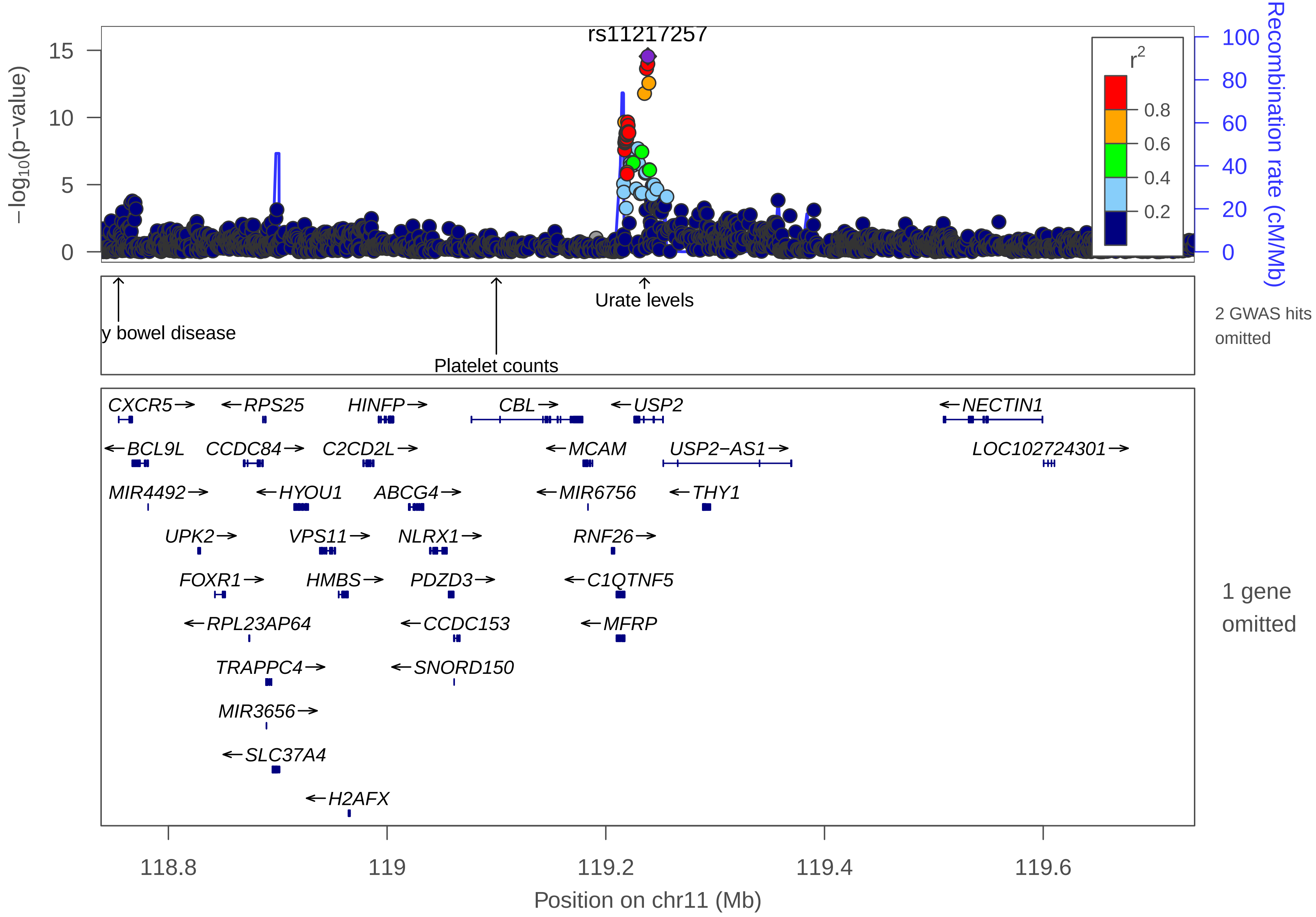

rs4014195
r2
0.8
0.6
0.4
0.2
−log10(p−value)
50
40
30
20
10
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
ethylarginine levels (asymmetric/symetric ratio)
um dimethylarginine levels (symmetric)
HDL cholesterol
Breast cancer
Urate levels
Obesity (early onset extreme)
9 GWAS hits omitted
SLC22A20→
NEAT1→
SCYL1→
PCNX3→
KAT5→
SNX32→
TSGA10IP→
SF3B2→
POLA2→
FRMD8→
MALAT1→
MIR4690→
←AP5B1
CTSW→
SART1→
PACS1→
CDC42EP2→
MIR612→
←LTBP3
SIPA1→
←MIR1234
←FIBP
←EIF1AD
DPF2→
←TALAM1
MIR4489→
OVOL1→
←FOSL1
BANF1→
TIGD3→
MASCRNA→
←RELA
←OVOL1−AS1
←C11orf68
CST6→
←SLC25A45
←SSSCA1−AS1
←RNASEH2C
←CFL1
←CATSPER1
SSSCA1→
MUS81→
←GAL3ST3
FAM89B→
←EFEMP2
SNORD13F→
EHBP1L1→
CCDC85B→
←KCNK7
DRAP1→
1 gene omitted
65.2
65.4
65.6
65.8
66
Position on chr11 (Mb)

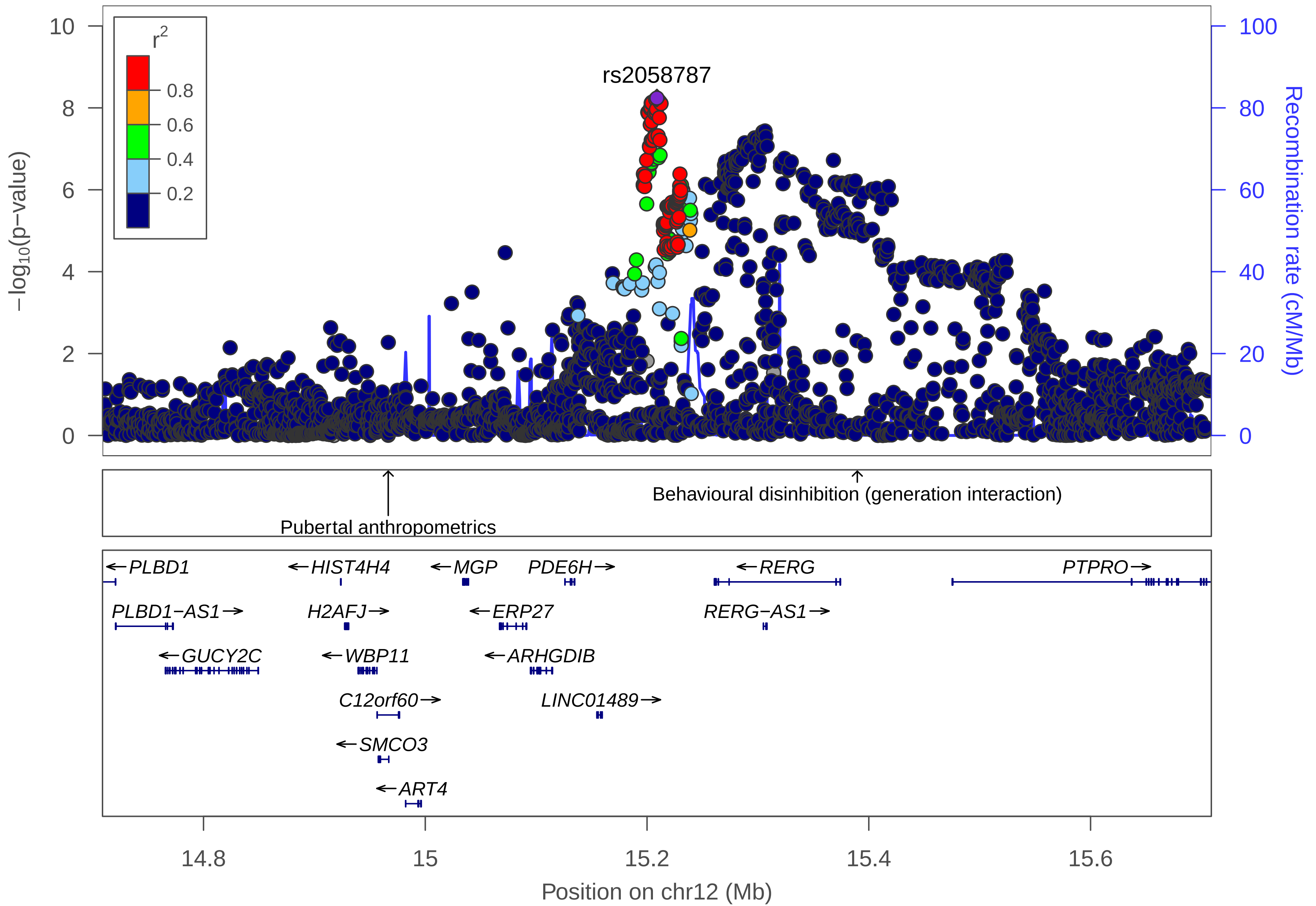


−log10(p−value)
50
40
30
20
10
0
rs4073582
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
ylation (variation)
east cancer
Obesity (early onset extreme)
Bipolar disorder
3 GWAS hits omitted
MIR1234
TSGA10IP
SF3B2
KLC2
SLC29A2
PELI3
CTSF
RBM4
OVOL1
DRAP1
CST6
PACS1
CD248
NPAS4
BBS1
CCS
SPTBN2
OVOL1−AS1
SART1
RAB1B
MRPL11
ACTN3
RBM4B
SNX32
EIF1AD
CNIH2
LOC101928069
RBM14
C11orf80
CFL1
BANF1
YIF1A
DPP3
CCDC87
MUS81
CATSPER1
TMEM151A
ZDHHC24
EFEMP2
GAL3ST3
RIN1
RBM14−RBM4
CTSW
SNORD13F
BRMS1
FIBP
B4GAT1
CCDC85B
LOC102724064
2 genes omitted
65.6
65.8
66
66.2
66.4
Position on chr11 (Mb)

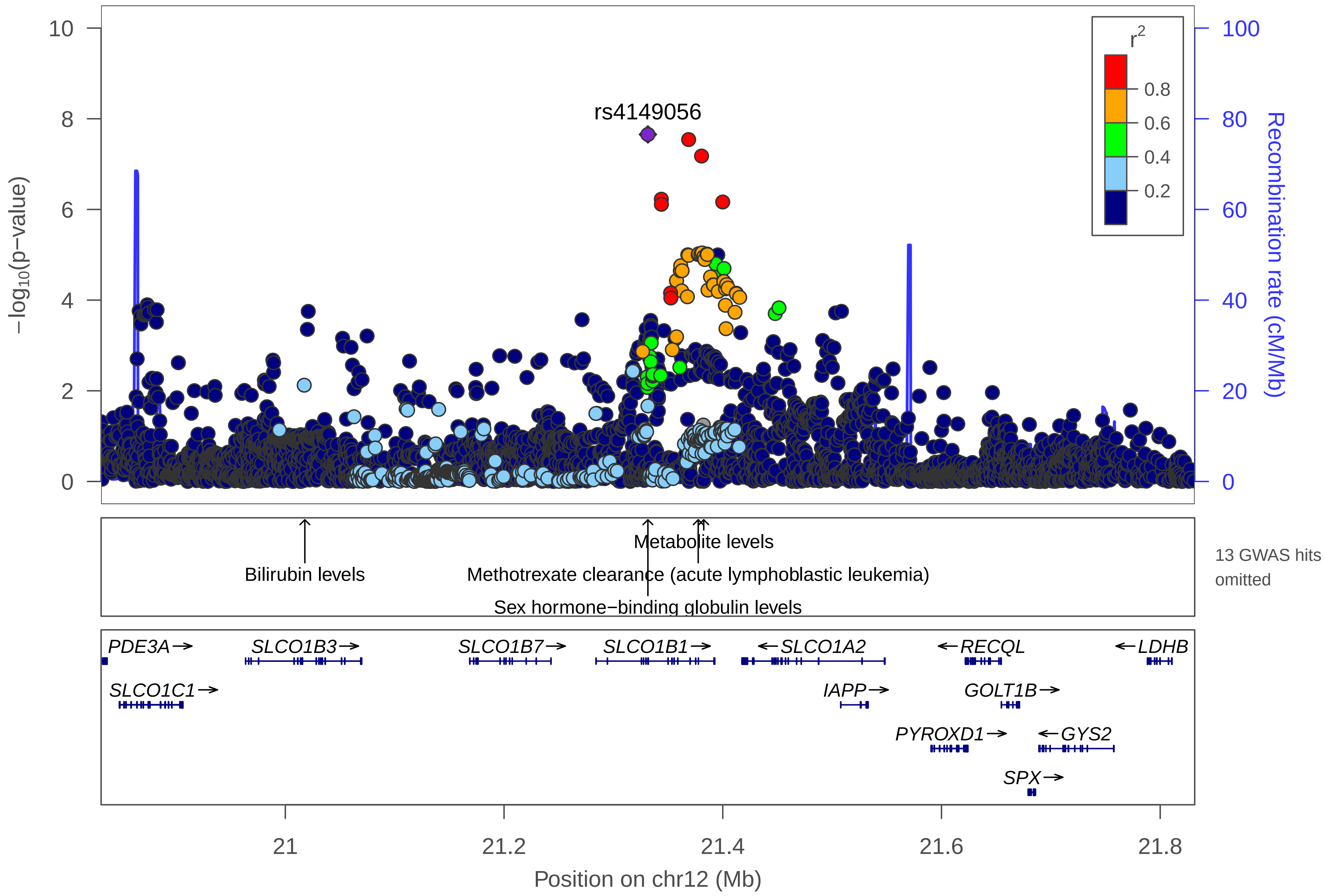

rs7110302
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
0
2
4
6
8
10
0
20
40
60
80
100
Bipolar disorder
Bipolar disorder
HIV−1 susceptibility
Height
NPAS4→
←CTSF
RBM4→
C11orf80→
←MIR3163
SYT12→
KDM2A→
SSH3→
←MRPL11
←CCDC87
←SPTBN2
RCE1→
C11orf86→
GRK2→
←CLCF1
PELI3→
CCS→
←PC
MIR6860→
ANKRD13D→
←LOC101928069
←RBM4B
LRFN4→
RHOD→
LOC100130987→
DPP3→
RBM14→
←POLD4
BBS1→
RAD9A→
←ZDHHC24
←PPP1CA
ACTN3→
TBC1D10C→
RBM14−RBM4→
CARNS1→
66.2
66.4
66.6
66.8
67
Position on chr11 (Mb)

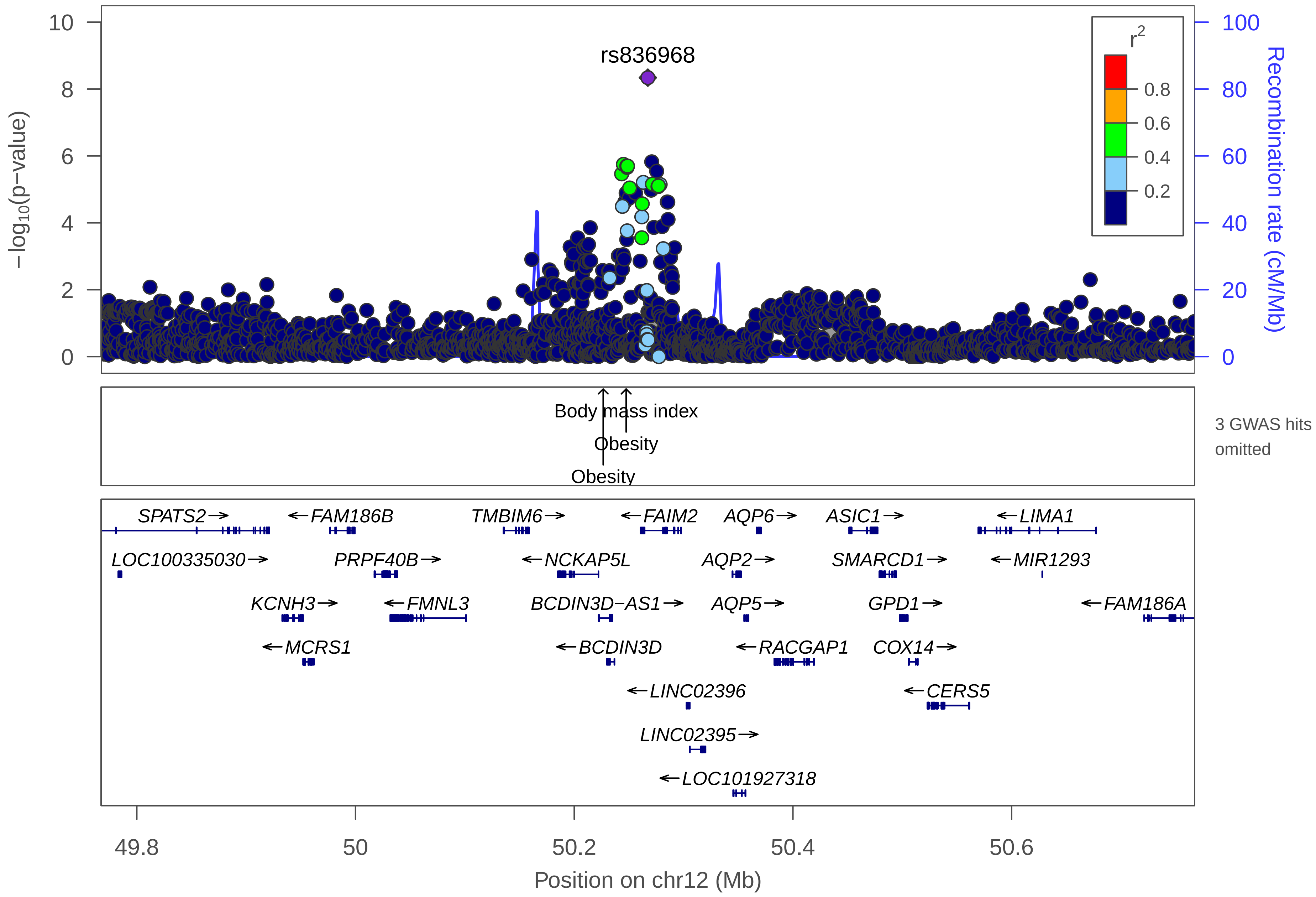

rs11227805
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Height
QRS durati
SYT12→
KDM2A→
SSH3→
CARNS1→
←CABP2
←NUDT8
←FAM86C2P
MIR6860→
GRK2→
←CLCF1
AIP→
GSTP1→
RHOD→
ANKRD13D→
RPS6KB2→
←C11orf72
LOC100130987→
←PITPNM1
NDUFV1→
←POLD4
←GPR152
←DOC2GP
RAD9A→
←CDK2AP2
←TBX10
←PPP1CA
←ACY3
TBC1D10C→
←ALDH3B2
←PTPRCAP
←CORO1B
3 genes omitted
66.8
67
67.2
67.4
67.6
Position on chr11 (Mb)

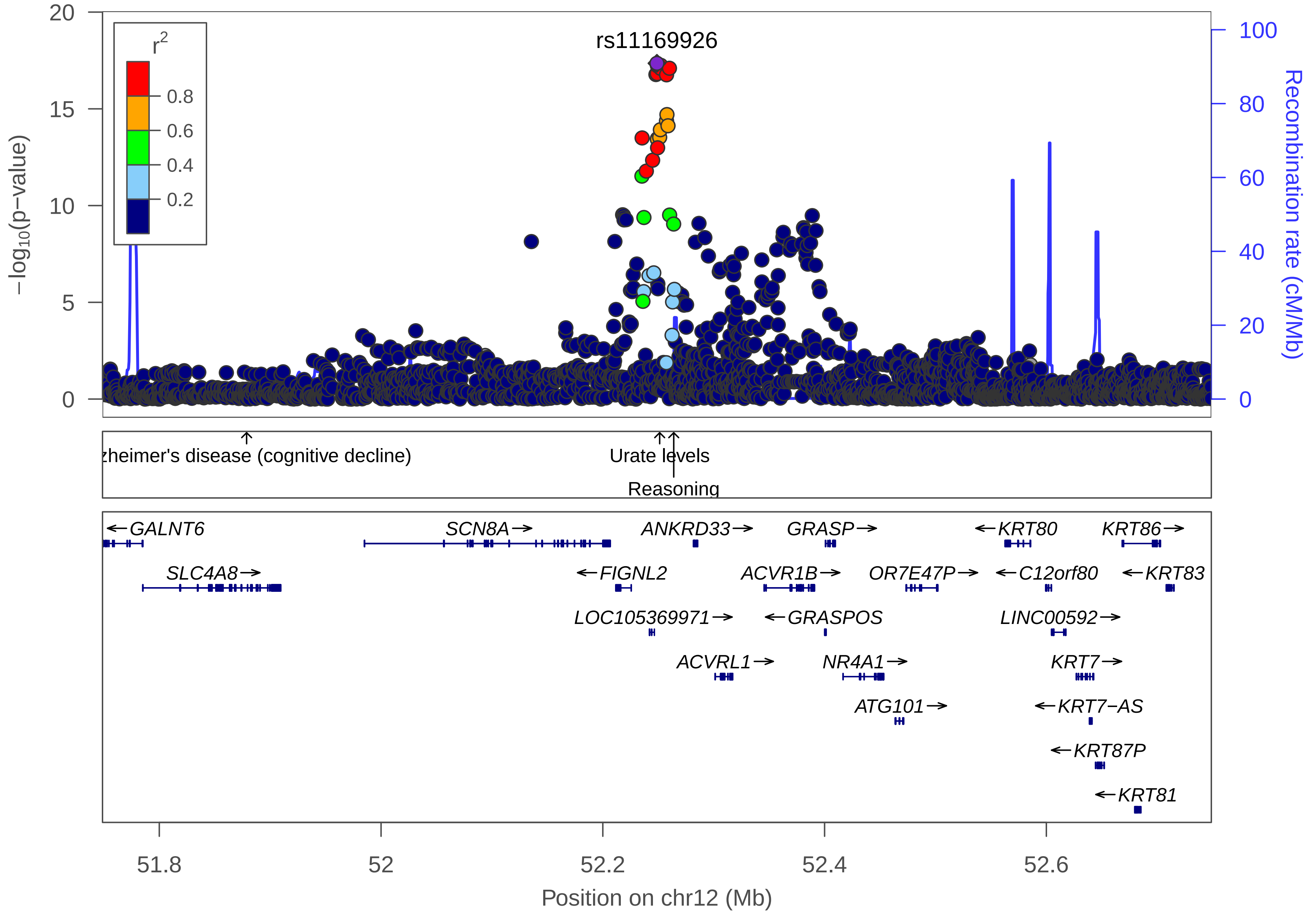

rs11217257
−log10(p−value)
15
10
5
0
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
y bowel disease
Platelet counts
Urate levels
2 GWAS hits omitted
CXCR5→
←RPS25
HINFP→
CBL→
←USP2
←NECTIN1
←BCL9L
CCDC84→
C2CD2L→
←MCAM
USP2−AS1→
LOC102724301→
MIR4492→
←HYOU1
ABCG4→
←MIR6756
←THY1
UPK2→
VPS11→
NLRX1→
RNF26→
FOXR1→
HMBS→
PDZD3→
←C1QTNF5
←RPL23AP64
←CCDC153
←MFRP
TRAPPC4→
←SNORD150
MIR3656→
←SLC37A4
←H2AFX
1 gene omitted
118.8
119
119.2
119.4
119.6
Position on chr11 (Mb)

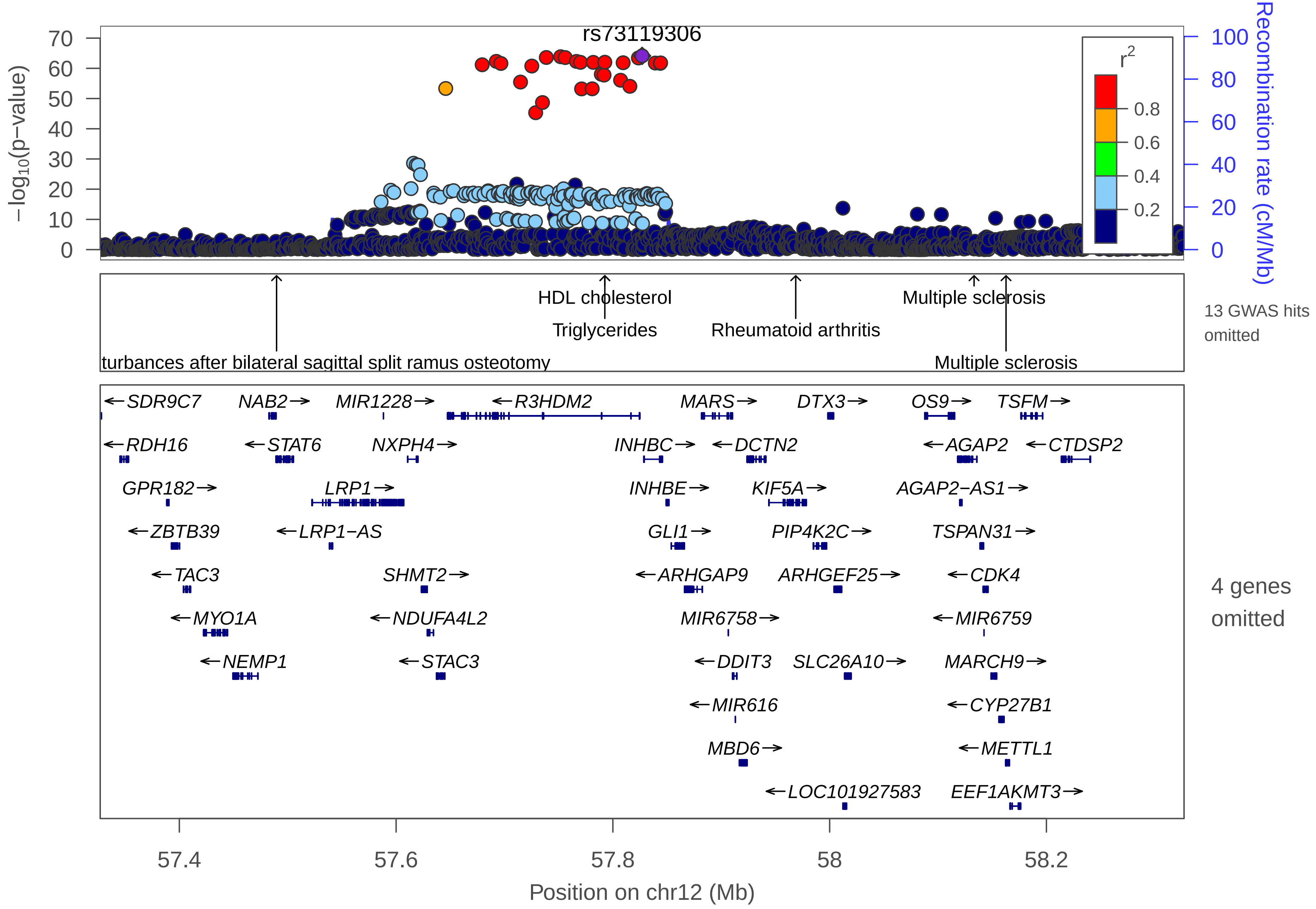


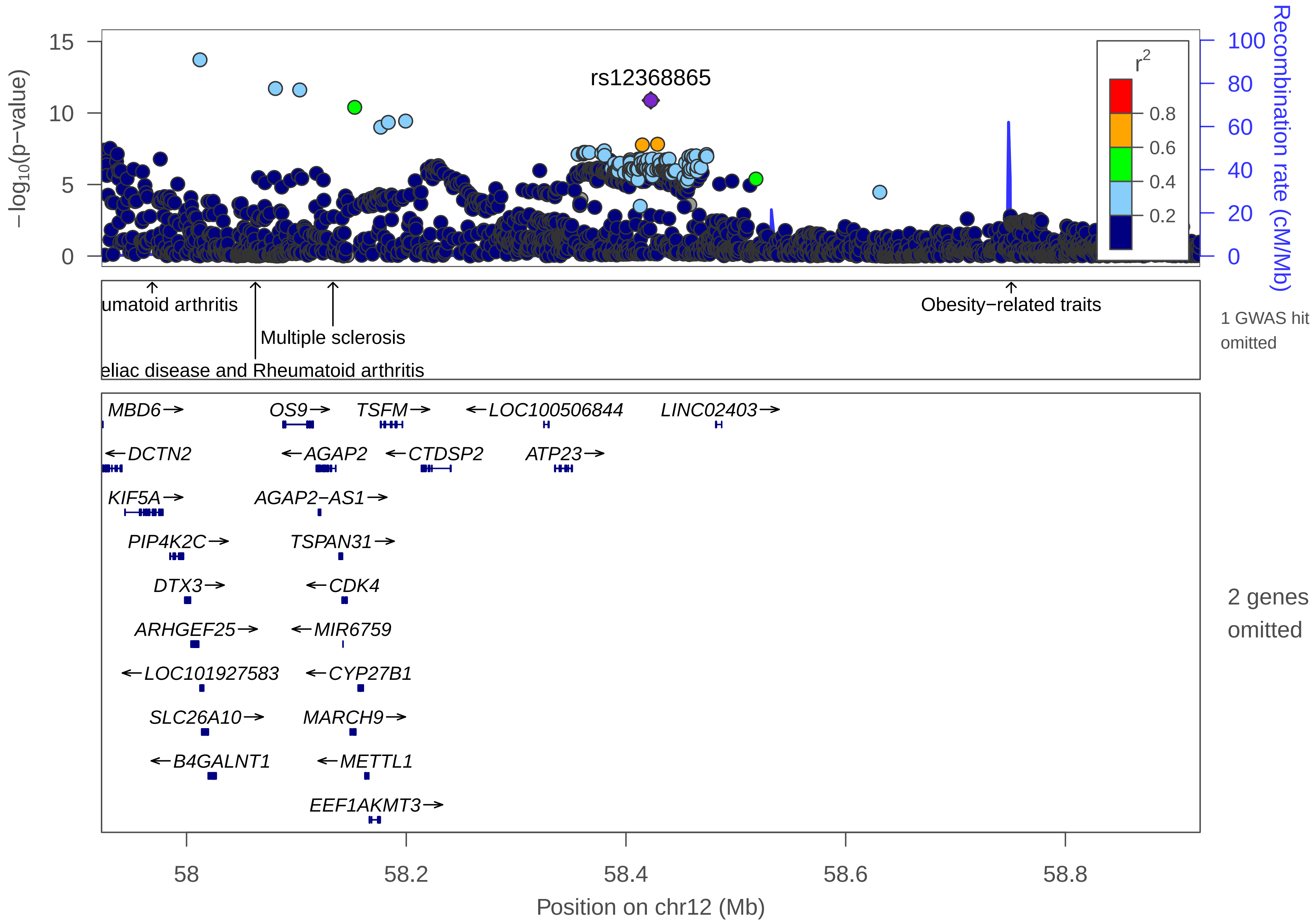
r2
0.8
0.6
0.4
0.2
rs2058787
−log10(p−value)
Recombination rate (cM/Mb)
10
8
6
4
2
0
100
80
60
40
20
0
Pubertal anthropometrics
Behavioural disinhibition (generation interaction)
←PLBD1
←HIST4H4
←MGP
PDE6H→
←RERG
PTPRO→
PLBD1−AS1→
H2AFJ→
←ERP27
RERG−AS1→
←GUCY2C
←WBP11
←ARHGDIB
C12orf60→
LINC01489→
←SMCO3
←ART4
14.8
15
15.2
15.4
15.6
Position on chr12 (Mb)


rs4149056
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
Recombination rate (cM/Mb)
0
2
4
6
8
10
0
20
40
60
80
100
Bilirubin levels
Metabolite levels
Methotrexate clearance (acute lymphoblastic leukemia)
Sex hormone−binding globulin levels
13 GWAS hits omitted
PDE3A→
SLCO1B3→
SLCO1B7→
SLCO1B1→
←SLCO1A2
←RECQL
←LDHB
SLCO1C1→
IAPP→
GOLT1B→
PYROXD1→
←GYS2
SPX→
21
21.2
21.4
21.6
21.8
Position on chr12 (Mb)

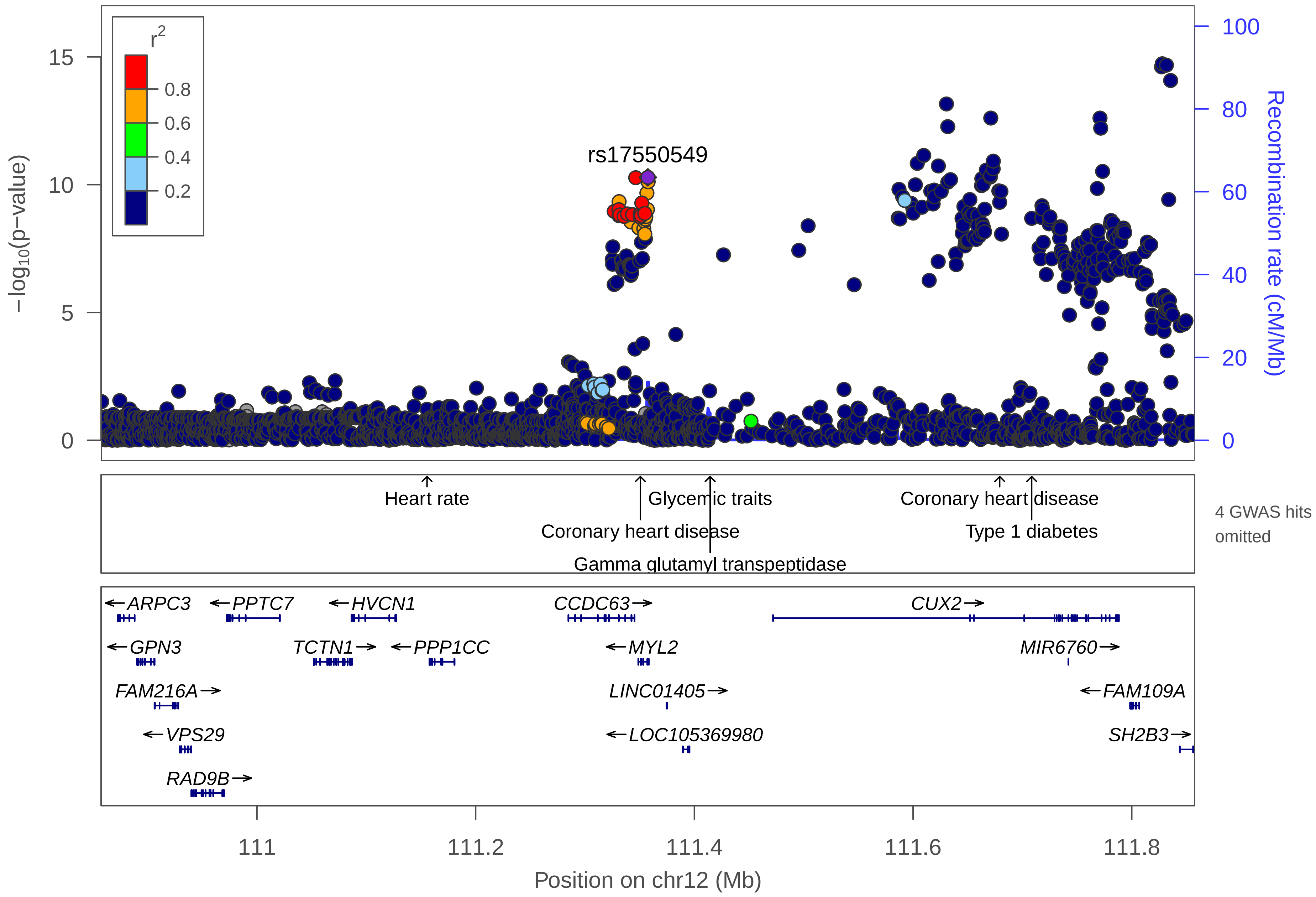

rs836968
−log10(p−value)
10
8
6
4
2
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
Body mass index
Obesity
Obesity
3 GWAS hits omitted
SPATS2→
←FAM186B
TMBIM6→
←FAIM2
AQP6→
ASIC1→
←LIMA1
LOC100335030→
PRPF40B→
←NCKAP5L
AQP2→
SMARCD1→
←MIR1293
KCNH3→
←FMNL3
BCDIN3D−AS1→
AQP5→
GPD1→
←FAM186A
←MCRS1
←BCDIN3D
←RACGAP1
COX14→
←LINC02396
←CERS5
LINC02395→
←LOC101927318
49.8
50
50.2
50.4
50.6
Position on chr12 (Mb)


rs11169926
r2
0.8
0.6
0.4
0.2
20
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
zheimer's disease (cognitive decline)
Urate levels
Reasoning
←GALNT6
SCN8A→
ANKRD33→
GRASP→
←KRT80
KRT86→
SLC4A8→
←FIGNL2
ACVR1B→
OR7E47P→
←C12orf80
←KRT83
LOC105369971→
←GRASPOS
LINC00592→
ACVRL1→
NR4A1→
KRT7→
ATG101→
←KRT7−AS
←KRT87P
←KRT81
51.8
52
52.2
52.4
52.6
Position on chr12 (Mb)

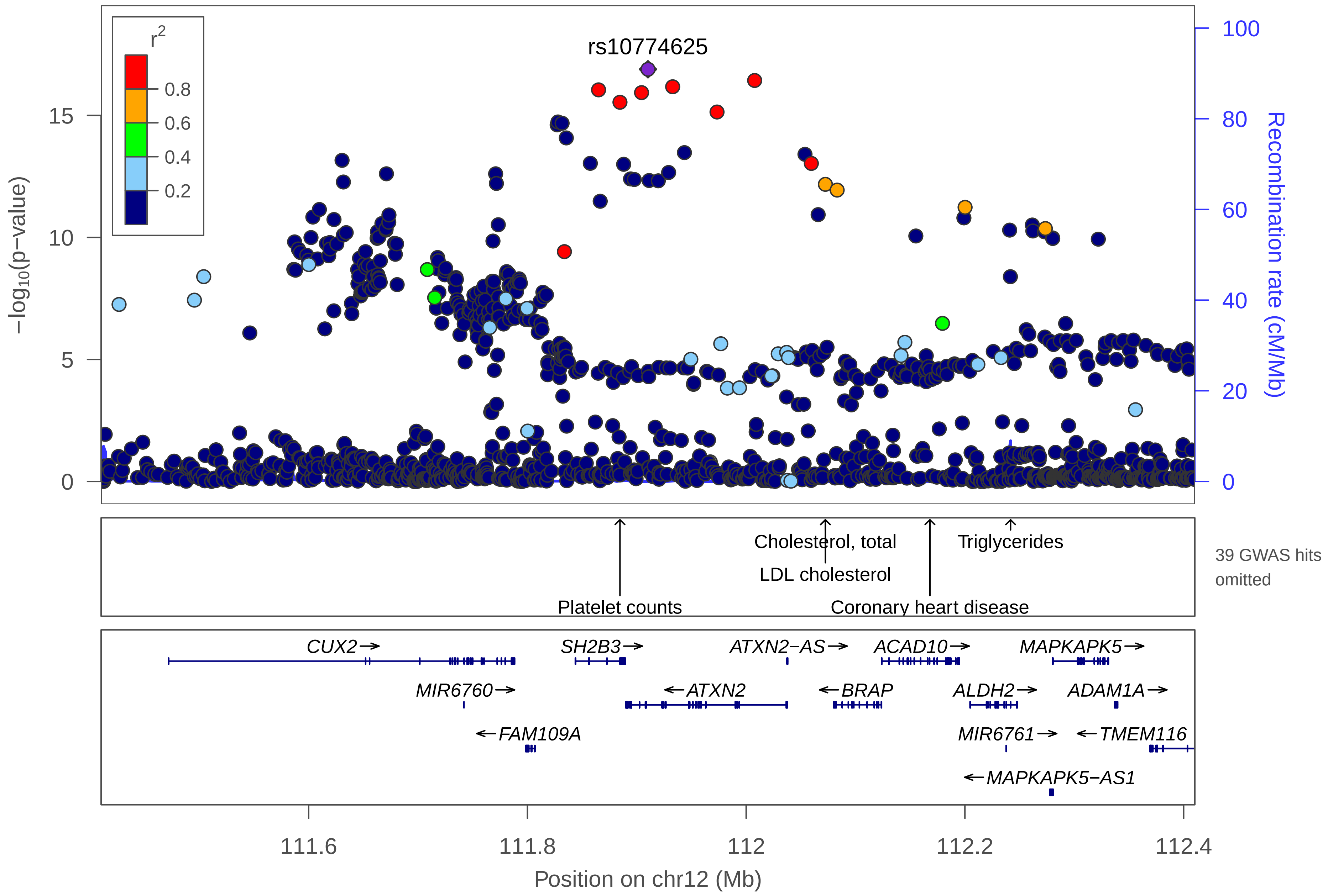

rs73119306
−log10(p−value)
70
60
50
40
30
20
10
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r²
0.8
0.6
0.4
0.2
HDL cholesterol
Triglycerides
Rheumatoid arthritis
Multiple sclerosis
Multiple sclerosis
turbances after bilateral sagittal split ramus osteotomy
13 GWAS hits omitted
←SDR9C7
NAB2→
MIR1228→
←R3HDM2
MARS→
DTX3→
OS9→
TSFM→
←RDH16
←STAT6
NXPH4→
INHBC→
←DCTN2
←AGAP2
←CTDSP2
GPR182→
LRP1→
INHBE→
KIF5A→
AGAP2−AS1→
←ZBTB39
←LRP1−AS
GLI1→
PIP4K2C→
TSPAN31→
←TAC3
SHMT2→
←ARHGAP9
ARHGEF25→
←CDK4
←MYO1A
←NDUFA4L2
MIR6758→
←MIR6759
←NEMP1
←STAC3
←DDIT3
SLC26A10→
MARCH9→
←MIR616
←CYP27B1
MBD6→
←METTL1
←LOC101927583
EEF1AKMT3→
4 genes omitted
57.4
57.6
57.8
58
58.2
Position on chr12 (Mb)

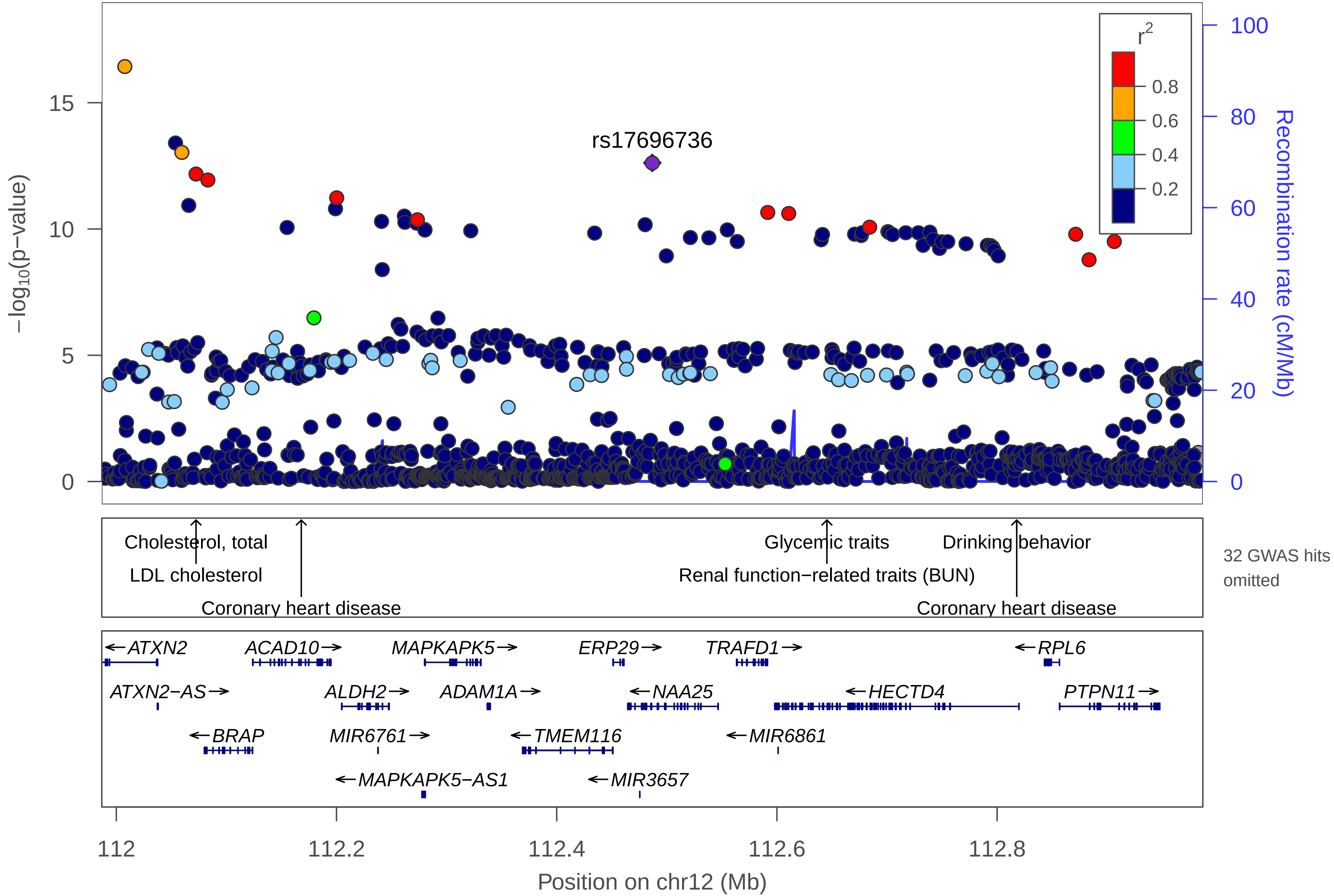


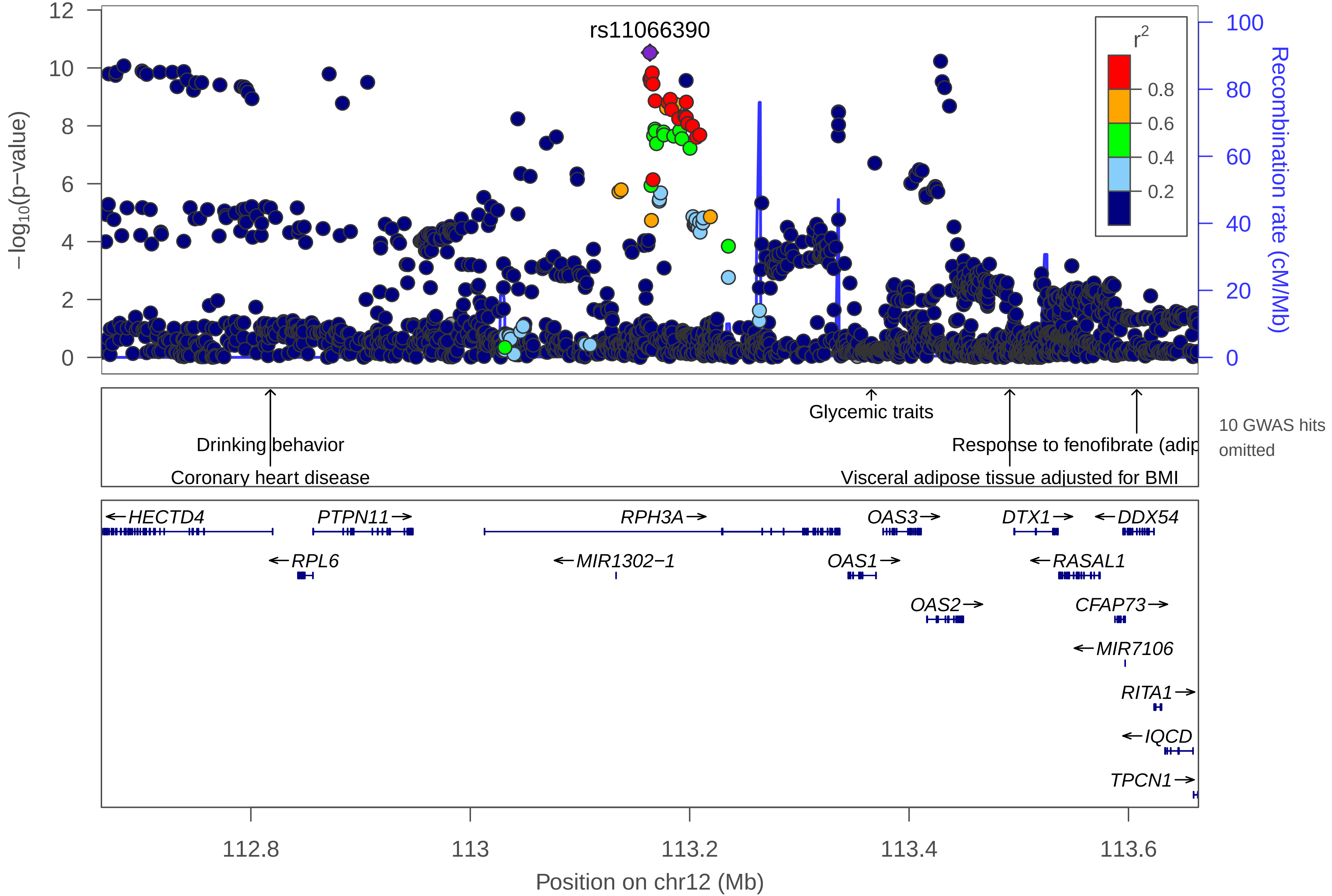
15
10
5
0
−log10(p−value)
rs12368865
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
umatoid arthritis
Multiple sclerosis
eliac disease and Rheumatoid arthritis
Obesity−related traits
1 GWAS hit omitted
MBD6→
OS9→
TSFM→
←LOC100506844
LINC02403→
←DCTN2
←AGAP2
←CTDSP2
ATP23→
KIF5A→
AGAP2−AS1→
PIP4K2C→
TSPAN31→
DTX3→
←CDK4
ARHGEF25→
←MIR6759
←LOC101927583
←CYP27B1
SLC26A10→
MARCH9→
←B4GALNT1
←METTL1
EEF1AKMT3→
2 genes omitted
58
58.2
58.4
58.6
58.8
Position on chr12 (Mb)

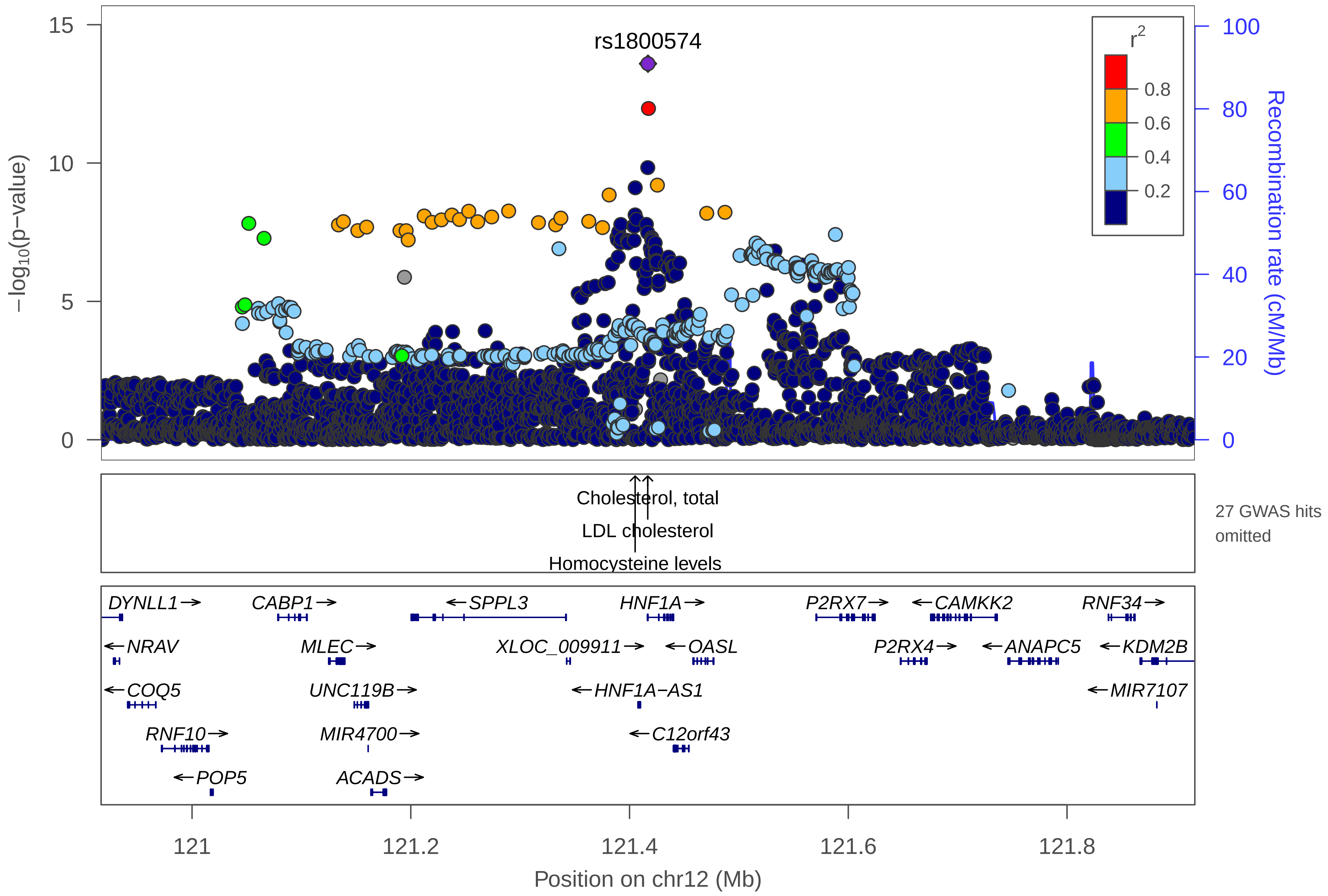


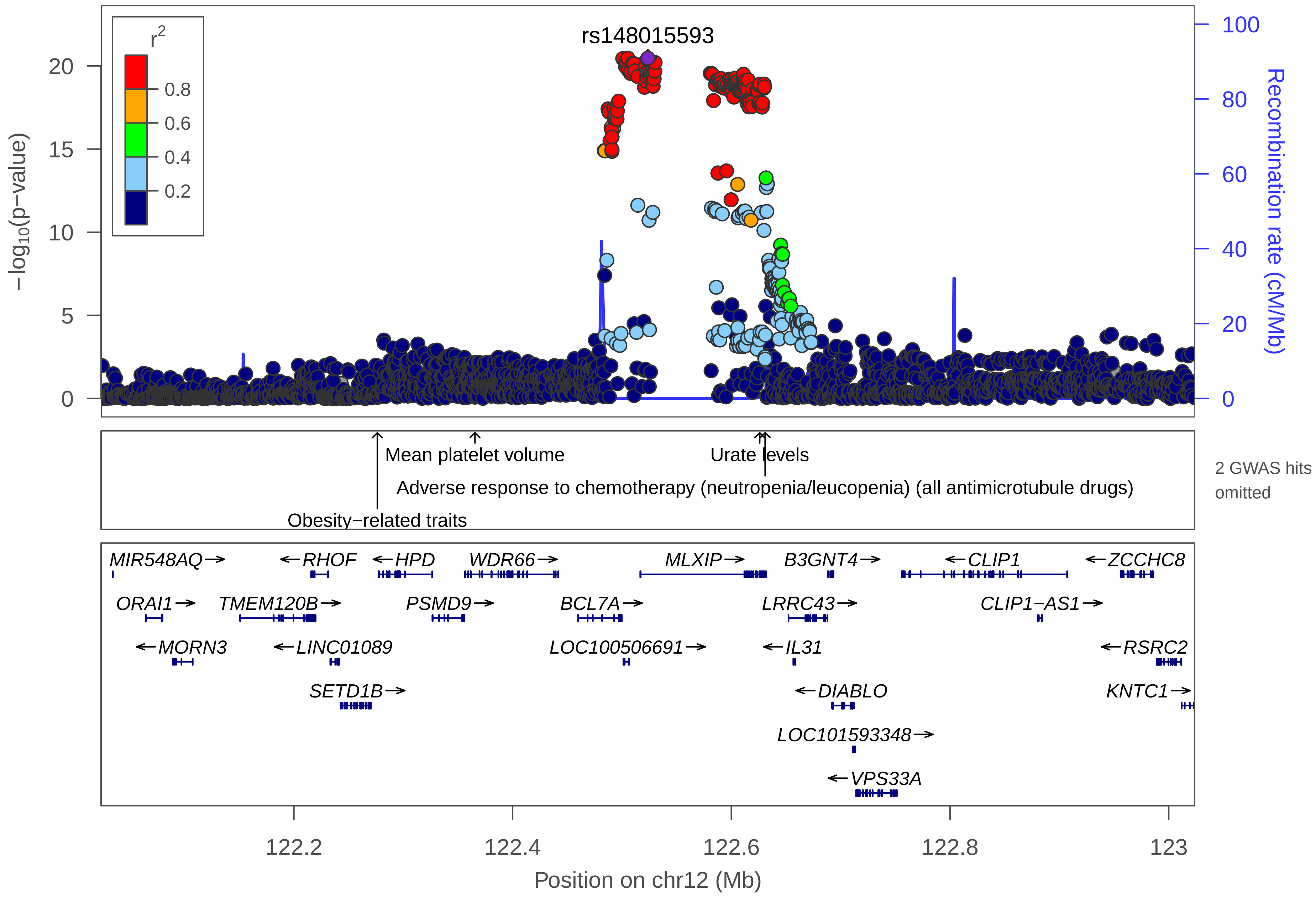
r2
0.8
0.6
0.4
0.2
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs17550549
Heart rate
Glycemic traits
Coronary heart disease
Coronary heart disease
Type 1 diabetes
Gamma glutamyl transpeptidase
4 GWAS hits omitted
←ARPC3
←PPTC7
←HVCN1
CCDC63→
CUX2→
←GPN3
TCTN1→
←PPP1CC
←MYL2
MIR6760→
FAM216A→
LINC01405→
←FAM109A
←VPS29
←LOC105369980
SH2B3→
RAD9B→
111
111.2
111.4
111.6
111.8
Position on chr12 (Mb)

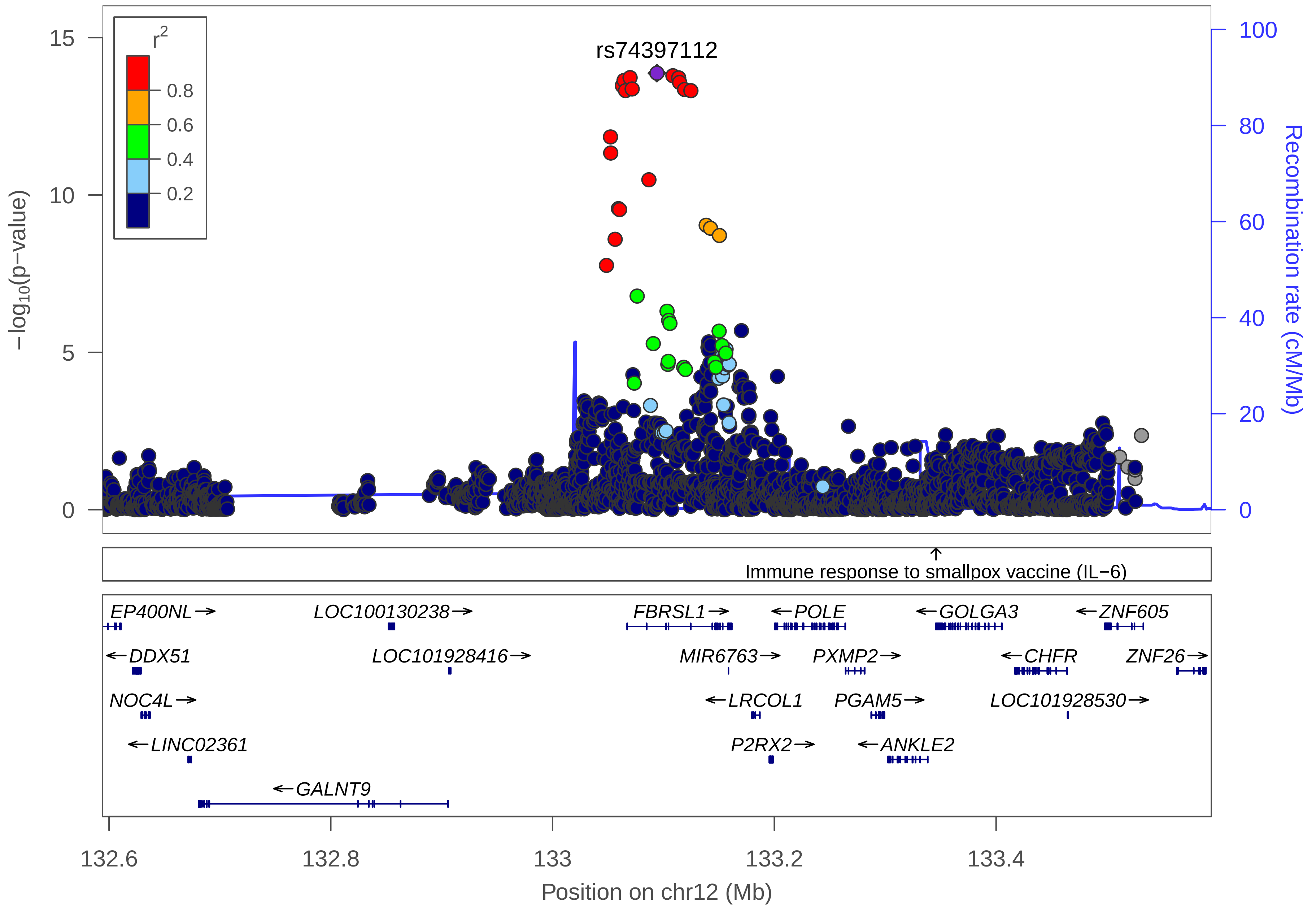

r²
0.8
0.6
0.4
0.2
rs10774625
−log₁₀(p−value)
0
5
10
15
Recombination rate (cM/Mb)
0
20
40
60
80
100
Platelet counts
Cholesterol, total
LDL cholesterol
Coronary heart disease
Triglycerides
39 GWAS hits omitted
CUX2→
MIR6760→
←FAM109A
SH2B3→
←ATXN2
ATXN2−AS→
←BRAP
ACAD10→
ALDH2→
MIR6761→
←MAPKAPK5−AS1
MAPKAPK5→
ADAM1A→
←TMEM116
111.6
111.8
112
112.2
112.4
Position on chr12 (Mb)

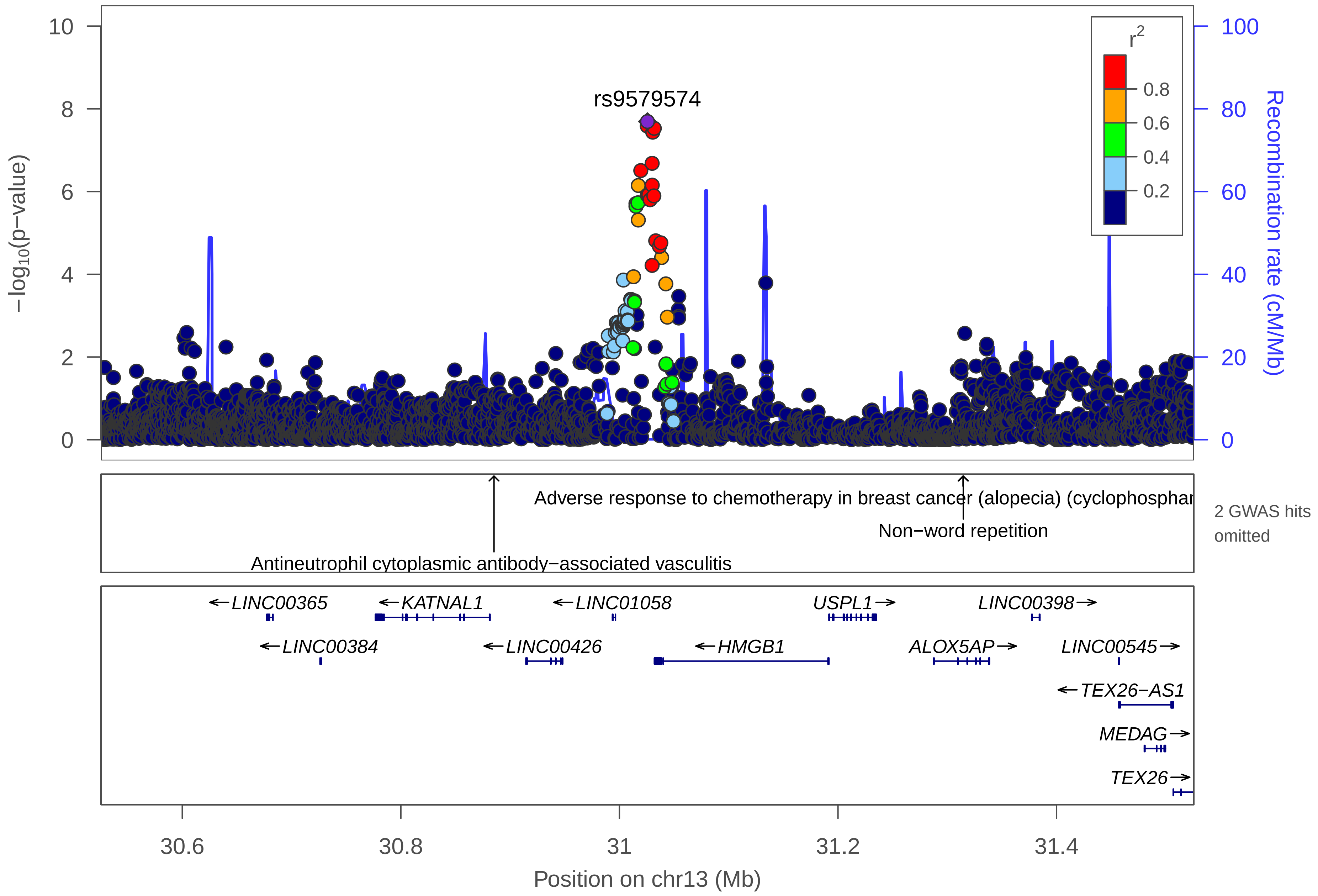

rs17696736
r²
0.8
0.6
0.4
0.2
−log10(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Cholesterol, total
LDL cholesterol
Coronary heart disease
Glycemic traits
Drinking behavior
Renal function−related traits (BUN)
Coronary heart disease
32 GWAS hits omitted
←ATXN2
ACAD10→
MAPKAPK5→
ERP29→
TRAFD1→
←RPL6
ATXN2−AS→
ALDH2→
ADAM1A→
←NAA25
←HECTD4
PTPN11→
←BRAP
MIR6761→
←TMEM116
←MIR6861
←MAPKAPK5−AS1
←MIR3657
112
112.2
112.4
112.6
112.8
Position on chr12 (Mb)

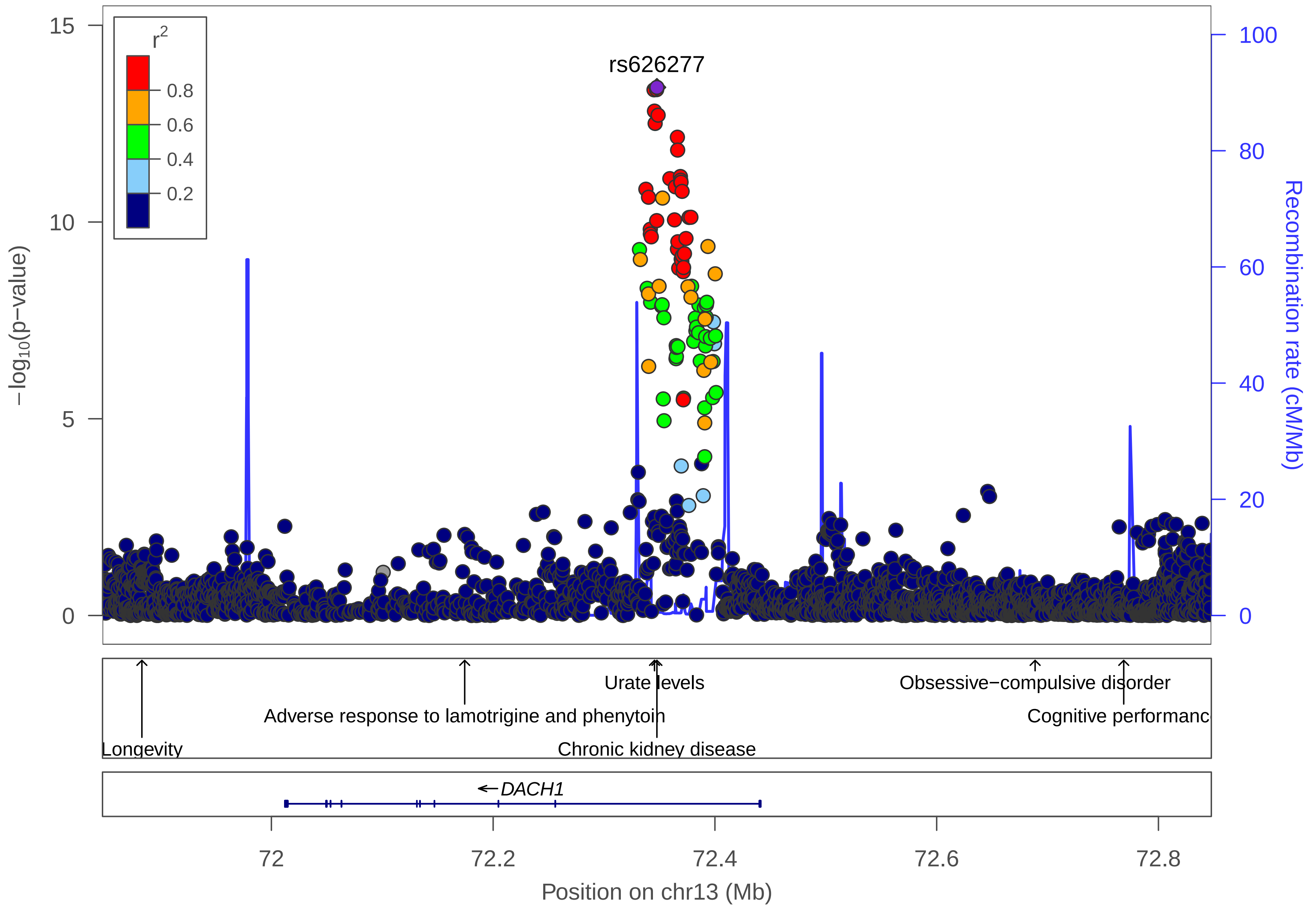

rs11066390
r²
0.8
0.6
0.4
0.2
−log10(p−value)
12
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Drinking behavior
Coronary heart disease
Glycemic traits
Response to fenofibrate (adip
Visceral adipose tissue adjusted for BMI
10 GWAS hits omitted
←HECTD4
PTPN11→
RPH3A→
OAS3→
DTX1→
←DDX54
←RPL6
←MIR1302−1
OAS1→
←RASAL1
OAS2→
CFAP73→
←MIR7106
RITA1→
←IQCD
TPCN1→
112.8
113
113.2
113.4
113.6
Position on chr12 (Mb)

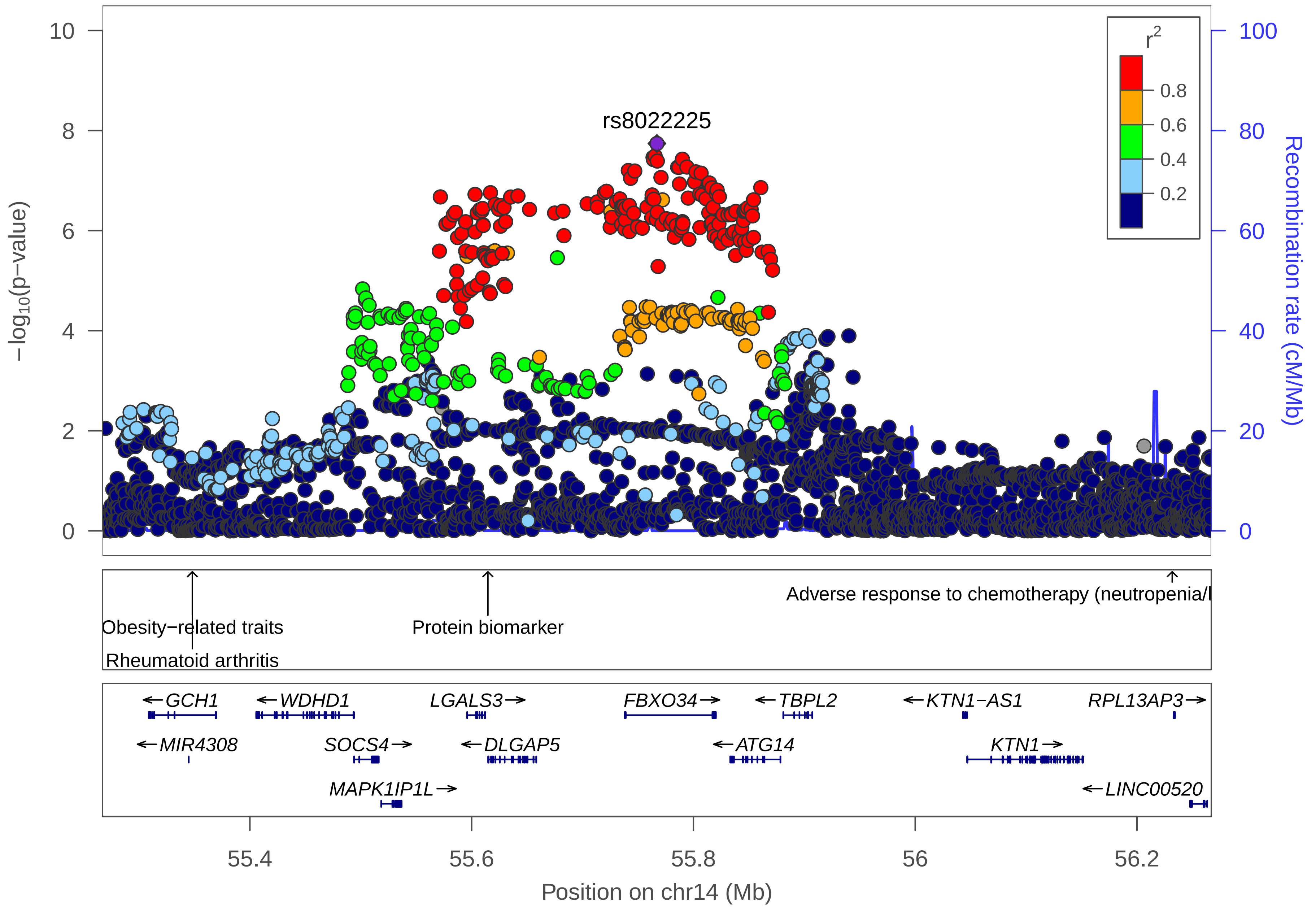

rs1800574
r²
0.8
0.6
0.4
0.2
15
10
5
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Cholesterol, total
LDL cholesterol
Homocysteine levels
27 GWAS hits omitted
DYNLL1→
CABP1→
←SPPL3
HNF1A→
P2RX7→
←CAMKK2
RNF34→
←NRAV
MLEC→
XLOC_009911→
←OASL
P2RX4→
←ANAPC5
←KDM2B
←COQ5
UNC119B→
←HNF1A−AS1
←MIR7107
RNF10→
MIR4700→
←C12orf43
←POP5
ACADS→
121
121.2
121.4
121.6
121.8
Position on chr12 (Mb)

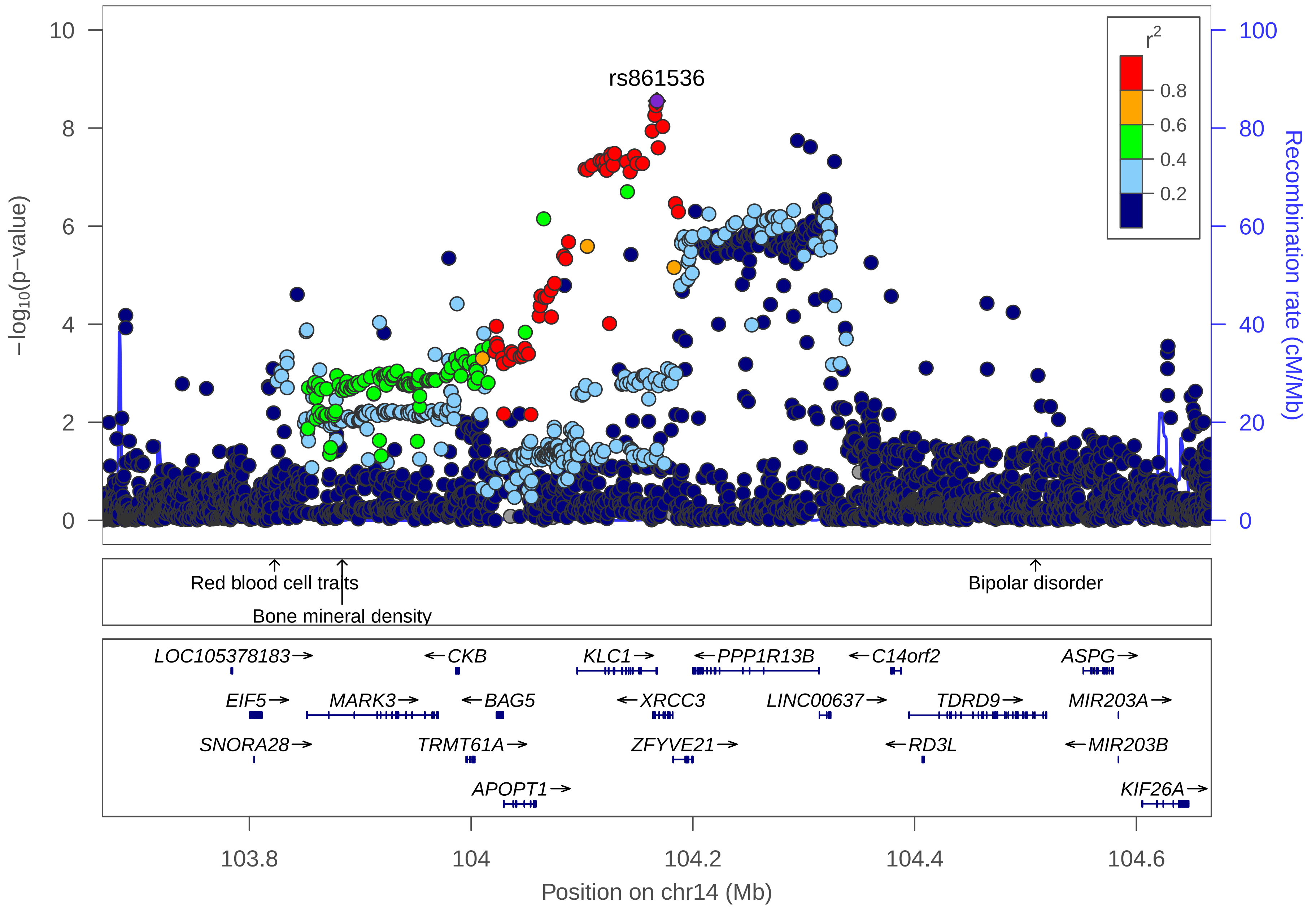

rs148015593
r2
0.8
0.6
0.4
0.2
−log10(p−value)
0
5
10
15
20
Recombination rate (cM/Mb)
0
20
40
60
80
100
Mean platelet volume
Urate levels
Adverse response to chemotherapy (neutropenia/leucopenia) (all antimicrotubule drugs)
Obesity−related traits
2 GWAS hits omitted
MIR548AQ→
←RHOF
←HPD
WDR66→
MLXIP→
B3GNT4→
←CLIP1
←ZCCHC8
ORAI1→
TMEM120B→
PSMD9→
BCL7A→
LRRC43→
CLIP1−AS1→
←MORN3
←LINC01089
LOC100506691→
←IL31
←RSRC2
SETD1B→
←DIABLO
KNTC1→
LOC101593348→
←VPS33A
122.2
122.4
122.6
122.8
123
Position on chr12 (Mb)

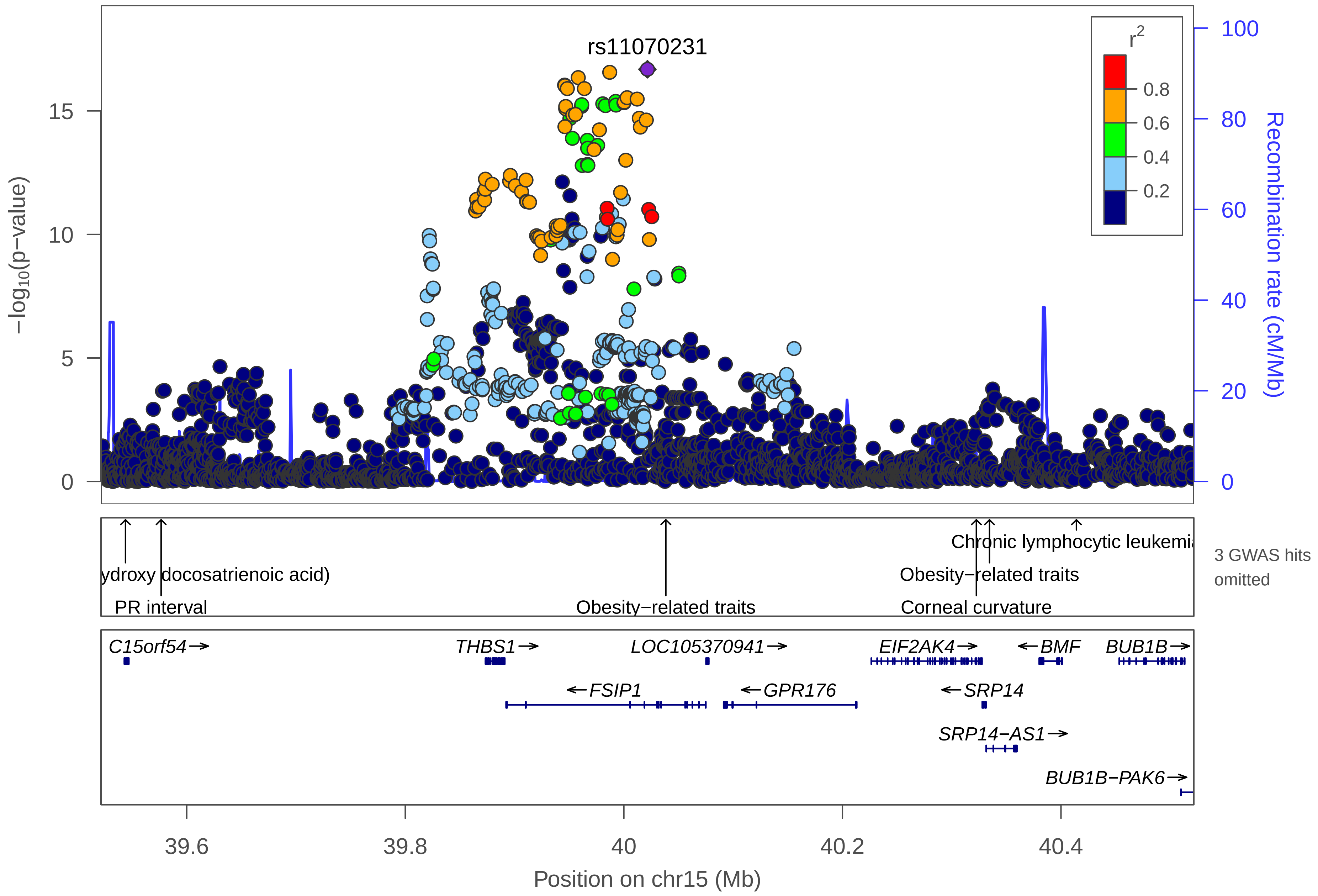

rs74397112
r2
0.8
0.6
0.4
0.2
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Immune response to smallpox vaccine (IL−6)
EP400NL→
LOC100130238→
FBRSL1→
←POLE
←GOLGA3
←ZNF605
←DDX51
LOC101928416→
MIR6763→
PXMP2→
←CHFR
ZNF26→
NOC4L→
←LRCOL1
PGAM5→
LOC101928530→
←LINC02361
P2RX2→
←ANKLE2
←GALNT9
132.6
132.8
133
133.2
133.4
Position on chr12 (Mb)

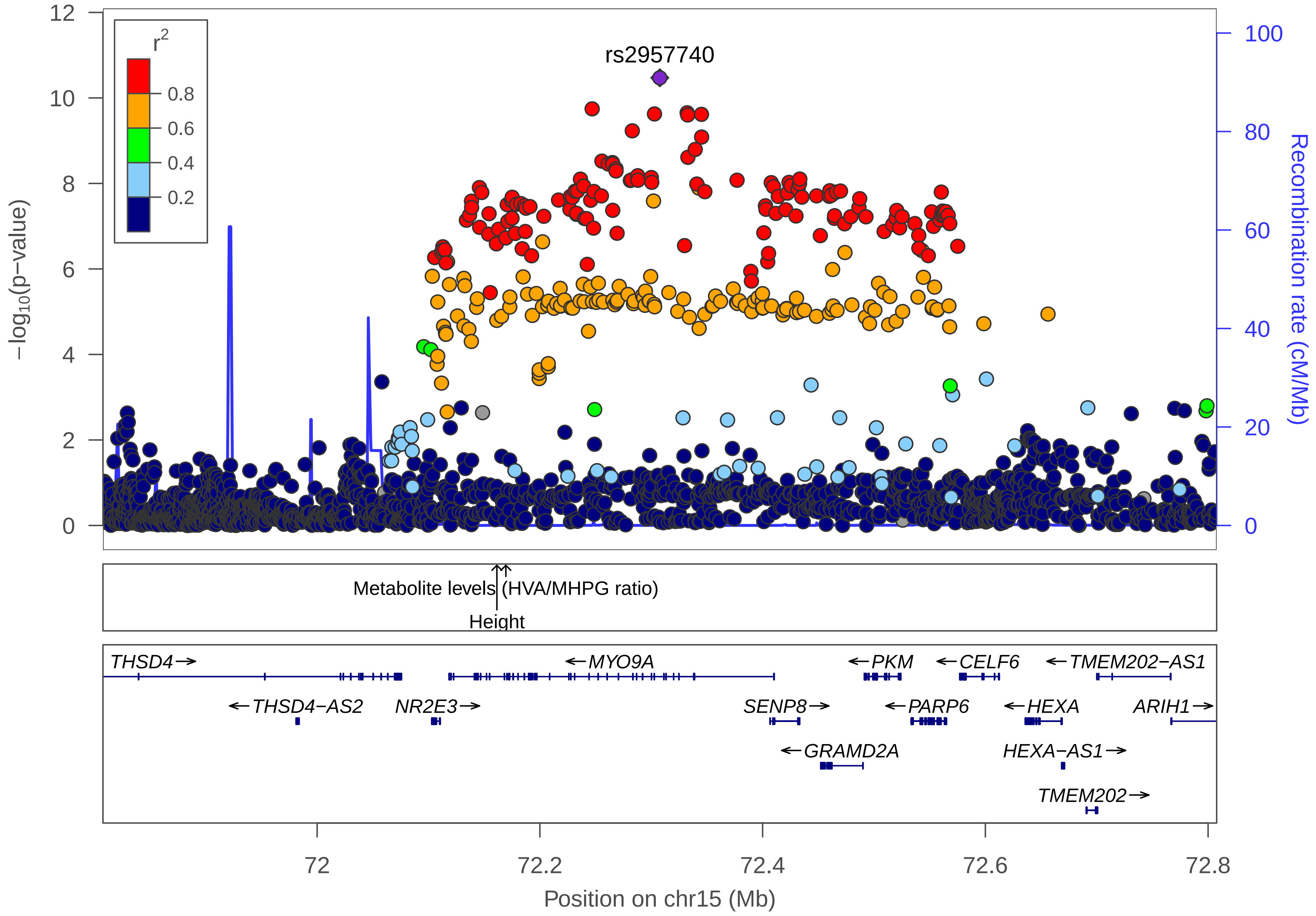

rs9579574
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.8
0.6
0.4
0.2
Adverse response to chemotherapy in breast cancer (alopecia) (cyclophosphar
Non−word repetition
Antineutrophil cytoplasmic antibody−associated vasculitis
2 GWAS hits omitted
←LINC00365
←KATNAL1
←LINC01058
USPL1→
LINC00398→
←LINC00384
←LINC00426
←HMGB1
ALOX5AP→
LINC00545→
←TEX26−AS1
MEDAG→
TEX26→
30.6
30.8
31
31.2
31.4
Position on chr13 (Mb)

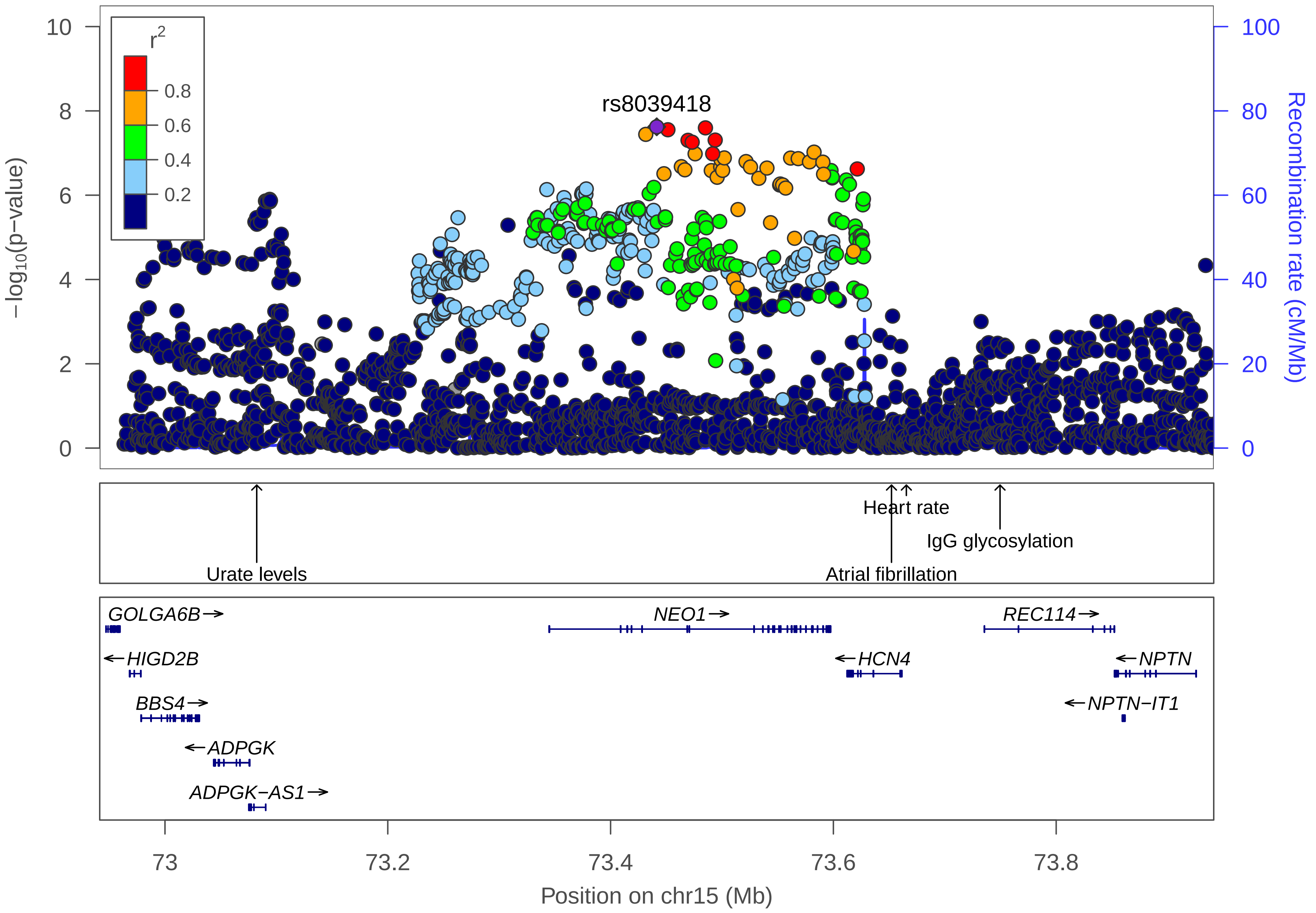

r2
0.8
0.6
0.4
0.2
rs626277
−log10(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Longevity
Adverse response to lamotrigine and phenytoin
Urate levels
Chronic kidney disease
Obsessive−compulsive disorder
Cognitive performanc
← DACH1
72
72.2
72.4
72.6
72.8
Position on chr13 (Mb)

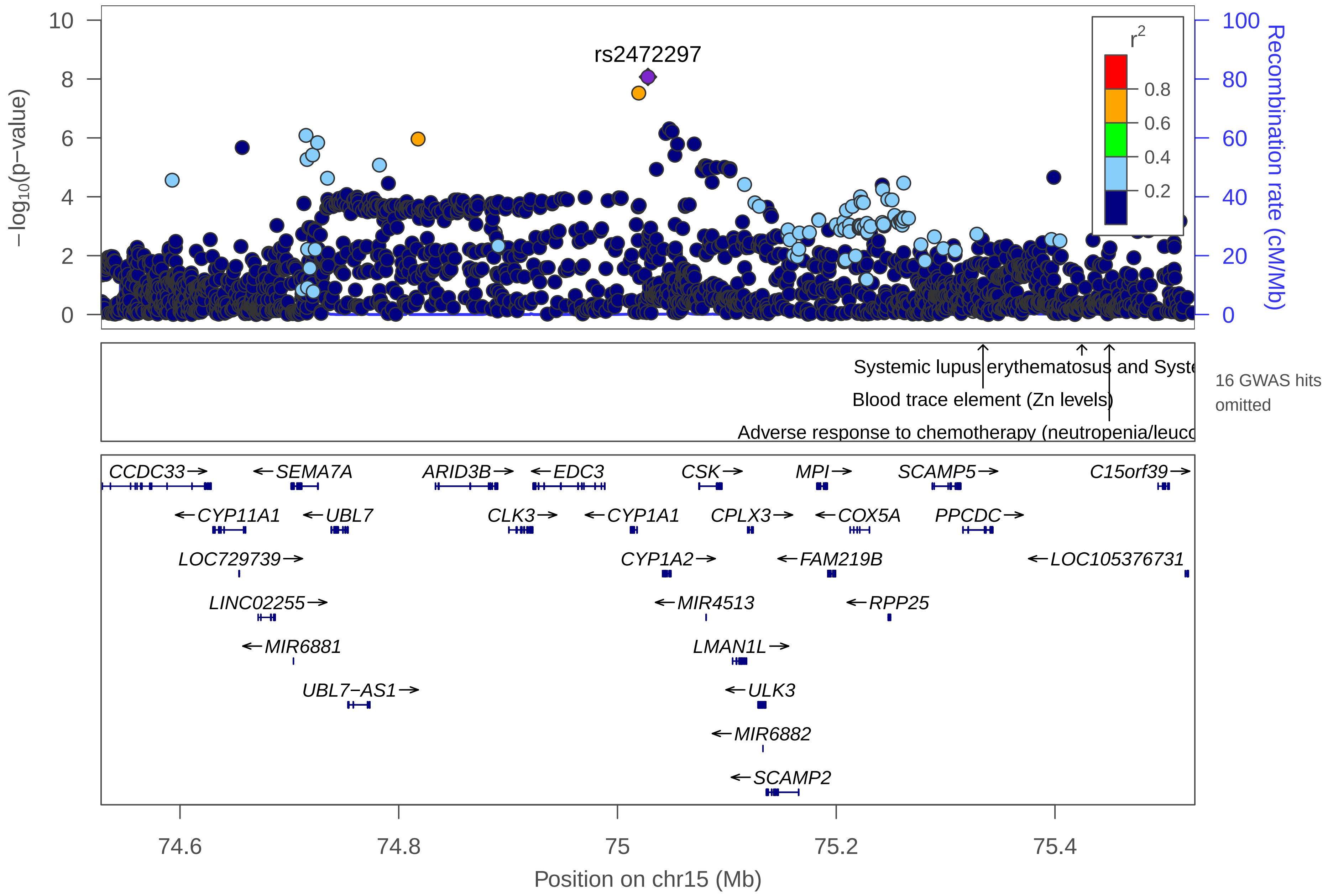

rs8022225
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.8
0.6
0.4
0.2
Obesity−related traits
Rheumatoid arthritis
Protein biomarker
Adverse response to chemotherapy (neutropenia/l
←GCH1
←WDHD1
LGALS3→
FBXO34→
←TBPL2
←KTN1−AS1
RPL13AP3→
←MIR4308
SOCS4→
←DLGAP5
←ATG14
KTN1→
MAPK1IP1L→
←LINC00520
55.4
55.6
55.8
56
56.2
Position on chr14 (Mb)

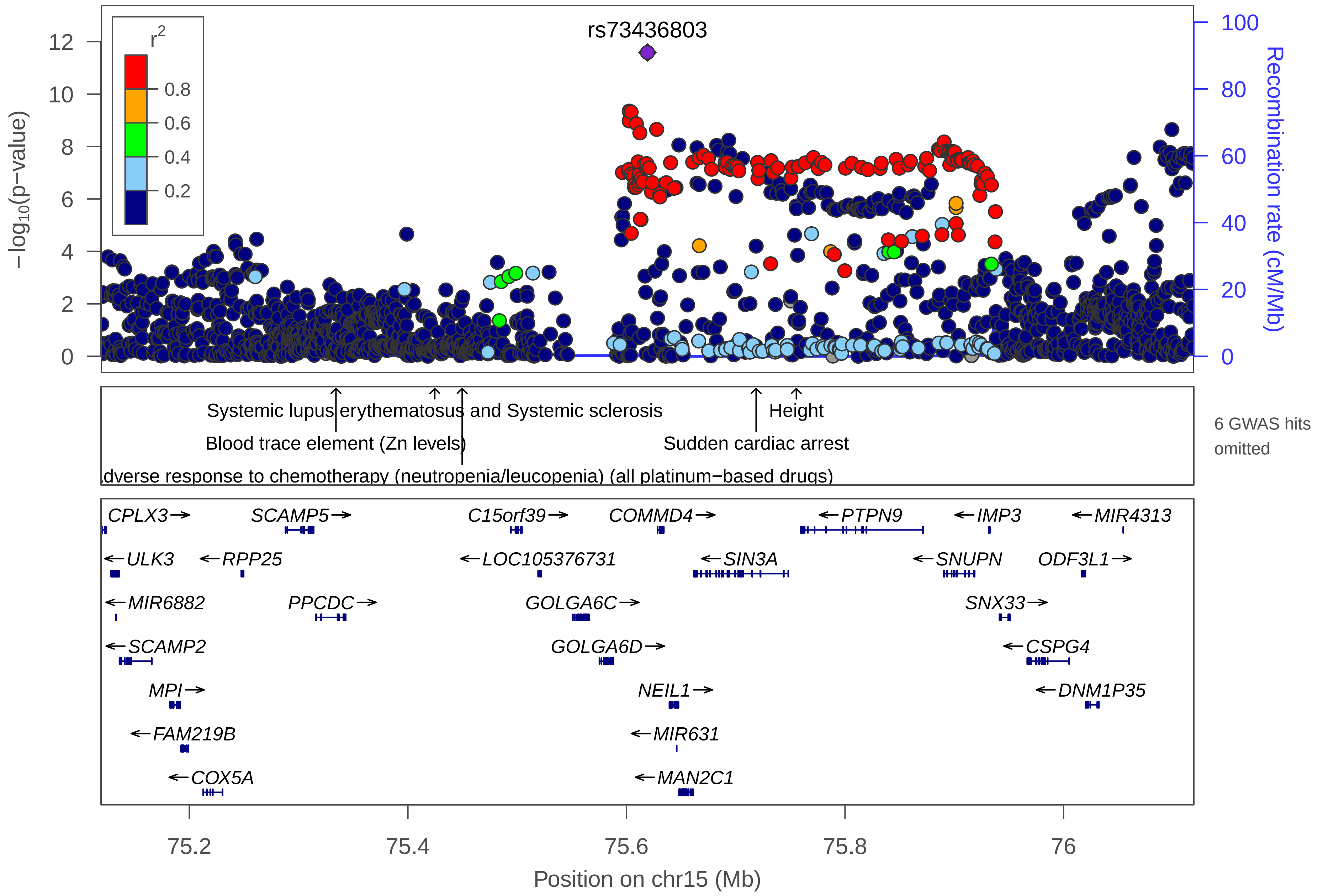

rs861536
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Red blood cell traits
Bone mineral density
Bipolar disorder
LOC105378183→
←CKB
KLC1→
←PPP1R13B
←C14orf2
ASPG→
EIF5→
MARK3→
←BAG5
←XRCC3
LINC00637→
TDRD9→
MIR203A→
SNORA28→
TRMT61A→
ZFYVE21→
←RD3L
←MIR203B
APOPT1→
KIF26A→
103.8
104
104.2
104.4
104.6
Position on chr14 (Mb)

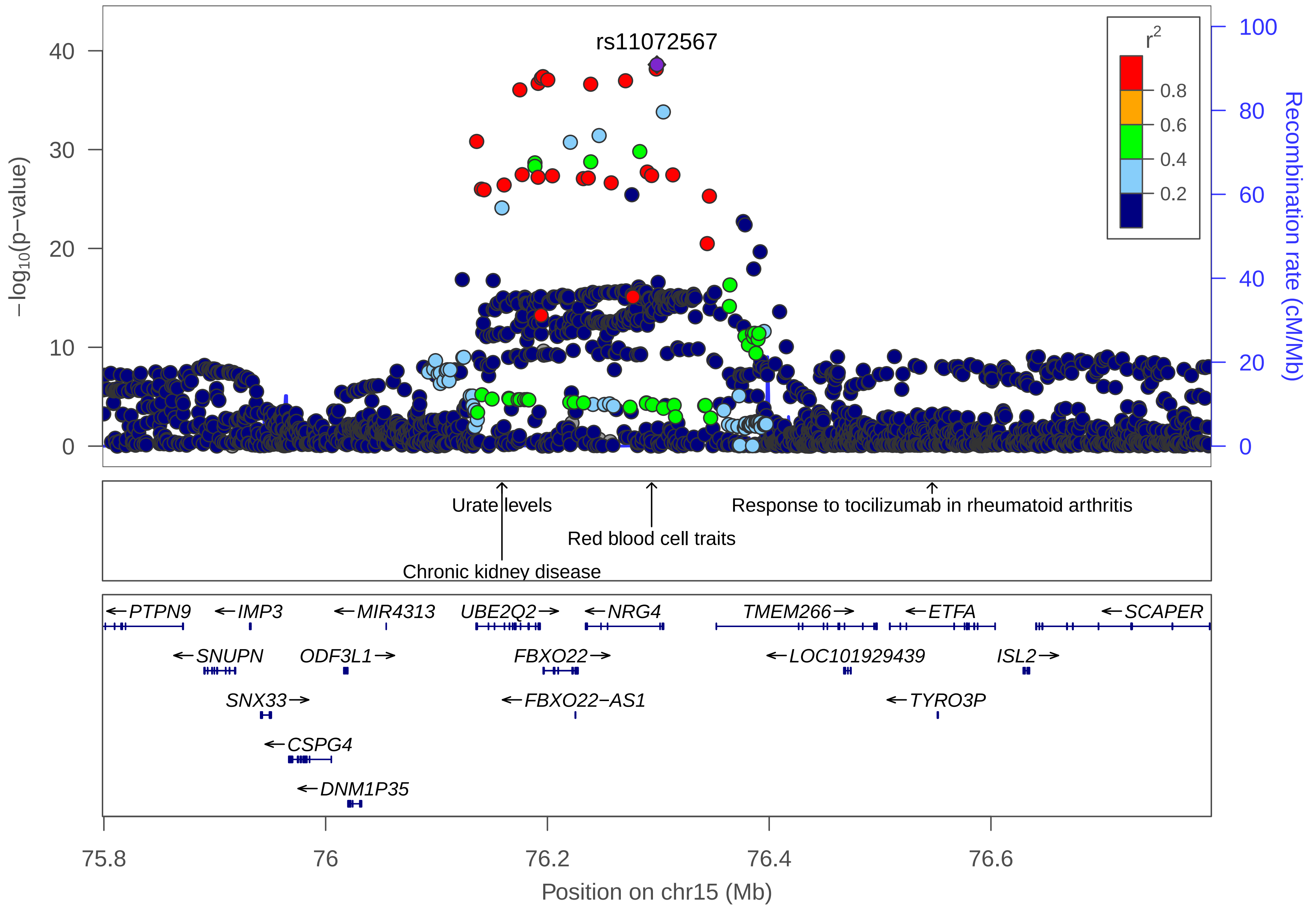

rs11070231
−log10(p−value)
15
10
5
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
ydroxy docosatrienoic acid)
PR interval
Obesity−related traits
Chronic lymphocytic leukemia
Obesity−related traits
Corneal curvature
3 GWAS hits omitted
C15orf54→
THBS1→
LOC105370941→
EIF2AK4→
←BMF
BUB1B→
←FSIP1
←GPR176
←SRP14
SRP14−AS1→
BUB1B−PAK6→
39.6
39.8
40
40.2
40.4
Position on chr15 (Mb)

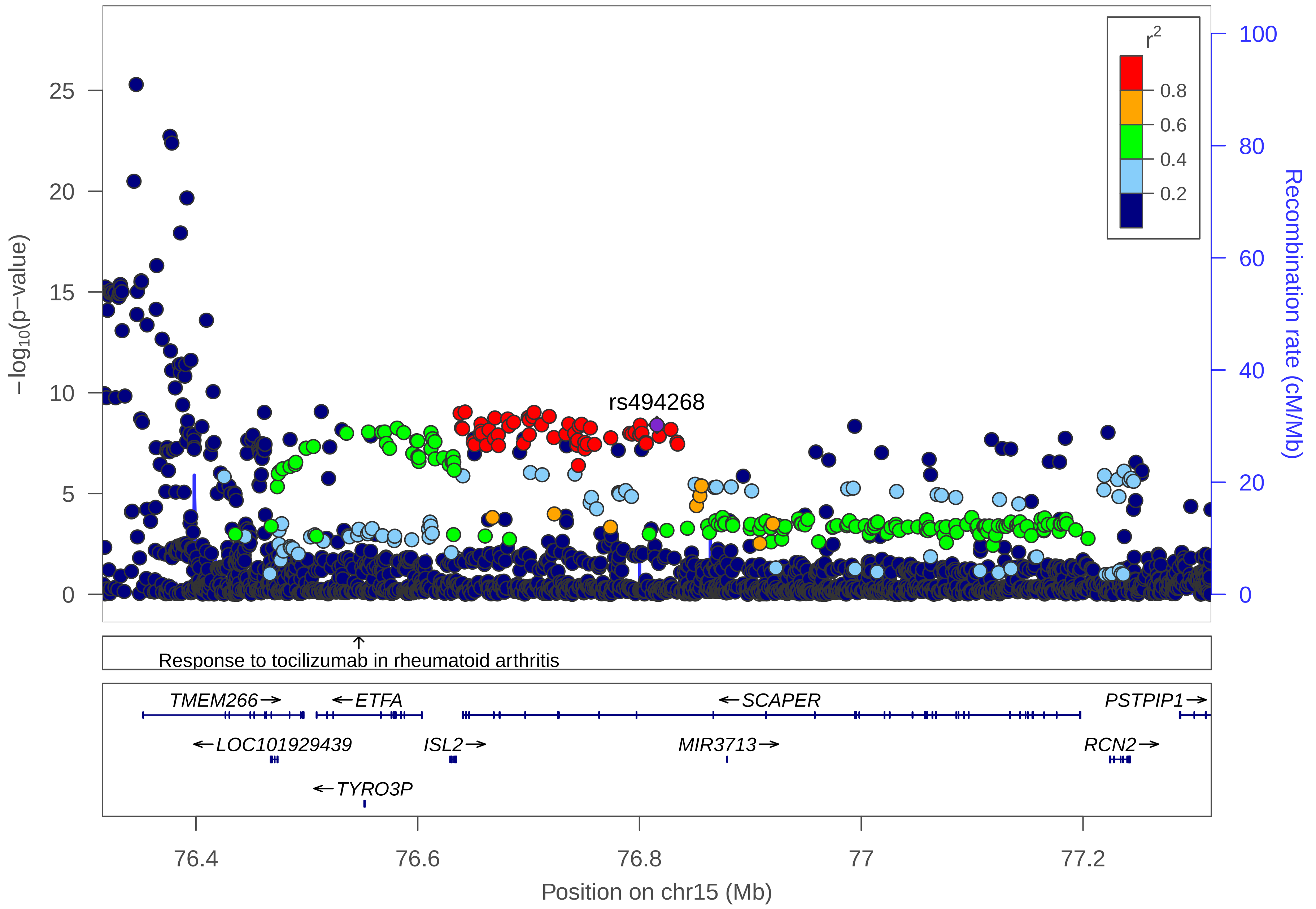

rs2957740
r²
0.8
0.6
0.4
0.2
−log₁₀(p−value)
0
2
4
6
8
10
12
Recombination rate (cM/Mb)
0
20
40
60
80
100
Metabolite levels (HVA/MHPG ratio)
Height
THSD4→
←MYO9A
←PKM
←CELF6
←TMEM202−AS1
←THSD4−AS2
NR2E3→
SENP8→
←PARP6
←HEXA
ARIH1→
←GRAMD2A
HEXA−AS1→
TMEM202→
72
72.2
72.4
72.6
72.8
Position on chr15 (Mb)

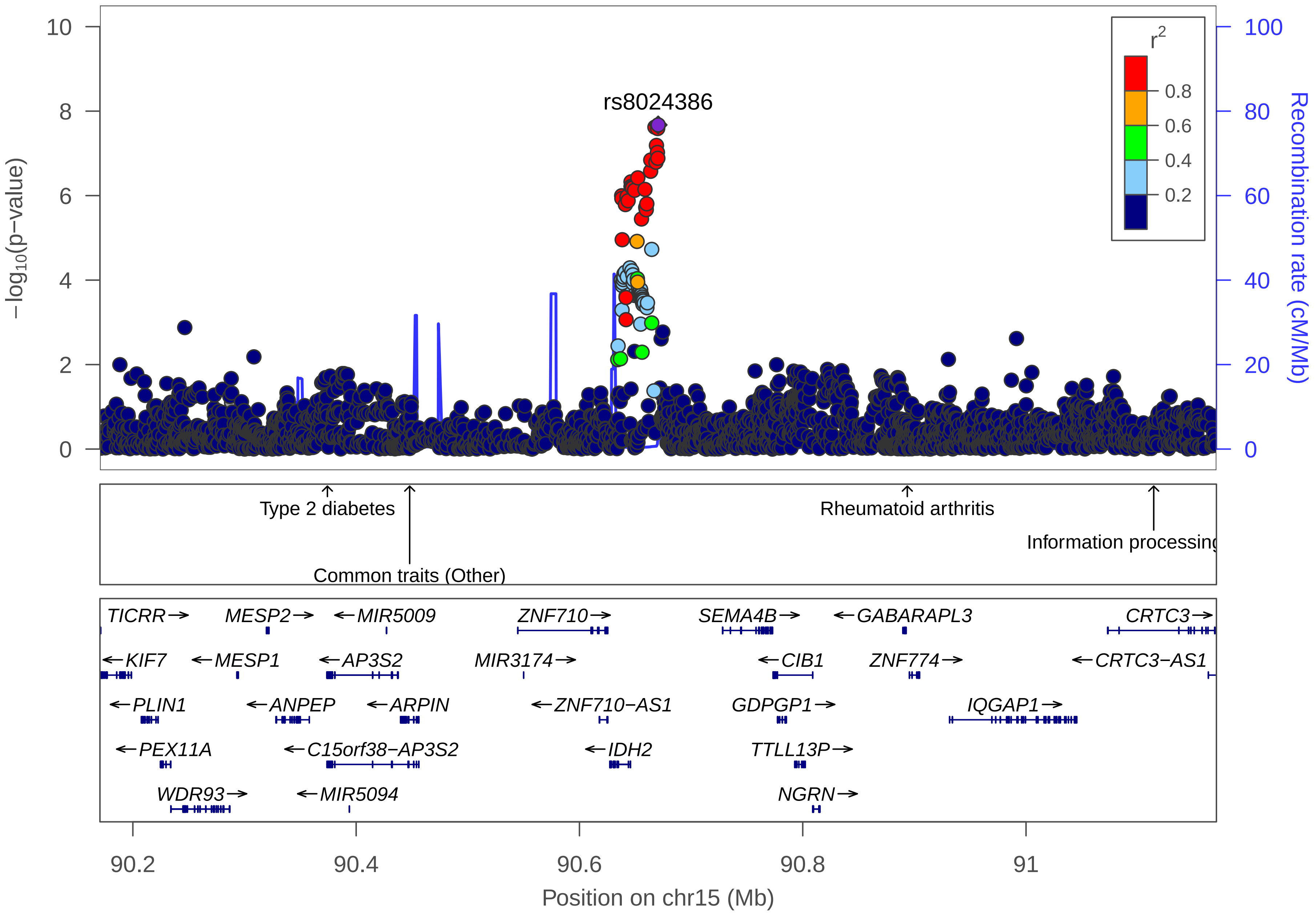

rs8039418
r²
0.8
0.6
0.4
0.2
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
Urate levels
Heart rate
IgG glycosylation
Atrial fibrillation
GOLGA6B→
←HIGD2B
BBS4→
←ADPGK
ADPGK−AS1→
NEO1→
←HCN4
REC114→
←NPTN
←NPTN−IT1
73
73.2
73.4
73.6
73.8
Position on chr15 (Mb)

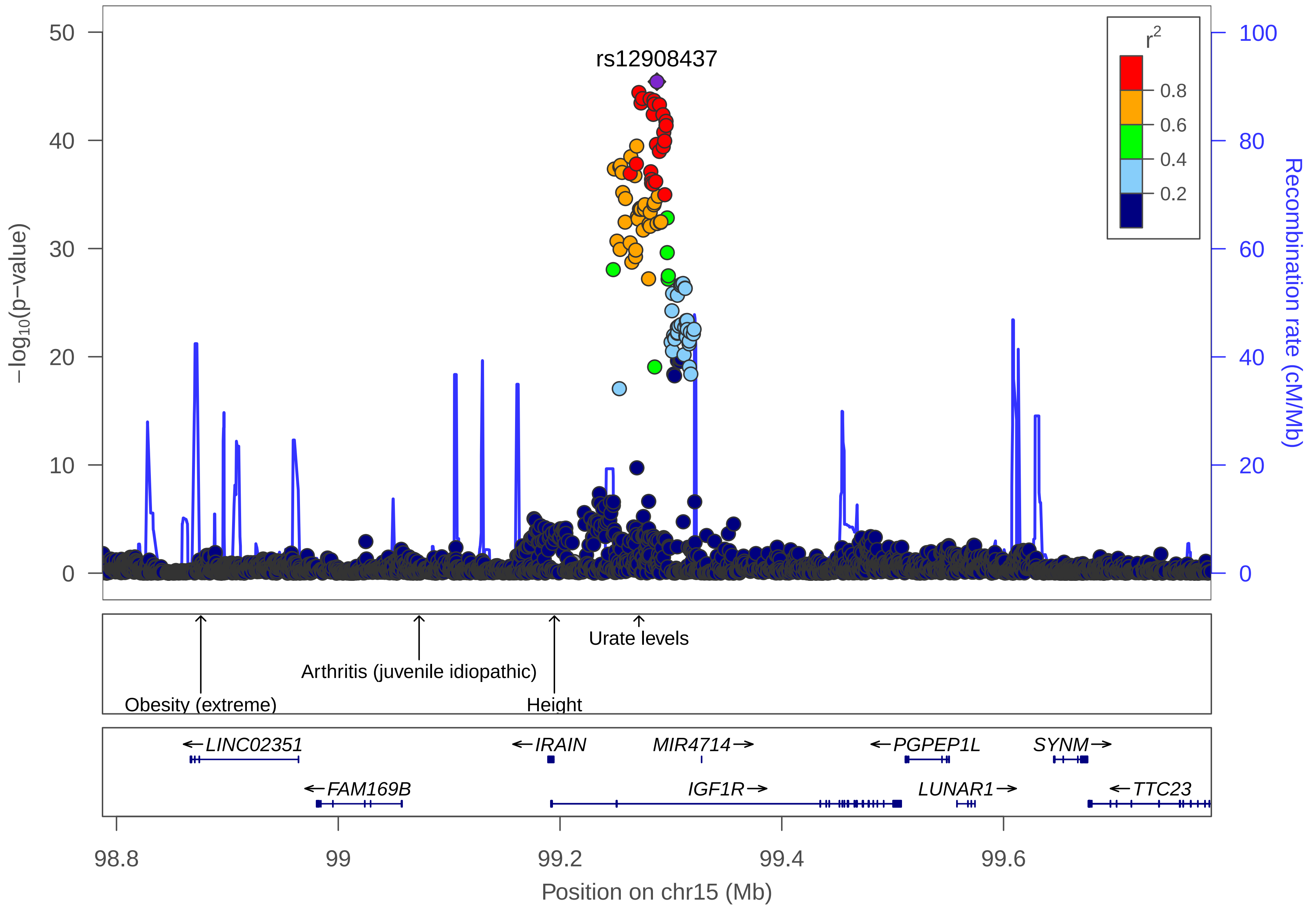

rs2472297
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
100
80
60
40
20
0
Systemic lupus erythematosus and Syste
Blood trace element (Zn levels)
Adverse response to chemotherapy (neutropenia/leuco
16 GWAS hits omitted
CCDC33→
←SEMA7A
ARID3B→
←EDC3
CSK→
MPI→
SCAMP5→
C15orf39→
←CYP11A1
←UBL7
CLK3→
←CYP1A1
CPLX3→
←COX5A
PPCDC→
LOC729739→
CYP1A2→
←FAM219B
←LOC105376731
LINC02255→
←MIR4513
←RPP25
←MIR6881
LMAN1L→
UBL7−AS1→
←ULK3
←MIR6882
←SCAMP2
74.6
74.8
75
75.2
75.4
Position on chr15 (Mb)

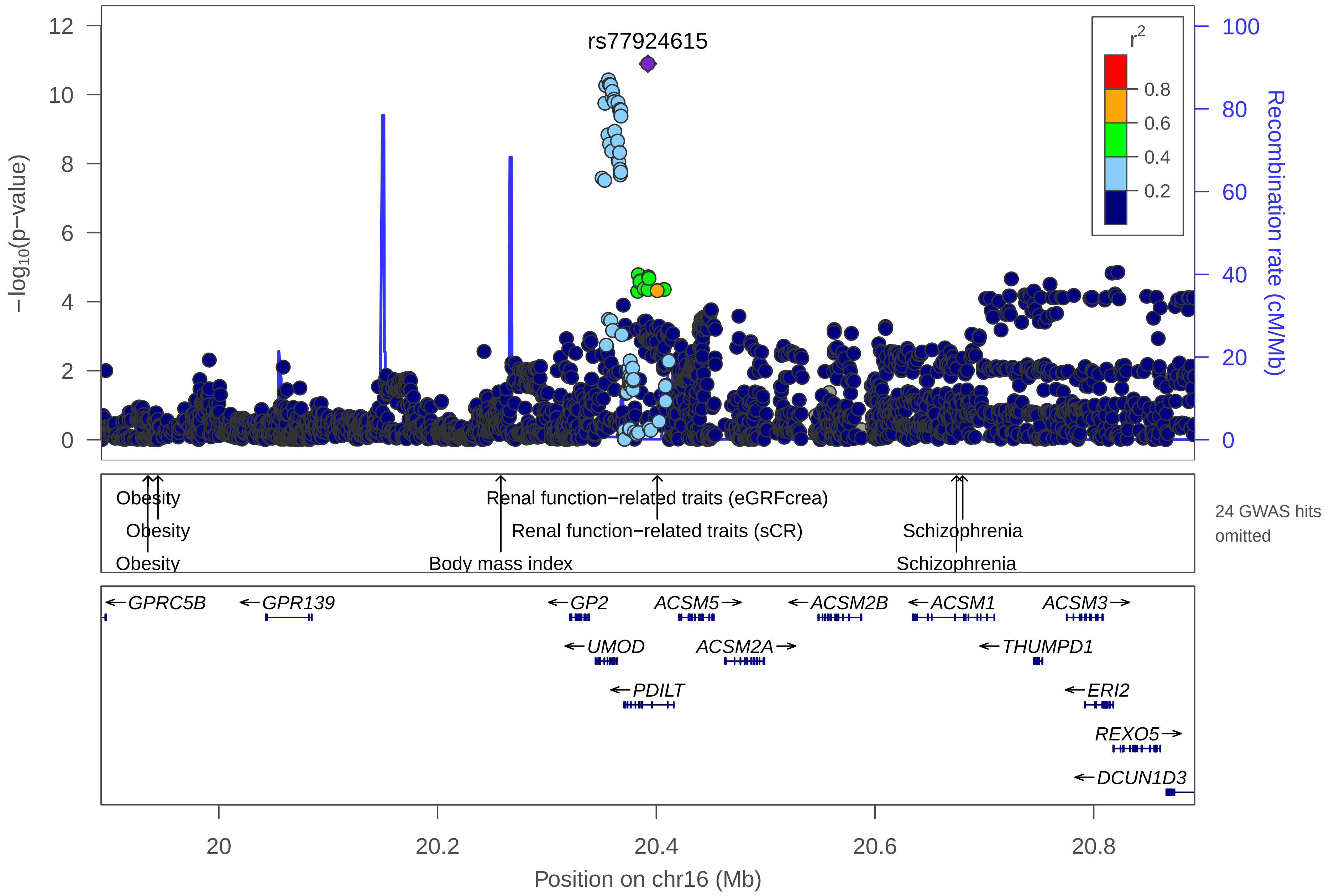

rs73436803
r^2
0.8
0.6
0.4
0.2
12
10
8
6
4
2
0
−log$_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Systemic lupus erythematosus and Systemic sclerosis
Height
Blood trace element (Zn levels)
Sudden cardiac arrest
dverse response to chemotherapy (neutropenia/leucopenia) (all platinum−based drugs)
6 GWAS hits omitted
CPLX3→
SCAMP5→
C15orf39→
COMMD4→
←PTPN9
←IMP3
←MIR4313
←ULK3
←RPP25
←LOC105376731
←SIN3A
←SNUPN
ODF3L1→
←MIR6882
PPCDC→
GOLGA6C→
SNX33→
←SCAMP2
GOLGA6D→
←CSPG4
MPI→
NEIL1→
←DNM1P35
←FAM219B
←MIR631
←COX5A
←MAN2C1
75.2
75.4
75.6
75.8
76
Position on chr15 (Mb)

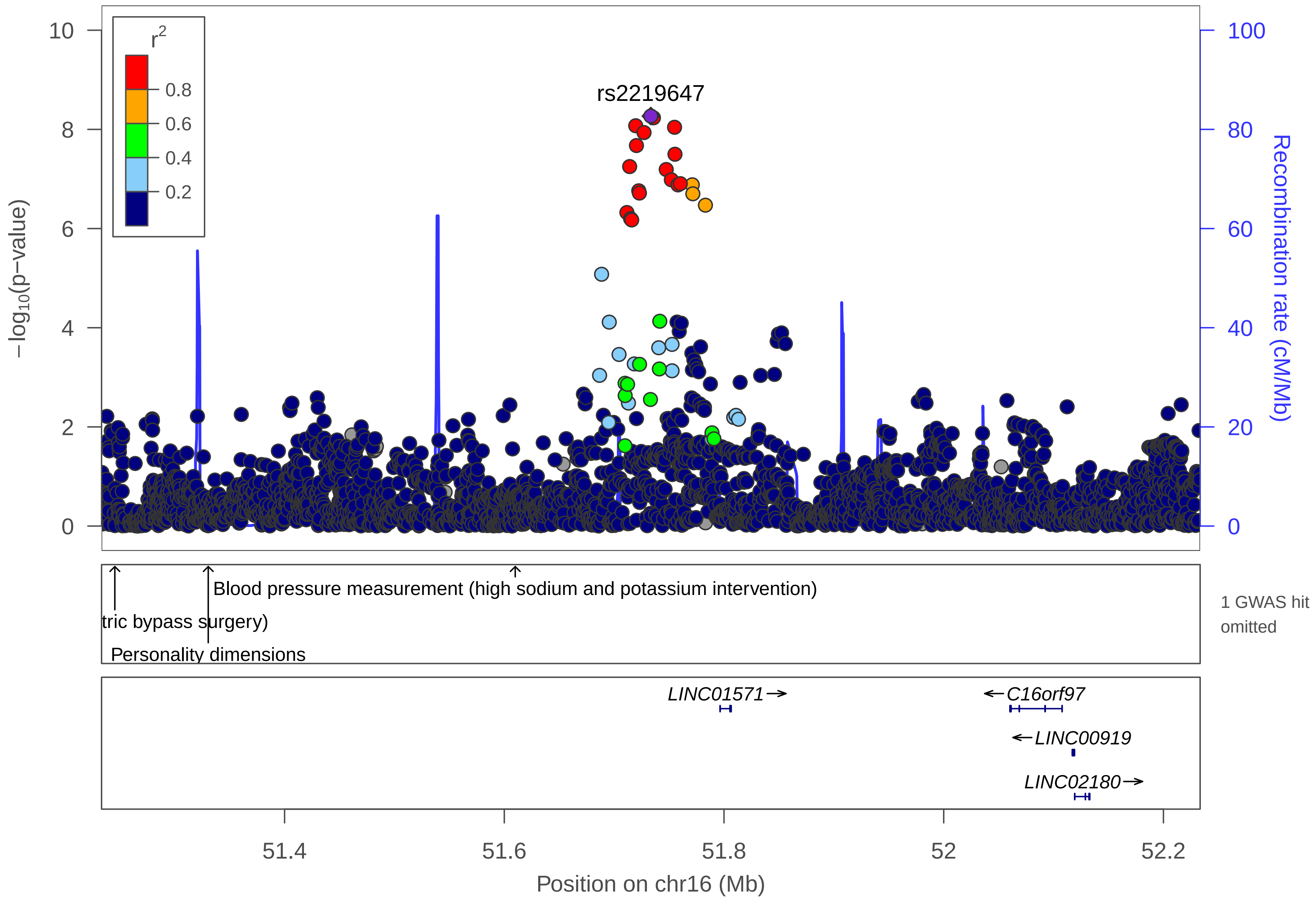

rs11072567
r2
0.8
0.6
0.4
0.2
−log10(p−value)
0
10
20
30
40
Recombination rate (cM/Mb)
0
20
40
60
80
100
Urate levels
Red blood cell traits
Response to tocilizumab in rheumatoid arthritis
Chronic kidney disease
←PTPN9
←IMP3
←MIR4313
UBE2Q2→
←NRG4
TMEM266→
←ETFA
←SCAPER
←SNUPN
ODF3L1→
FBXO22→
←LOC101929439
ISL2→
SNX33→
←FBXO22−AS1
←TYRO3P
←CSPG4
←DNM1P35
75.8
76
76.2
76.4
76.6
Position on chr15 (Mb)

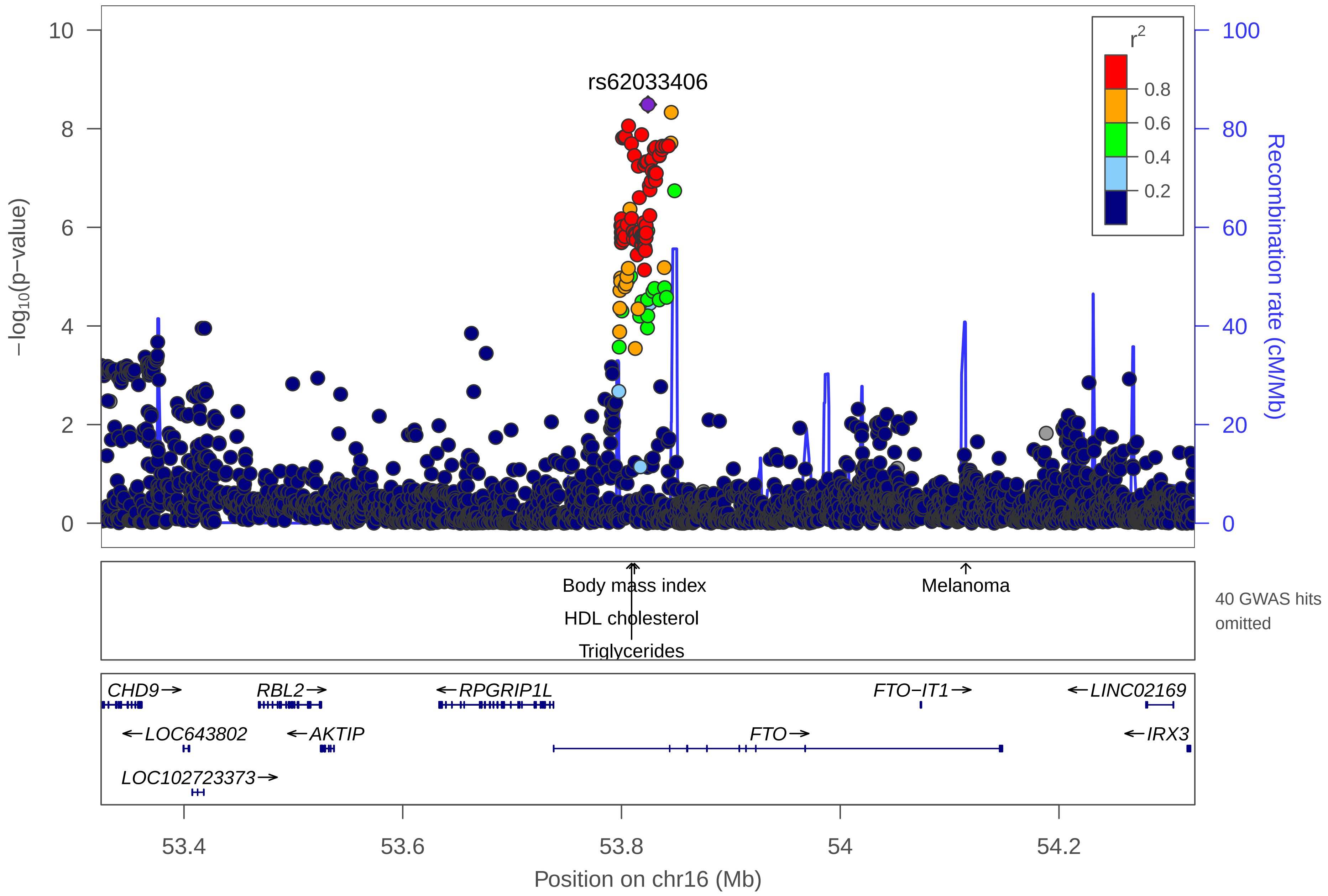

r²
0.8
0.6
0.4
0.2
rs494268
−log10(p−value)
25
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Response to tocilizumab in rheumatoid arthritis
TMEM266→
←ETFA
←SCAPER
PSTPIP1→
←LOC101929439
ISL2→
MIR3713→
RCN2→
←TYRO3P
76.4
76.6
76.8
77
77.2
Position on chr15 (Mb)

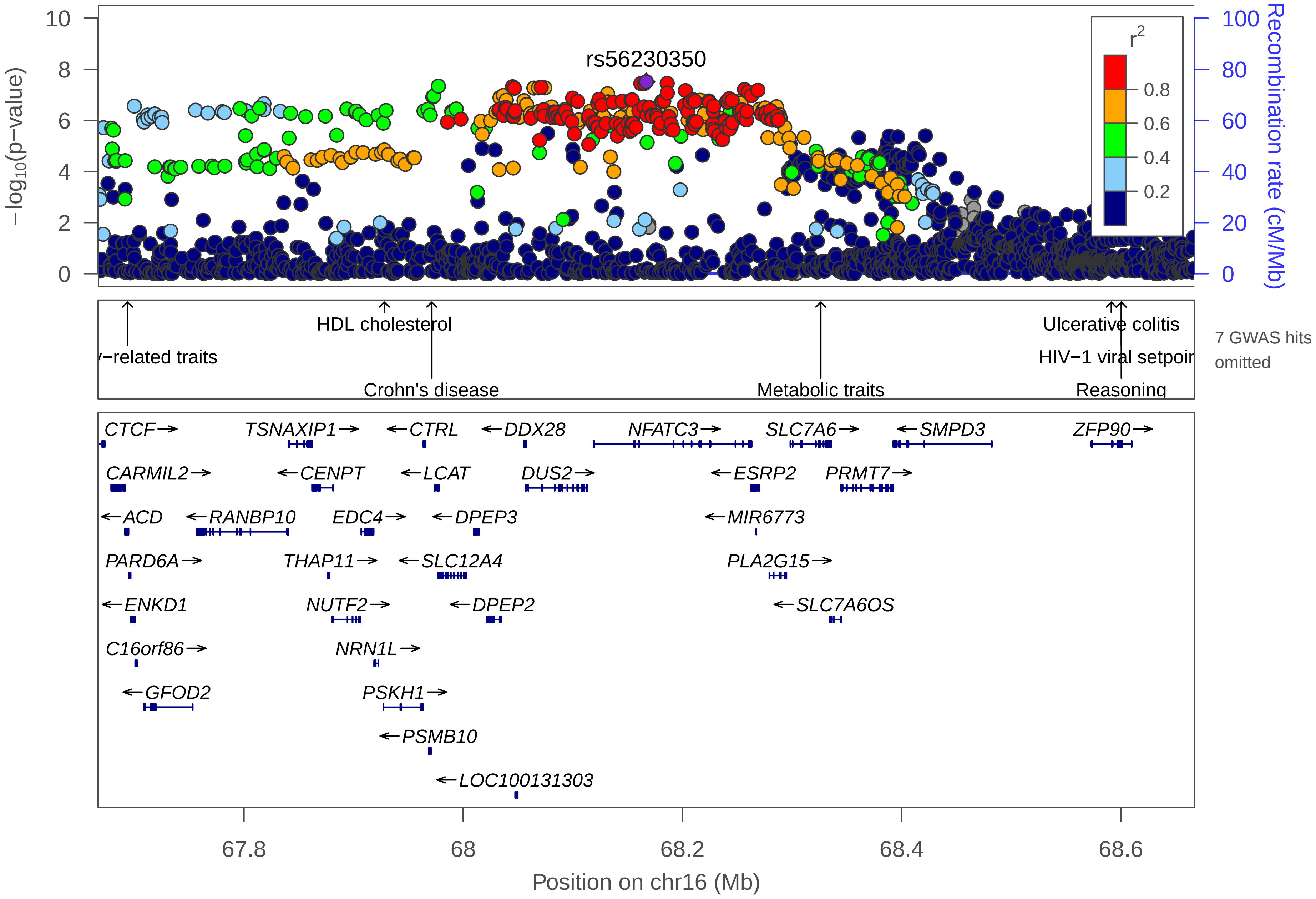

rs8024386
r2
0.8
0.6
0.4
0.2
−log10(p−value)
Recombination rate (cM/Mb)
10
8
6
4
2
0
100
80
60
40
20
0
Type 2 diabetes
Common traits (Other)
Rheumatoid arthritis
Information processing
TICRR→
MESP2→
←MIR5009
ZNF710→
SEMA4B→
←GABARAPL3
CRTC3→
←KIF7
←MESP1
←AP3S2
MIR3174→
←CIB1
ZNF774→
←CRTC3−AS1
←PLIN1
←ANPEP
←ARPIN
←ZNF710−AS1
GDPGP1→
IQGAP1→
←PEX11A
←C15orf38−AP3S2
←IDH2
TTLL13P→
WDR93→
←MIR5094
NGRN→
90.2
90.4
90.6
90.8
91
Position on chr15 (Mb)

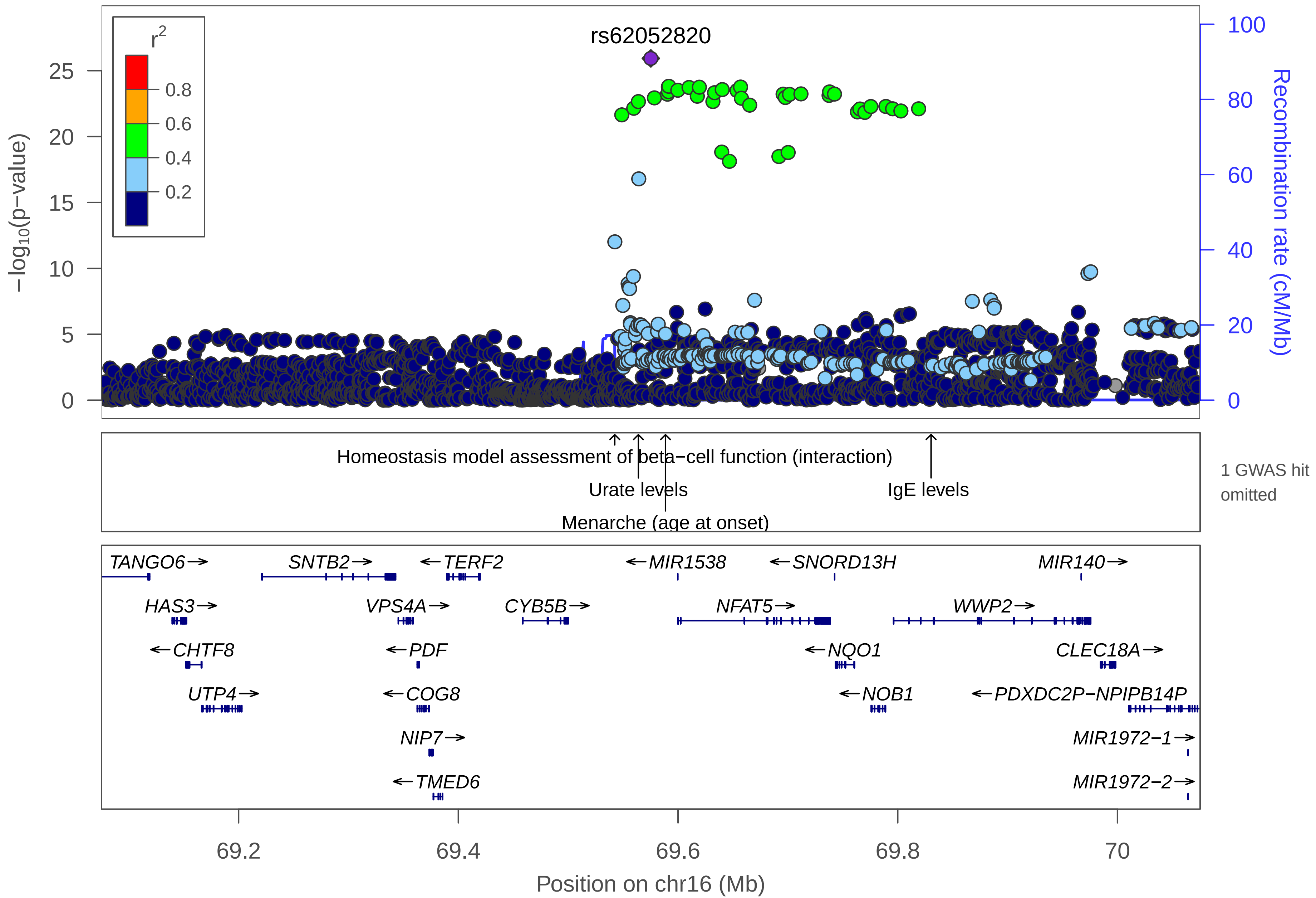

rs12908437
r²
0.8
0.6
0.4
0.2
−log10(p−value)
50
40
30
20
10
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Obesity (extreme)
Arthritis (juvenile idiopathic)
Height
Urate levels
LINC02351
FAM169B
IRAIN
MIR4714
IGF1R
PGPEP1L
LUNAR1
SYNM
TTC23
98.8
99
99.2
99.4
99.6
Position on chr15 (Mb)

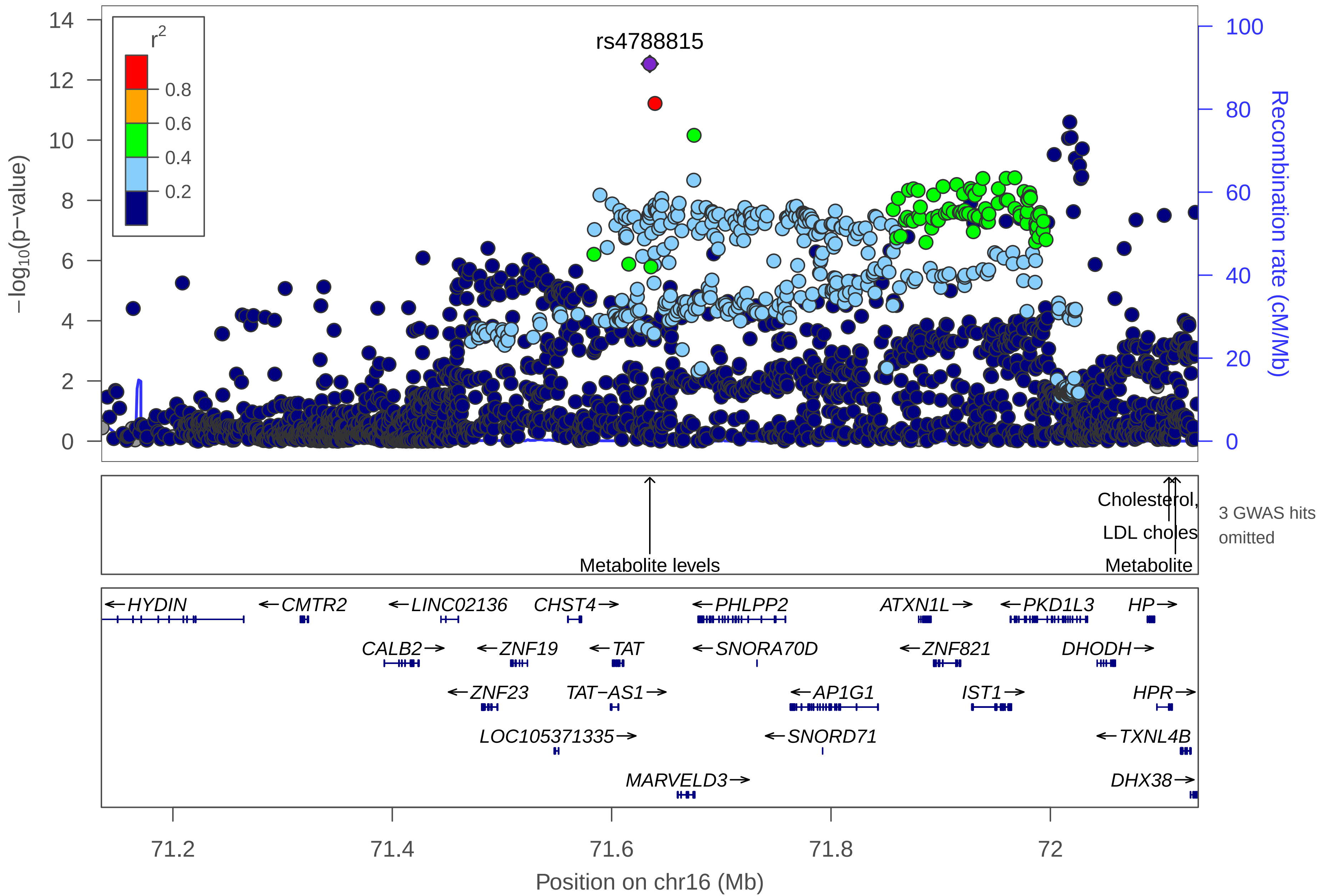

rs77924615
−log10(p−value)
0
2
4
6
8
10
12
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.2
0.4
0.6
0.8
Obesity
Obesity
Obesity
Body mass index
Renal function−related traits (eGRFcrea)
Renal function−related traits (sCR)
Schizophrenia
Schizophrenia
24 GWAS hits omitted
←GPRC5B
←GPR139
←GP2
←UMOD
←PDILT
ACSM5→
ACSM2A→
←ACSM2B
←ACSM1
←THUMPD1
ACSM3→
←ERI2
REXO5→
←DCUN1D3
20
20.2
20.4
20.6
20.8
Position on chr16 (Mb)

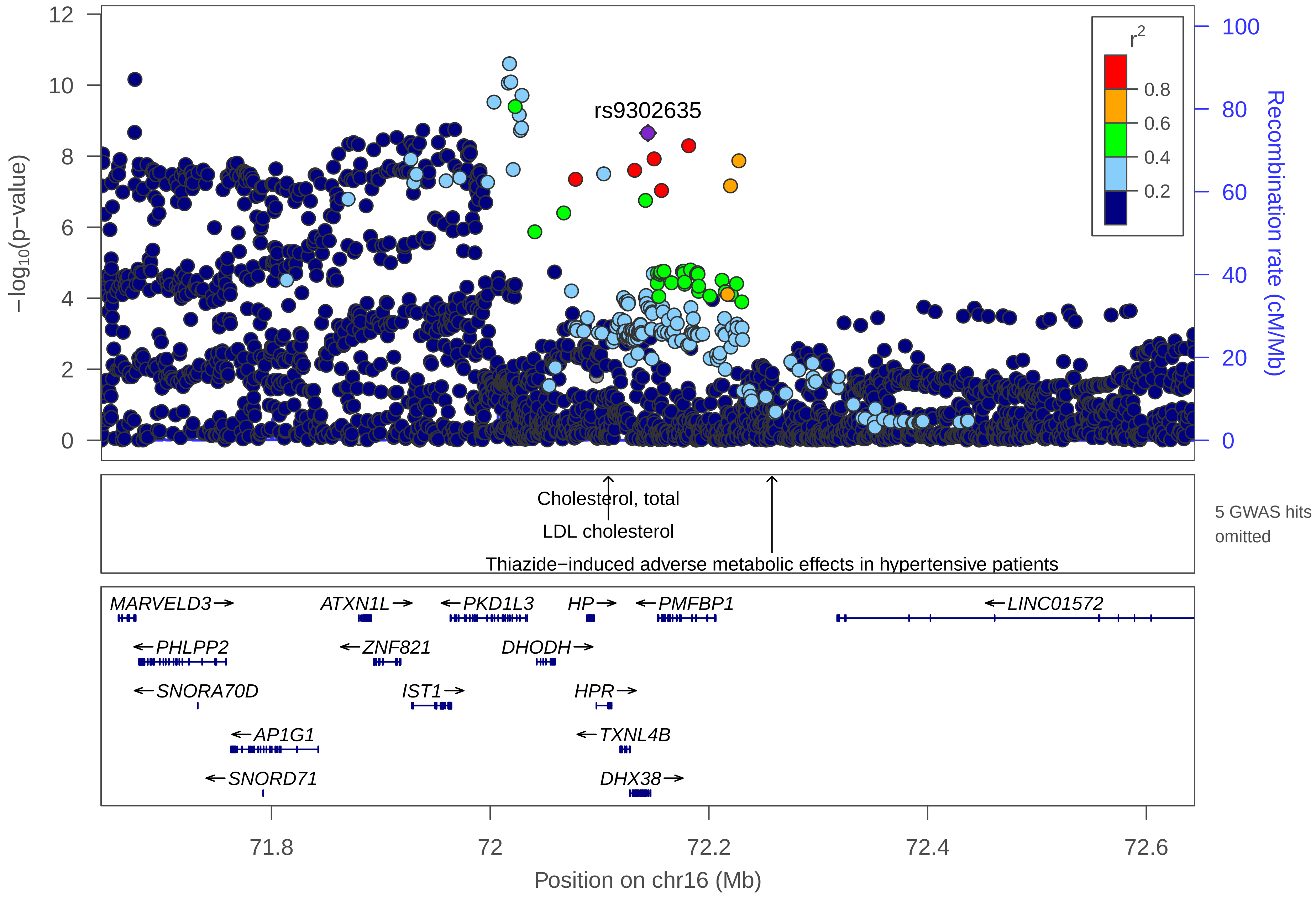

r2
0.8
0.6
0.4
0.2
rs2219647
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Blood pressure measurement (high sodium and potassium intervention)
tric bypass surgery)
Personality dimensions
1 GWAS hit omitted
LINC01571→
←C16orf97
←LINC00919
LINC02180→
51.4
51.6
51.8
52
52.2
Position on chr16 (Mb)


rs62033406
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
0
2
4
6
8
10
0
20
40
60
80
100
Body mass index
HDL cholesterol
Triglycerides
Melanoma
40 GWAS hits omitted
CHD9→
RBL2→
←RPGRIP1L
FTO−IT1→
←LINC02169
←LOC643802
←AKTIP
FTO→
←IRX3
LOC102723373→
53.4
53.6
53.8
54
54.2
Position on chr16 (Mb)

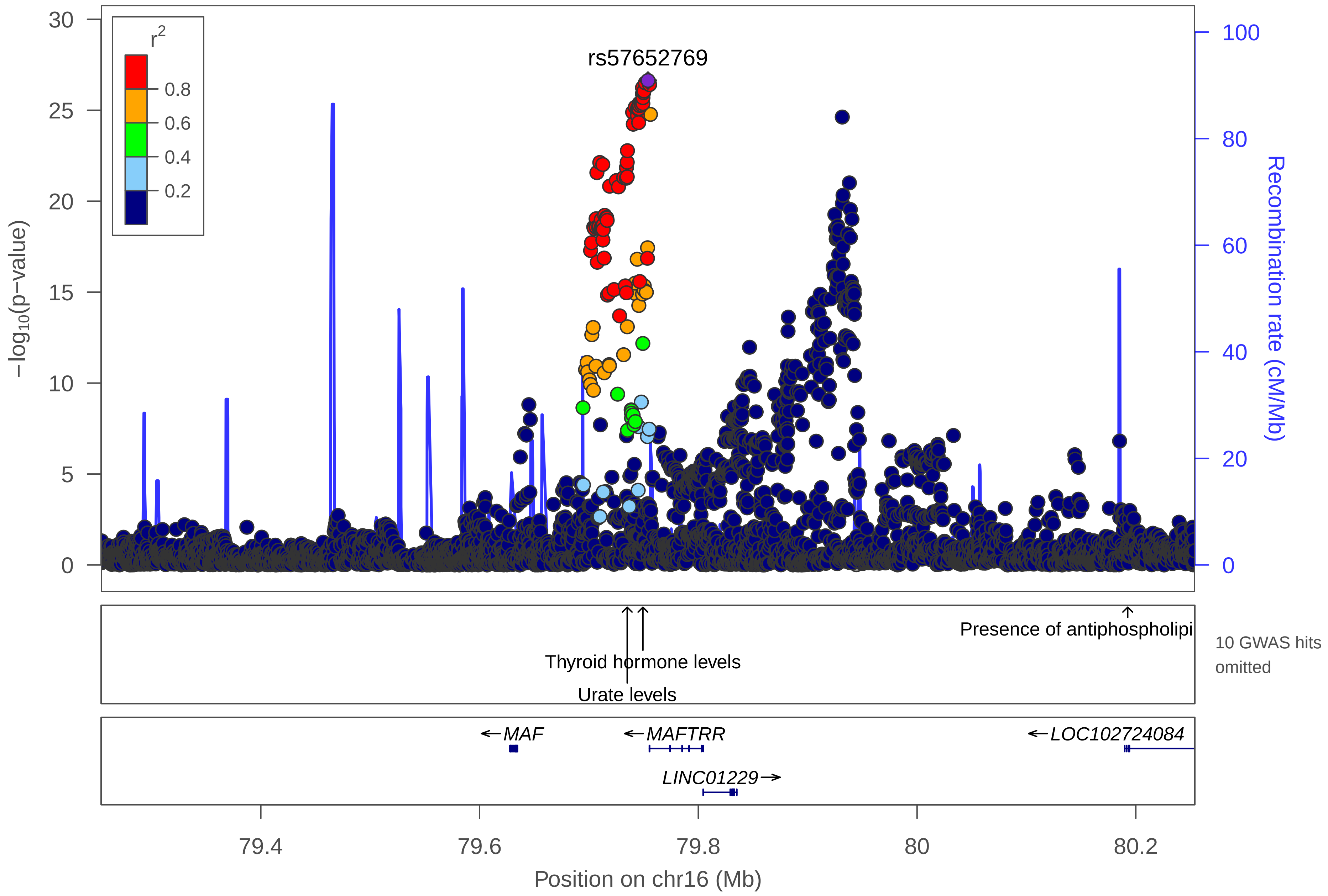

rs56230350
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.8
0.6
0.4
0.2
−related traits
HDL cholesterol
Crohn's disease
Metabolic traits
Ulcerative colitis
HIV−1 viral setpoin
Reasoning
7 GWAS hits omitted
CTCF→
CARMIL2→
←ACD
PARD6A→
←ENKD1
C16orf86→
←GFOD2
←RANBP10
TSNAXIP1→
←CENPT
EDC4→
THAP11→
NUTF2→
NRN1L→
PSKH1→
←PSMB10
←LOC100131303
←CTRL
←LCAT
←DPEP3
←SLC12A4
←DPEP2
←DDX28
DUS2→
NFATC3→
←ESRP2
←MIR6773
PLA2G15→
SLC7A6→
PRMT7→
←SLC7A6OS
←SMPD3
ZFP90→
67.8
68
68.2
68.4
68.6
Position on chr16 (Mb)

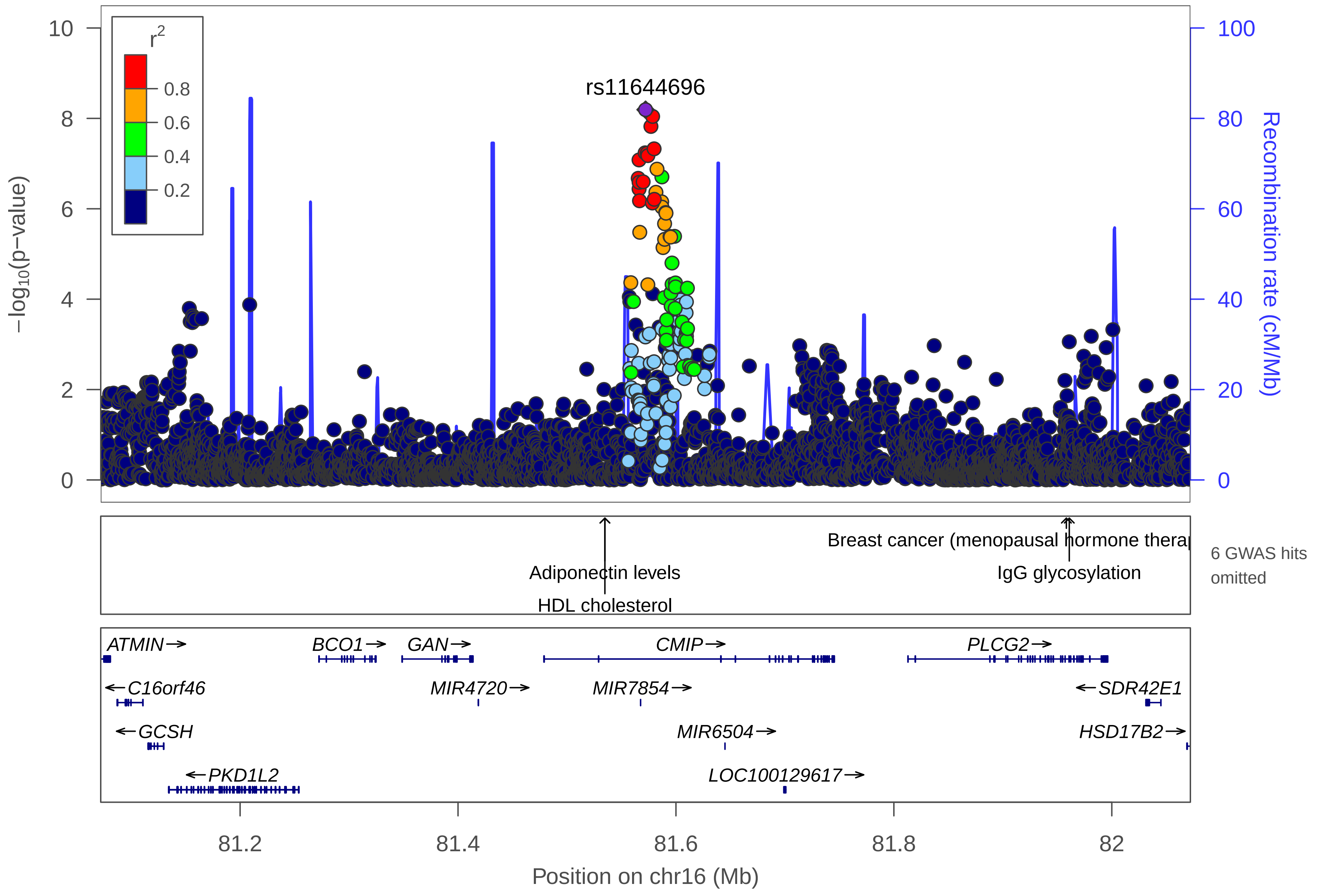

rs62052820
r2
0.8
0.6
0.4
0.2
−log10(p−value)
25
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Homeostasis model assessment of beta−cell function (interaction)
Urate levels
Menarche (age at onset)
IgE levels
1 GWAS hit omitted
TANGO6→
SNTB2→
←TERF2
←MIR1538
←SNORD13H
MIR140→
HAS3→
VPS4A→
CYB5B→
NFAT5→
WWP2→
←CHTF8
←PDF
←NQO1
CLEC18A→
UTP4→
←COG8
←NOB1
←PDXDC2P−NPIPB14P
NIP7→
MIR1972−1→
←TMED6
MIR1972−2→
69.2
69.4
69.6
69.8
70
Position on chr16 (Mb)

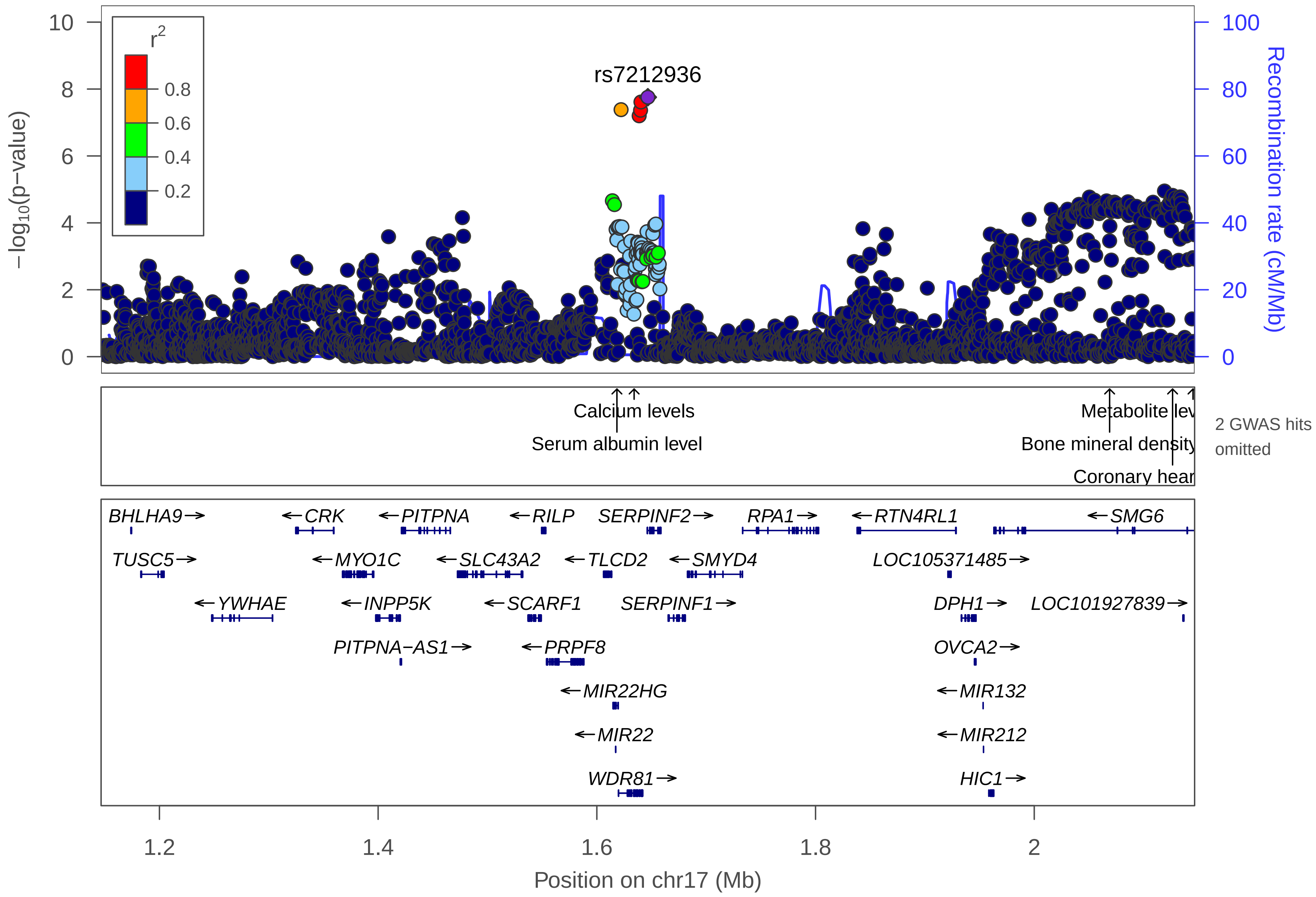

rs4788815
r2
0.8
0.6
0.4
0.2
14
12
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Metabolite levels
Cholesterol,
LDL choles
Metabolite
3 GWAS hits omitted
←HYDIN
←CMTR2
←LINC02136
CHST4→
←PHLPP2
ATXN1L→
←PKD1L3
HP→
CALB2→
←ZNF19
←TAT
←SNORA70D
←ZNF821
DHODH→
←ZNF23
TAT−AS1→
←AP1G1
IST1→
HPR→
LOC105371335→
←SNORD71
←TXNL4B
MARVELD3→
DHX38→
71.2
71.4
71.6
71.8
72
Position on chr16 (Mb)



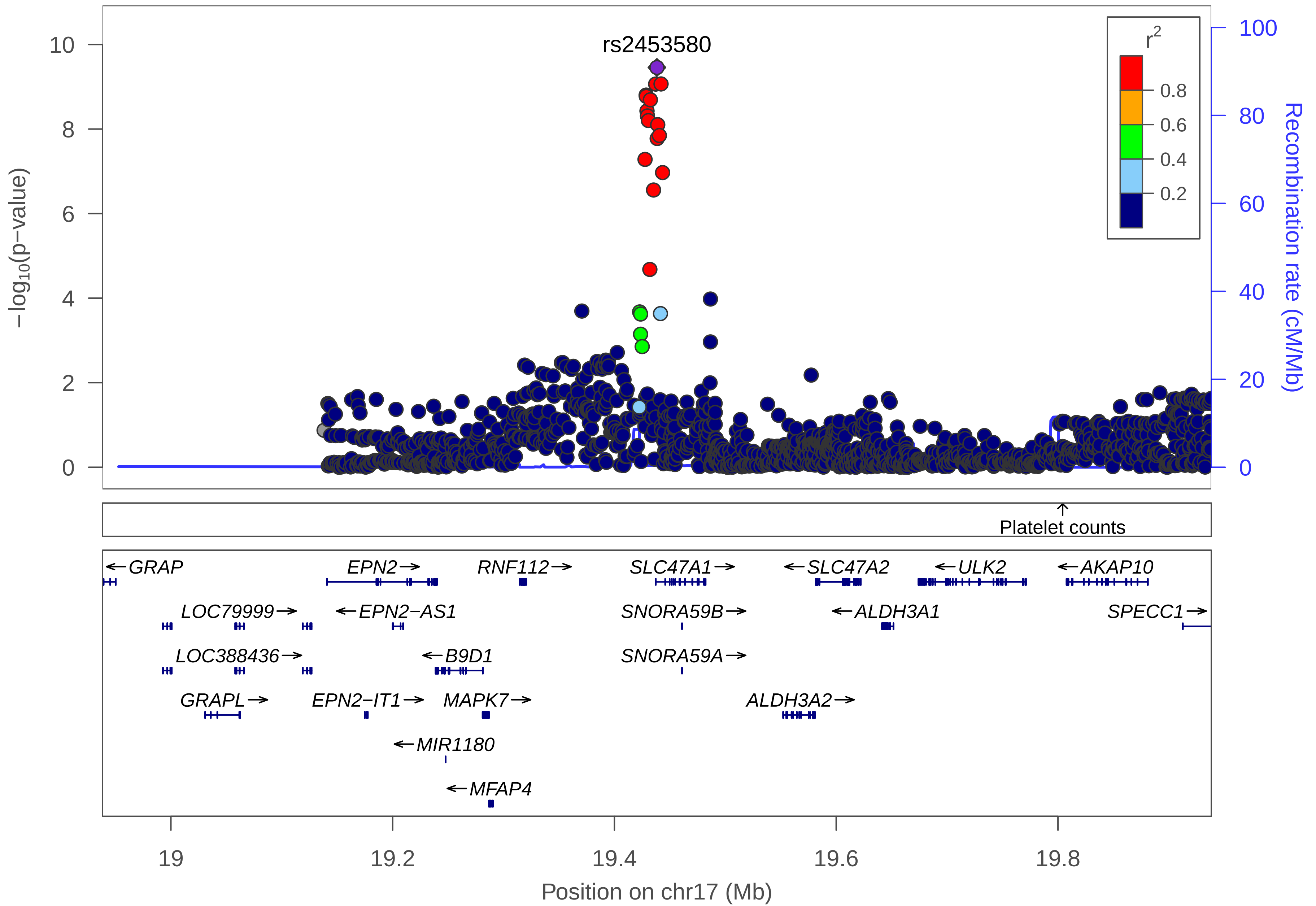
12
10
8
6
4
2
0
$-\log_{10}$(p−value)
rs9302635
r^2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
Cholesterol, total
LDL cholesterol
Thiazide−induced adverse metabolic effects in hypertensive patients
5 GWAS hits omitted
MARVELD3→
ATXN1L→
←PKD1L3
HP→
←PMFBP1
←LINC01572
←PHLPP2
←ZNF821
DHODH→
←SNORA70D
IST1→
HPR→
←AP1G1
←TXNL4B
←SNORD71
DHX38→
71.8
72
72.2
72.4
72.6
Position on chr16 (Mb)

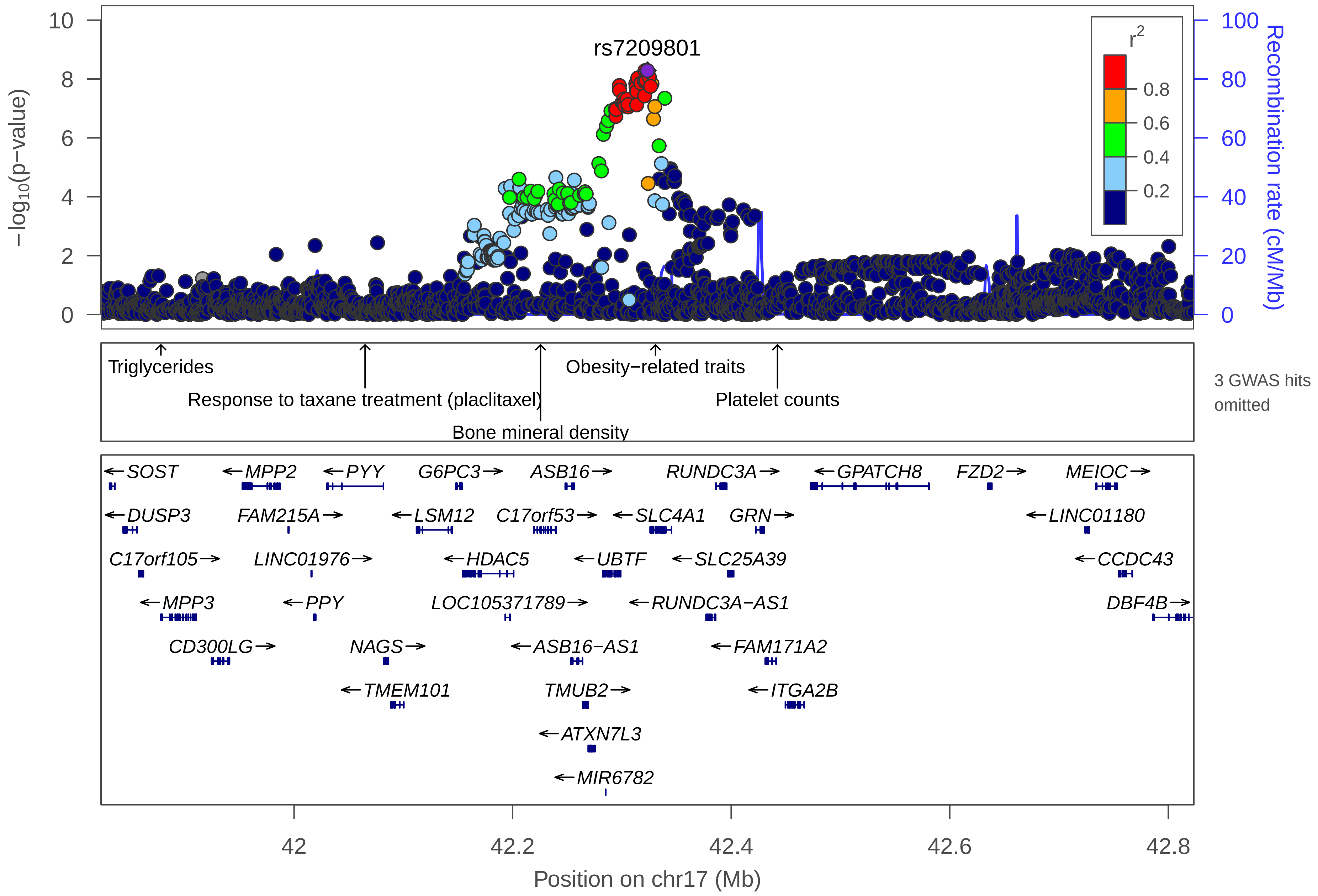

r2
0.8
0.6
0.4
0.2
rs57652769
−log10(p−value)
30
25
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Thyroid hormone levels
Urate levels
Presence of antiphospholipi
10 GWAS hits omitted
←MAF
←MAFTRR
←LOC102724084
LINC01229→
79.4
79.6
79.8
80
80.2
Position on chr16 (Mb)

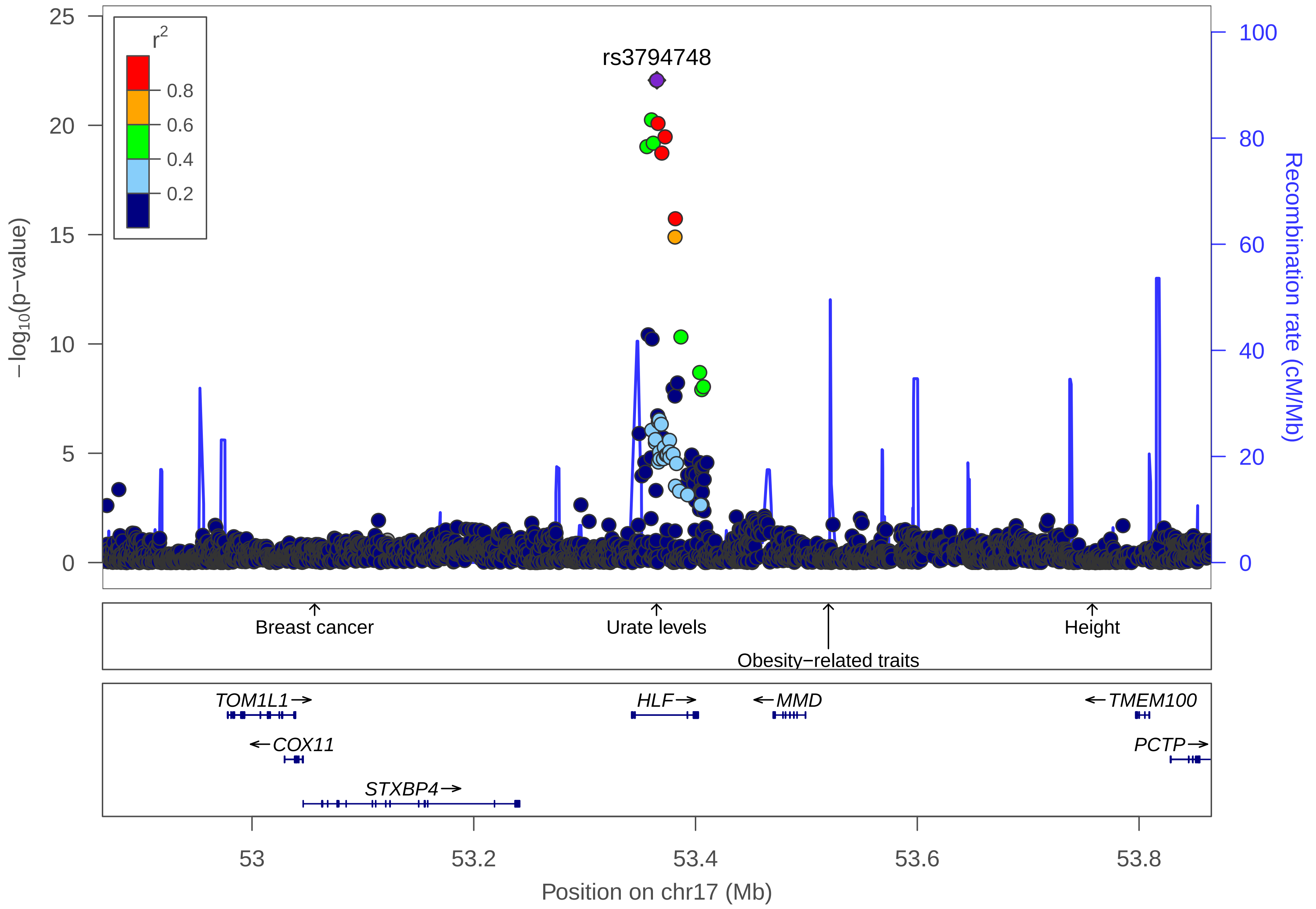

rs11644696
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Breast cancer (menopausal hormone thera
Adiponectin levels
HDL cholesterol
IgG glycosylation
6 GWAS hits omitted
ATMIN→
BCO1→
GAN→
CMIP→
PLCG2→
←C16orf46
MIR4720→
MIR7854→
←SDR42E1
←GCSH
MIR6504→
HSD17B2→
←PKD1L2
LOC100129617→
81.2
81.4
81.6
81.8
82
Position on chr16 (Mb)

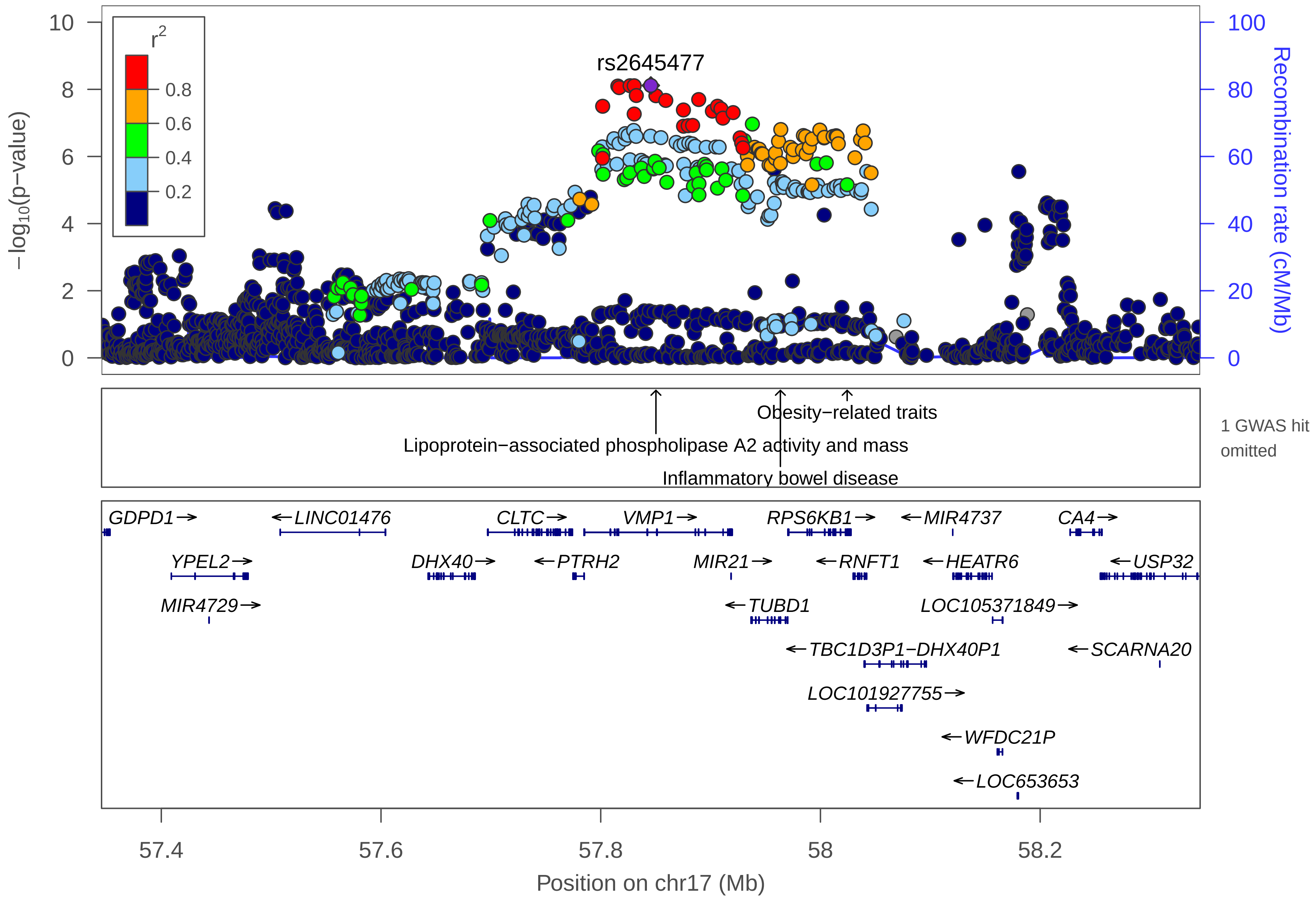


rs7212936
r^2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Calcium levels
Serum albumin level
Metabolite lev
Bone mineral density
Coronary hear
2 GWAS hits omitted
BHLHA9→
←CRK
←PITPNA
←RILP
SERPINF2→
RPA1→
←RTN4RL1
←SMG6
TUSC5→
←MYO1C
←SLC43A2
←TLCD2
←SMYD4
LOC105371485→
←YWHAE
←INPP5K
←SCARF1
SERPINF1→
DPH1→
LOC101927839→
PITPNA−AS1→
←PRPF8
OVCA2→
←MIR22HG
←MIR132
←MIR22
←MIR212
WDR81→
HIC1→
1.2
1.4
1.6
1.8
2
Position on chr17 (Mb)

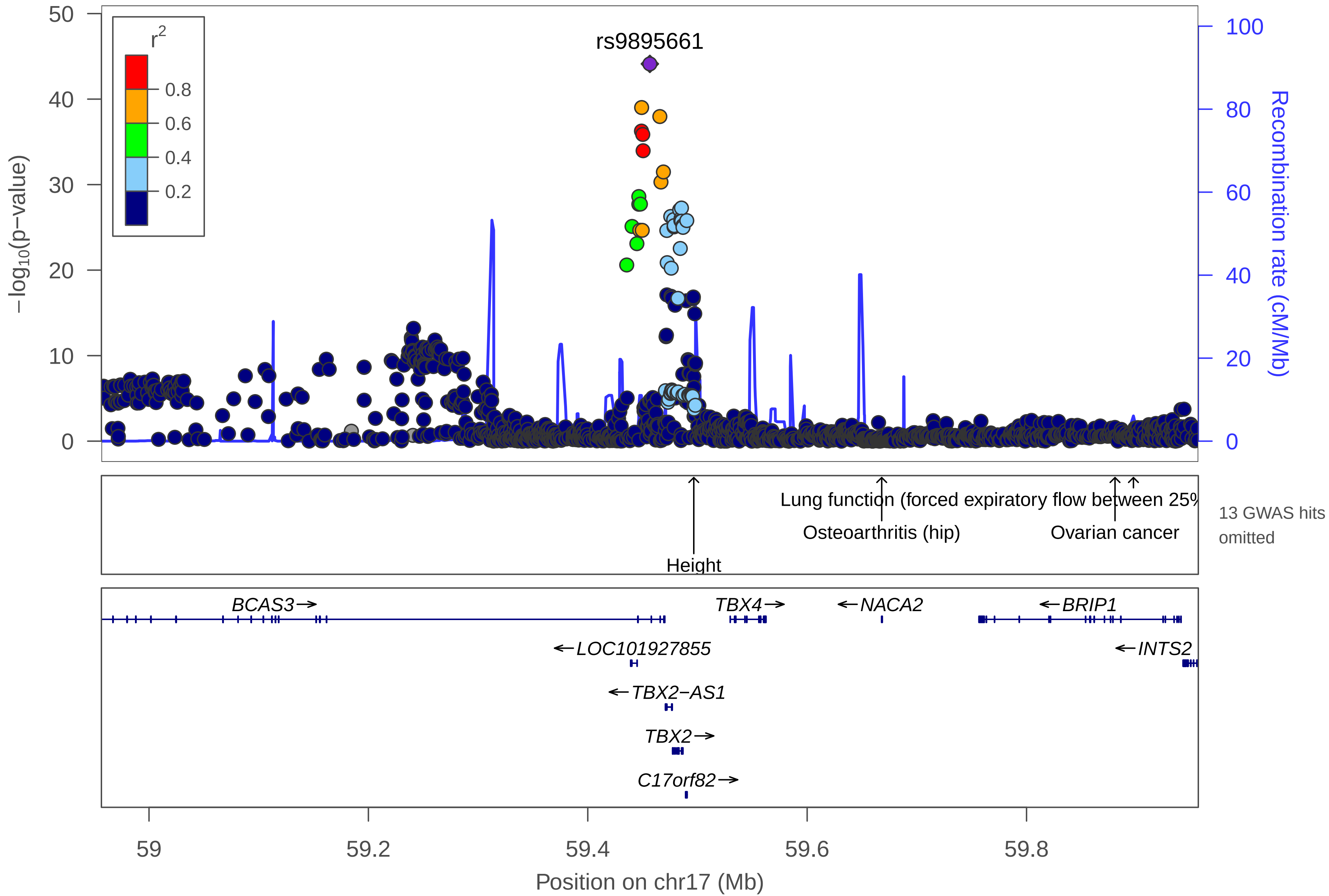

rs2453580
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.2
0.4
0.6
0.8
Platelet counts
GRAP
EPN2
RNF112
SLC47A1
SLC47A2
ULK2
AKAP10
LOC79999
EPN2−AS1
SNORA59B
ALDH3A1
SPECC1
LOC388436
B9D1
SNORA59A
GRAPL
EPN2−IT1
MAPK7
ALDH3A2
MIR1180
MFAP4
19
19.2
19.4
19.6
19.8
Position on chr17 (Mb)

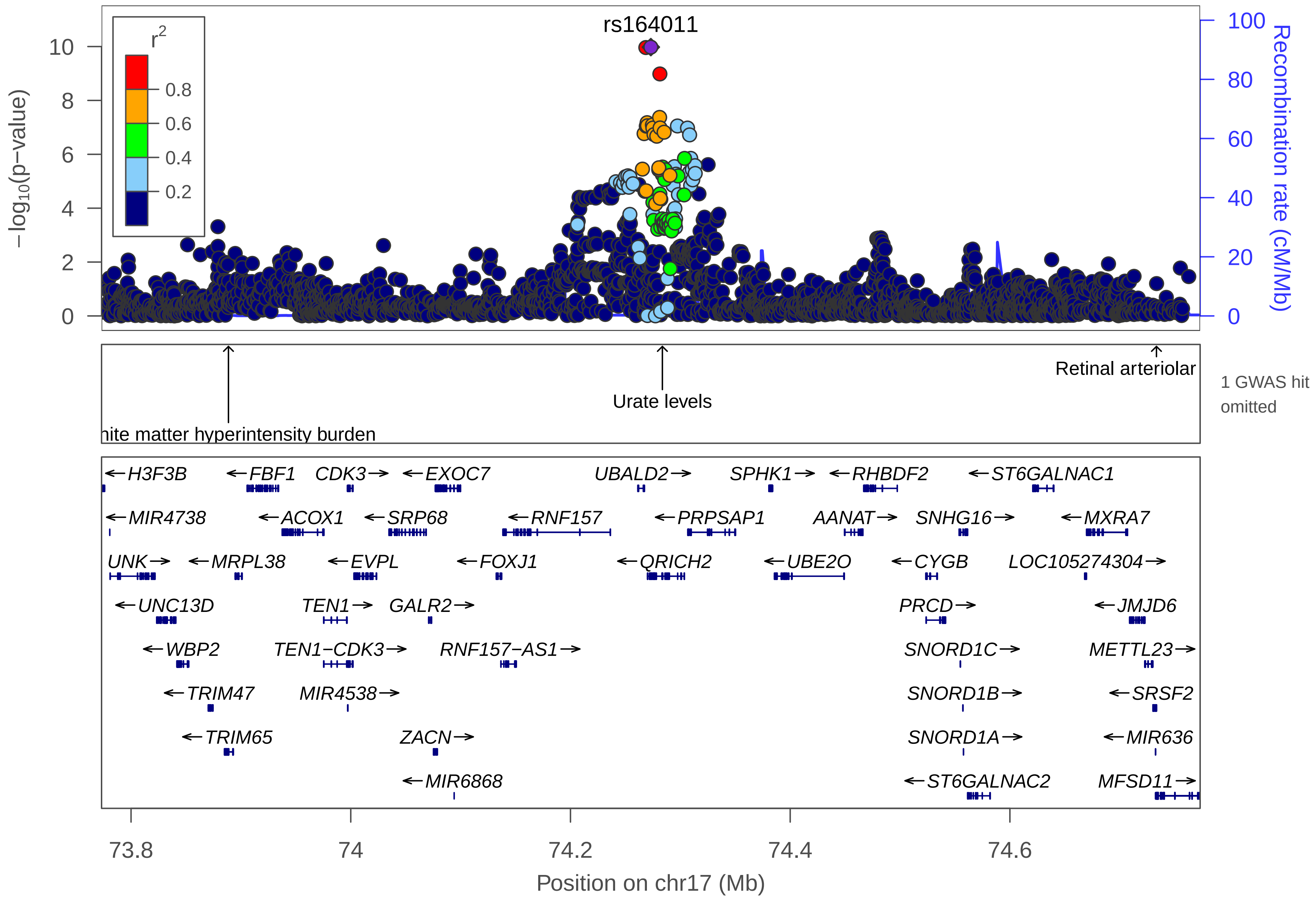

rs7209801
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r^2
0.8
0.6
0.4
0.2
Triglycerides
Response to taxane treatment (placlitaxel)
Bone mineral density
Obesity−related traits
Platelet counts
3 GWAS hits omitted
←SOST
←MPP2
←PYY
G6PC3→
ASB16→
RUNDC3A→
←GPATCH8
FZD2→
MEIOC→
←DUSP3
FAM215A→
←LSM12
C17orf53→
←SLC4A1
GRN→
←LINC01180
C17orf105→
LINC01976→
←HDAC5
←UBTF
←SLC25A39
←CCDC43
←MPP3
←PPY
LOC105371789→
←RUNDC3A−AS1
DBF4B→
CD300LG→
NAGS→
←ASB16−AS1
←FAM171A2
←TMEM101
TMUB2→
←ITGA2B
←ATXN7L3
←MIR6782
42
42.2
42.4
42.6
42.8
Position on chr17 (Mb)

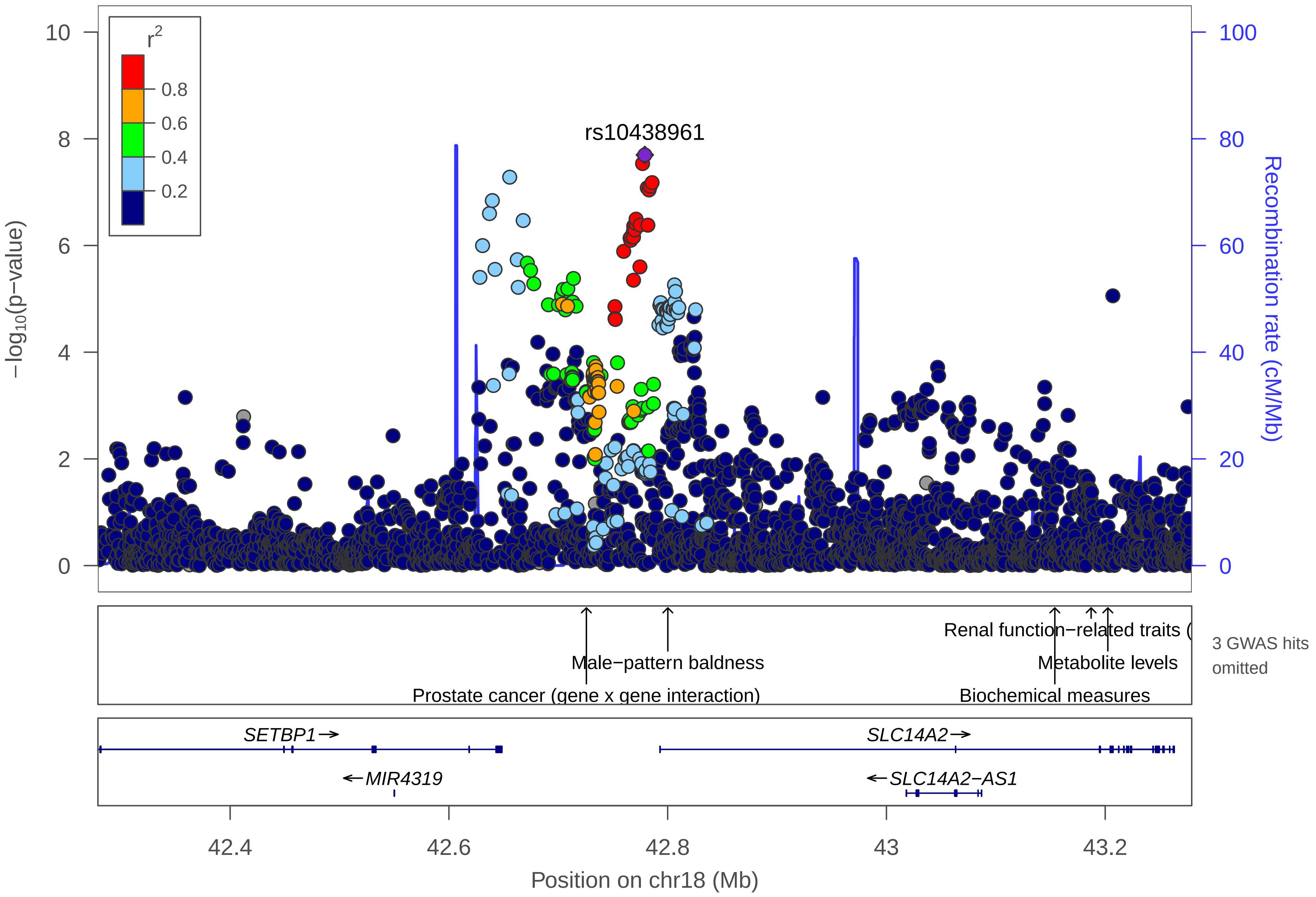

rs3794748
r^2
0.8
0.6
0.4
0.2
−log10(p−value)
0
5
10
15
20
25
Recombination rate (cM/Mb)
0
20
40
60
80
100
Breast cancer
Urate levels
Obesity−related traits
Height
TOM1L1→
←COX11
STXBP4→
HLF→
←MMD
←TMEM100
PCTP→
53
53.2
53.4
53.6
53.8
Position on chr17 (Mb)

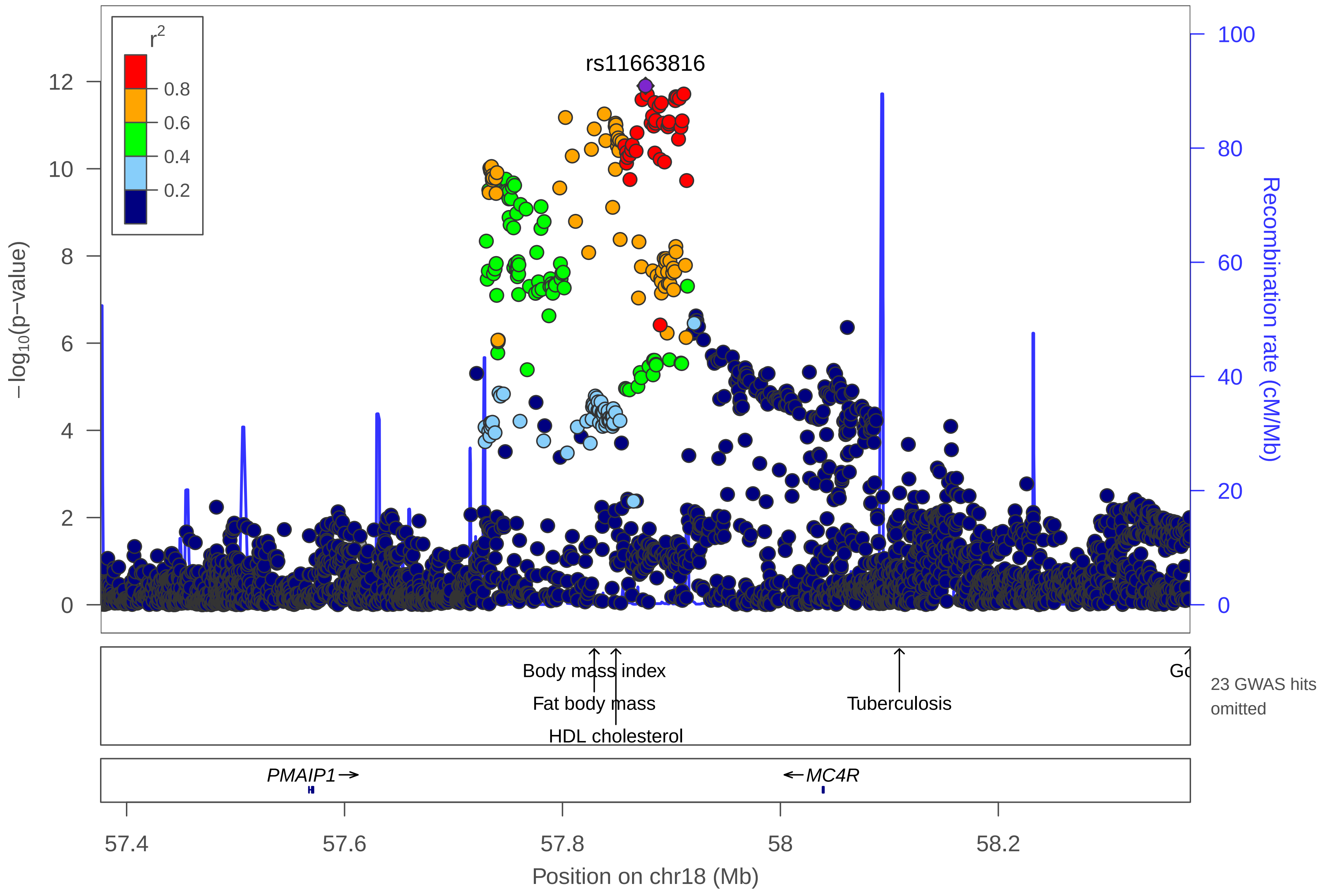


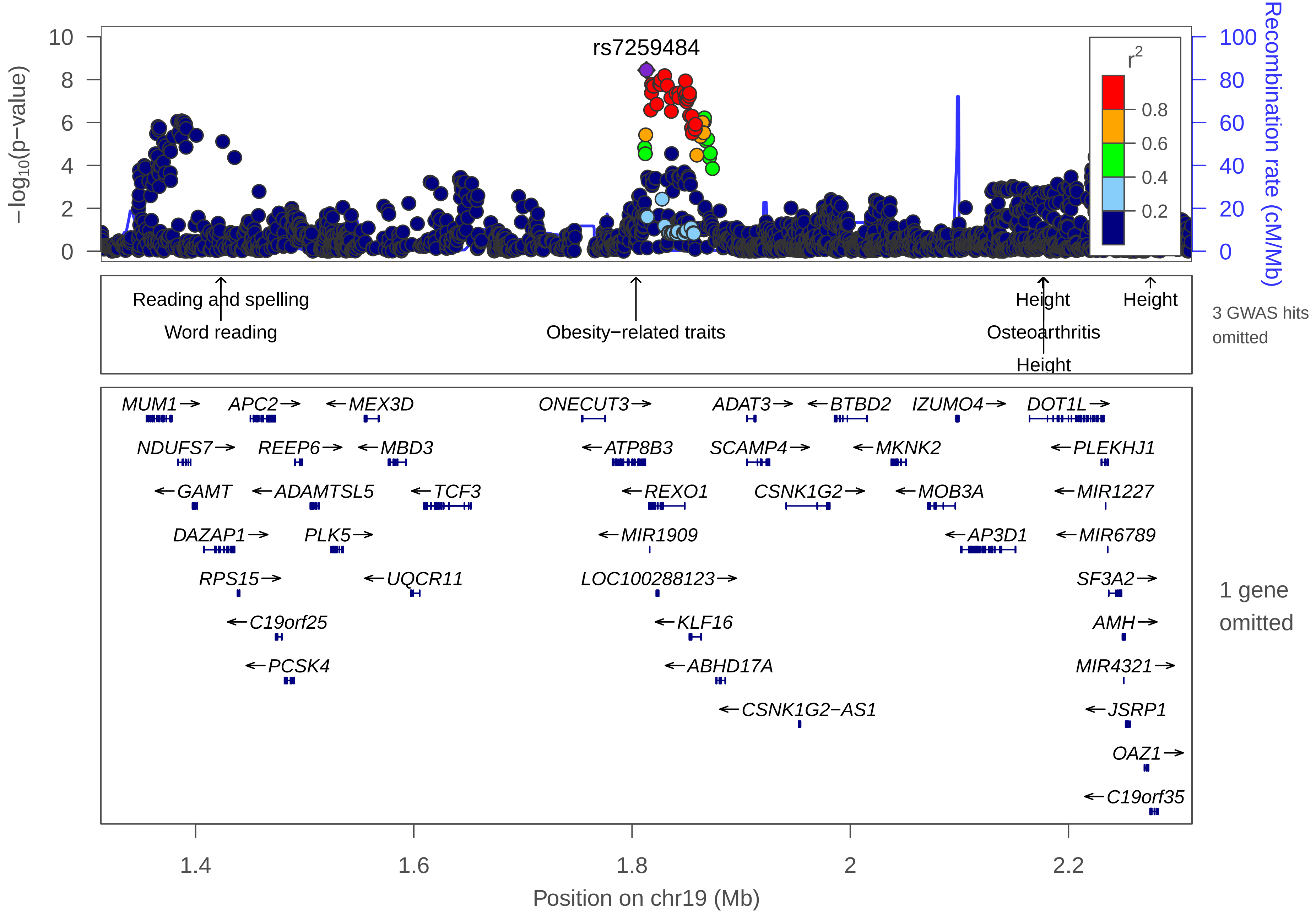
rs2645477
r²
0.8
0.6
0.4
0.2
−log10(p−value)
Recombination rate (cM/Mb)
Obesity−related traits
Lipoprotein−associated phospholipase A2 activity and mass
Inflammatory bowel disease
1 GWAS hit omitted
GDPD1→
←LINC01476
CLTC→
VMP1→
RPS6KB1→
←MIR4737
CA4→
YPEL2→
DHX40→
←PTRH2
MIR21→
←RNFT1
←HEATR6
←USP32
MIR4729→
←TUBD1
LOC105371849→
←TBC1D3P1−DHX40P1
←SCARNA20
LOC101927755→
←WFDC21P
←LOC653653
57.4
57.6
57.8
58
58.2
Position on chr17 (Mb)

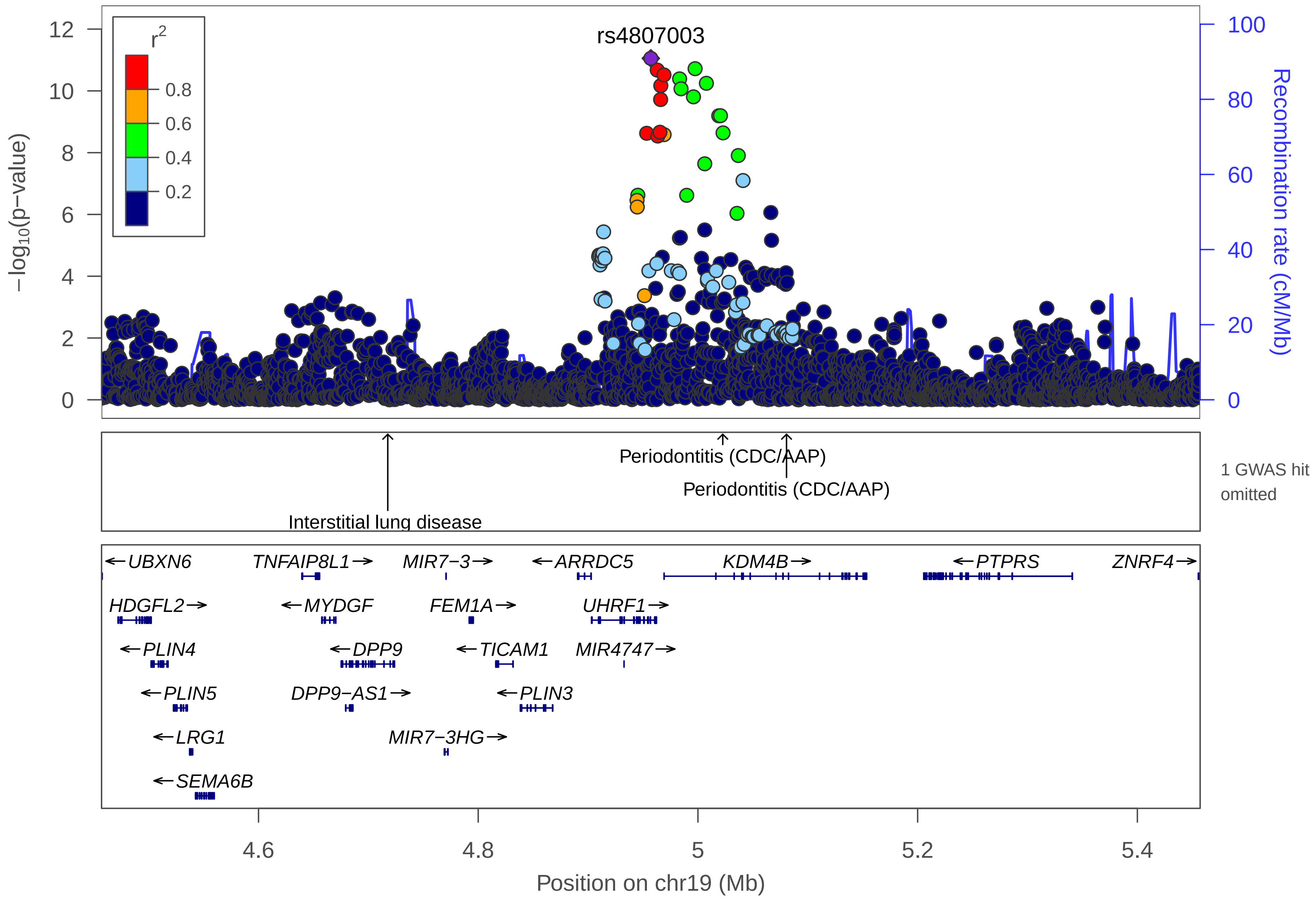

rs9895661
r2
0.8
0.6
0.4
0.2
50
40
30
20
10
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Lung function (forced expiratory flow between 25%
Osteoarthritis (hip)
Ovarian cancer
Height
13 GWAS hits omitted
BCAS3→
TBX4→
←NACA2
←BRIP1
←LOC101927855
←INTS2
←TBX2−AS1
TBX2→
C17orf82→
59
59.2
59.4
59.6
59.8
Position on chr17 (Mb)

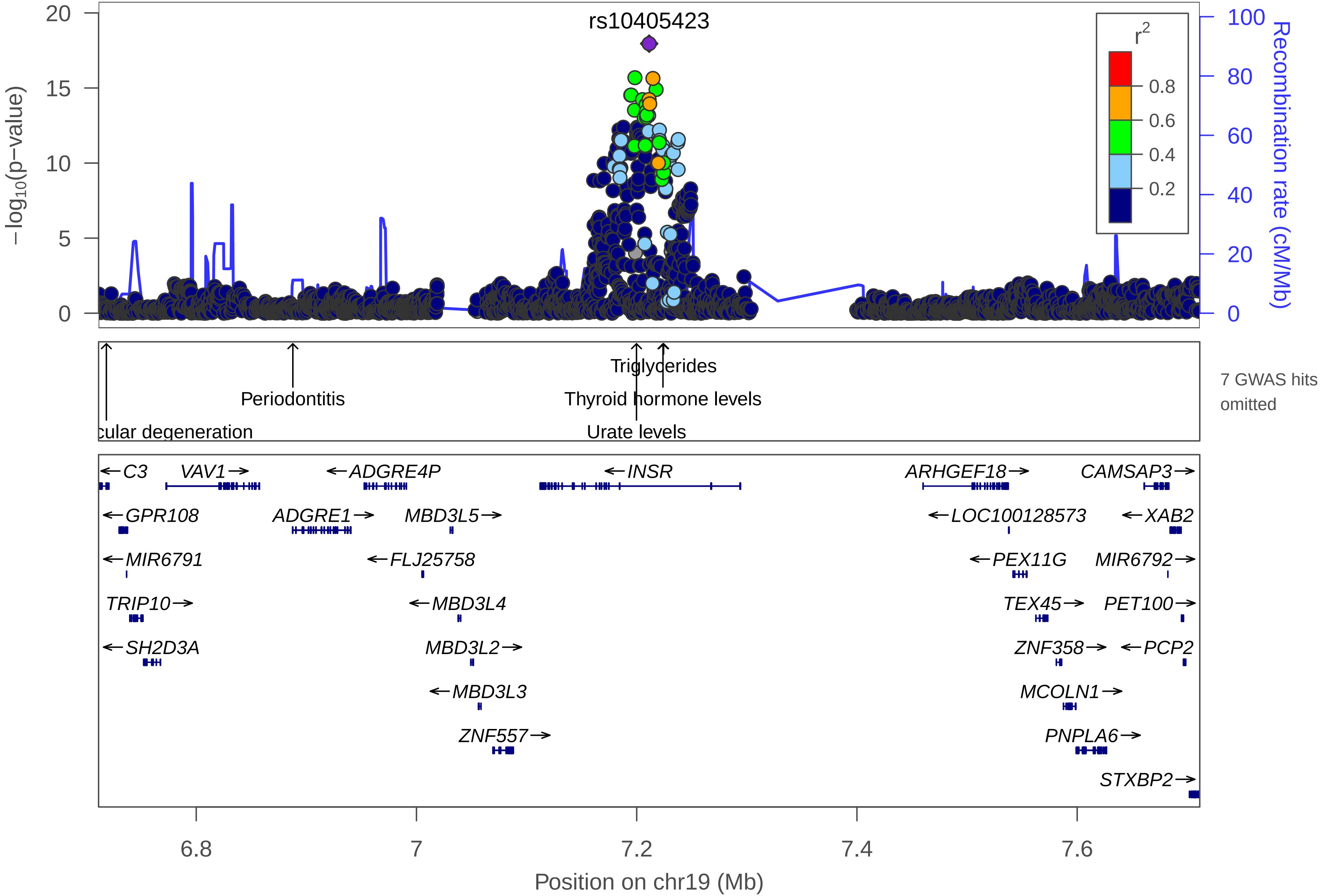

rs164011
r2
0.8
0.6
0.4
0.2
−log10(p−value)
10
8
6
4
2
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
hite matter hyperintensity burden
Urate levels
Retinal arteriolar
1 GWAS hit omitted
←H3F3B
←FBF1
CDK3→
←EXOC7
UBALD2→
SPHK1→
←RHBDF2
←ST6GALNAC1
←MIR4738
←ACOX1
←SRP68
←RNF157
←PRPSAP1
AANAT→
SNHG16→
←MXRA7
UNK→
←MRPL38
←EVPL
←FOXJ1
←QRICH2
←UBE2O
←CYGB
LOC105274304→
←UNC13D
TEN1→
GALR2→
PRCD→
←JMJD6
←WBP2
TEN1−CDK3→
RNF157−AS1→
SNORD1C→
METTL23→
←TRIM47
MIR4538→
SNORD1B→
←SRSF2
←TRIM65
ZACN→
SNORD1A→
←MIR636
←MIR6868
←ST6GALNAC2
MFSD11→
73.8
74
74.2
74.4
74.6
Position on chr17 (Mb)

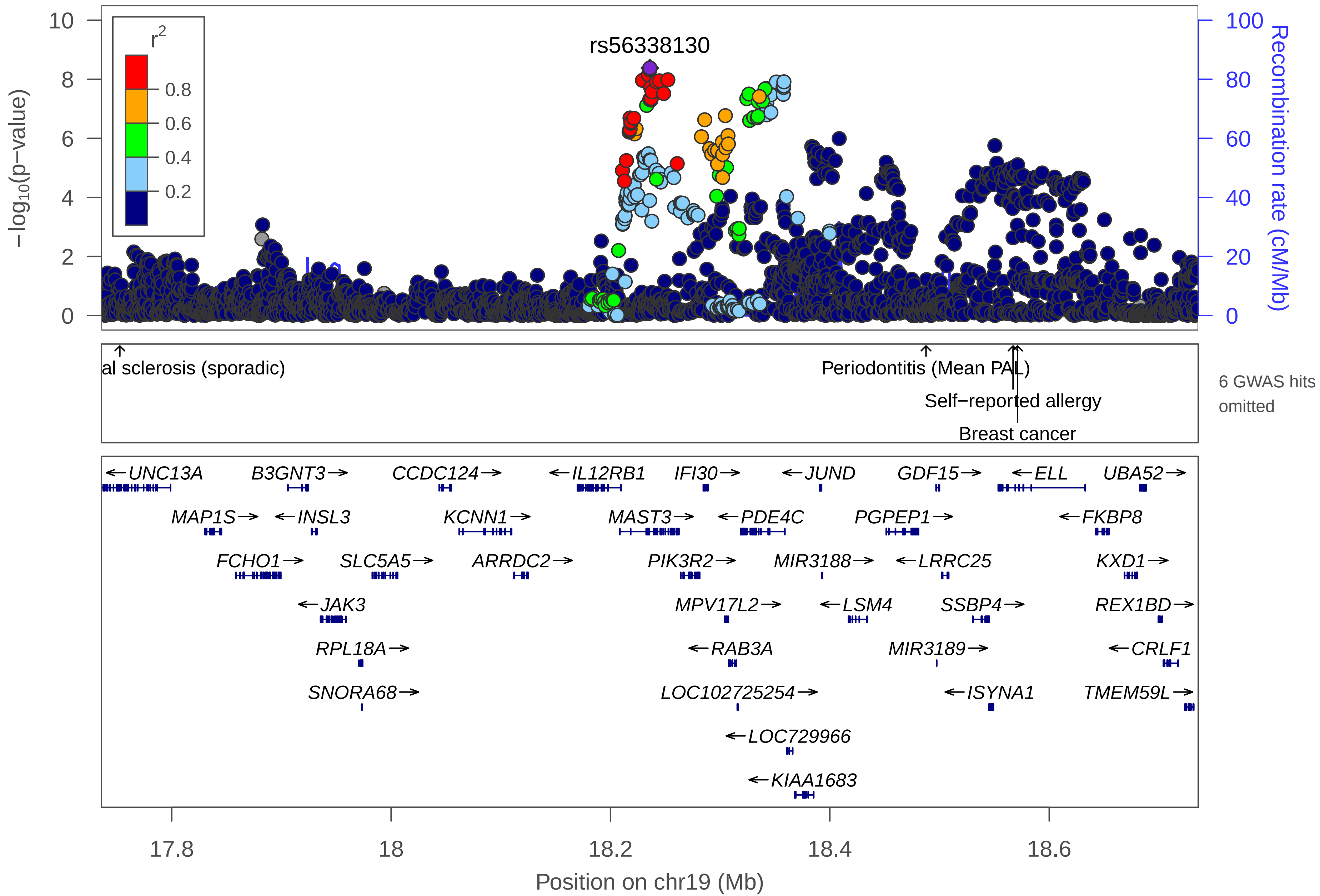

r^2
0.8
0.6
0.4
0.2
rs10438961
10
8
6
4
2
0
$-\log_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Renal function−related traits (
Male−pattern baldness
Metabolite levels
Prostate cancer (gene x gene interaction)
Biochemical measures
3 GWAS hits omitted
SETBP1→
SLC14A2→
←MIR4319
←SLC14A2−AS1
42.4
42.6
42.8
43
43.2
Position on chr18 (Mb)


r^2
0.8
0.6
0.4
0.2
rs11663816
$-\log_{10}$(p−value)
0
2
4
6
8
10
12
Recombination rate (cM/Mb)
0
20
40
60
80
100
Body mass index
Fat body mass
HDL cholesterol
Tuberculosis
Gc
23 GWAS hits omitted
PMAIP1→
←*MC4R*
57.4
57.6
57.8
58
58.2
Position on chr18 (Mb)

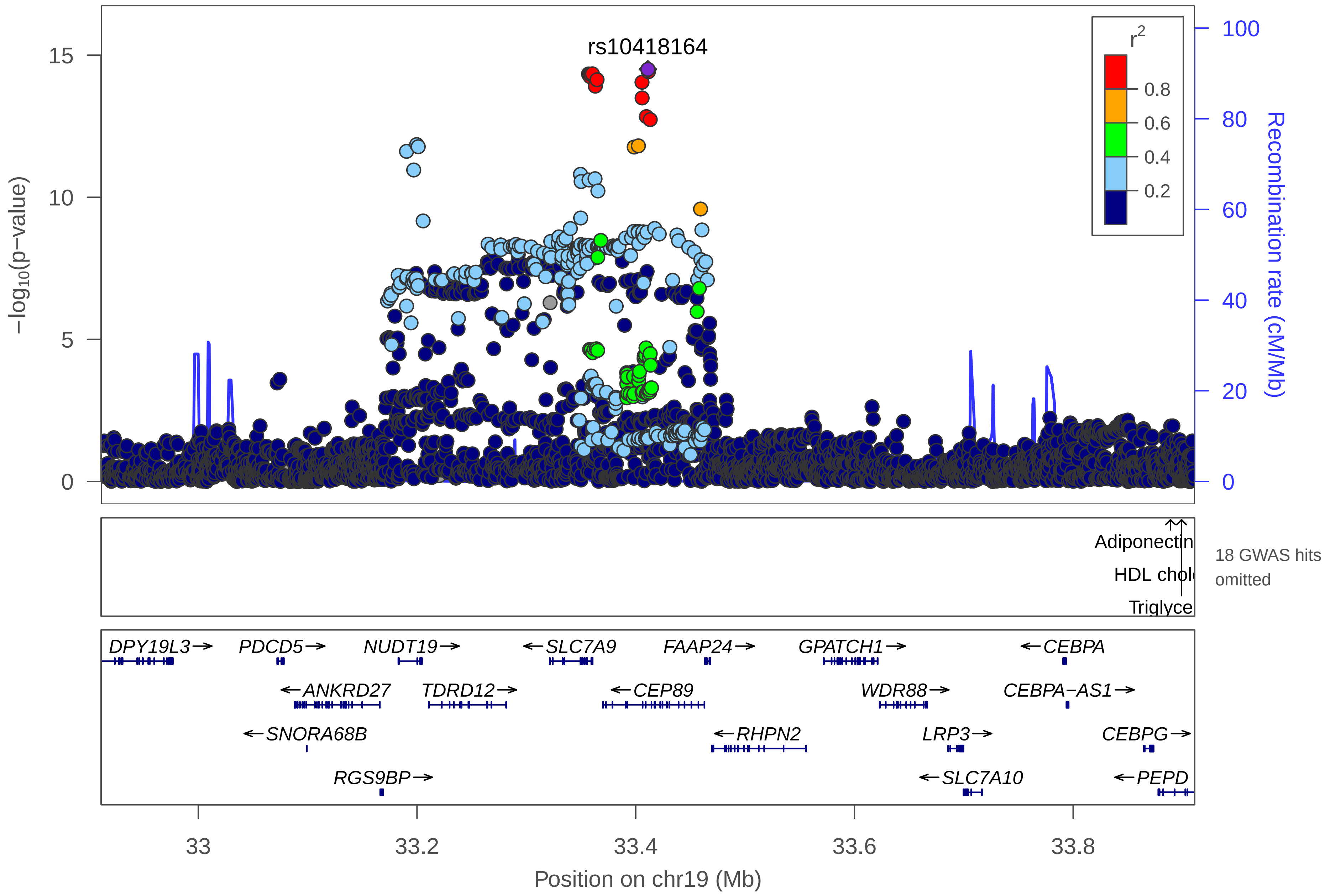

rs7259484
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
100
80
60
40
20
0
Reading and spelling
Word reading
Obesity−related traits
Height
Osteoarthritis
Height
Height
3 GWAS hits omitted
MUM1→
APC2→
←MEX3D
ONECUT3→
ADAT3→
←BTBD2
IZUMO4→
DOT1L→
NDUFS7→
REEP6→
←MBD3
←ATP8B3
SCAMP4→
←MKNK2
←PLEKHJ1
←GAMT
←ADAMTSL5
←TCF3
←REXO1
CSNK1G2→
←MOB3A
←MIR1227
DAZAP1→
PLK5→
←MIR1909
←AP3D1
←MIR6789
RPS15→
←UQCR11
LOC100288123→
SF3A2→
←C19orf25
←KLF16
AMH→
←PCSK4
←ABHD17A
MIR4321→
←CSNK1G2−AS1
←JSRP1
OAZ1→
←C19orf35
1 gene omitted
1.4
1.6
1.8
2
2.2
Position on chr19 (Mb)


rs4807003
r^2
0.8
0.6
0.4
0.2
12
10
8
6
4
2
0
$-\log_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Periodontitis (CDC/AAP)
Periodontitis (CDC/AAP)
Interstitial lung disease
1 GWAS hit omitted
←UBXN6
TNFAIP8L1→
MIR7−3→
←ARRDC5
KDM4B→
←PTPRS
ZNRF4→
HDGFL2→
←MYDGF
FEM1A→
UHRF1→
←PLIN4
←DPP9
←TICAM1
MIR4747→
←PLIN5
DPP9−AS1→
←PLIN3
←LRG1
MIR7−3HG→
←SEMA6B
4.6
4.8
5
5.2
5.4
Position on chr19 (Mb)

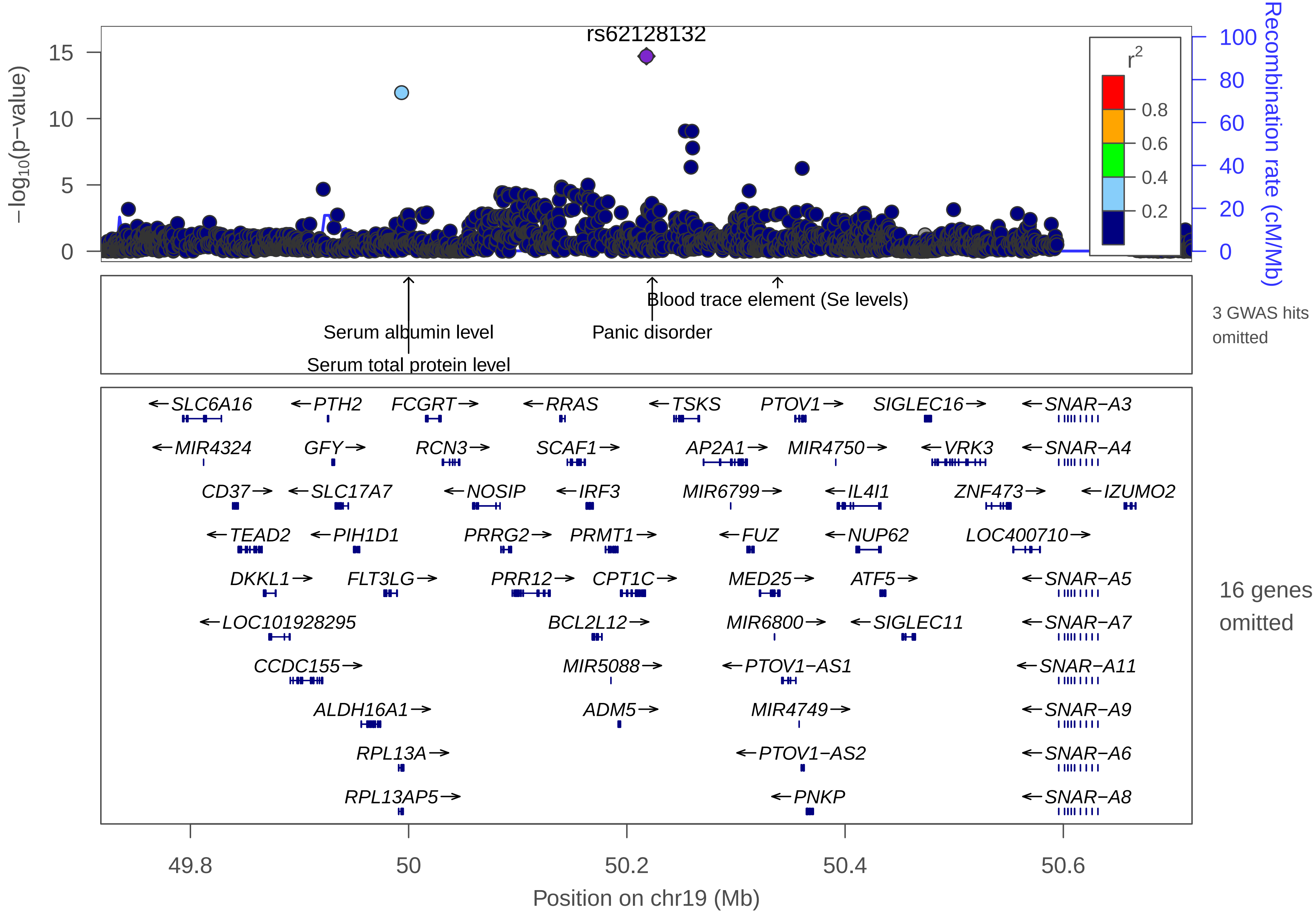

rs10405423
−log10(p−value)
20
15
10
5
0
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
Triglycerides
Periodontitis
Thyroid hormone levels
cular degeneration
Urate levels
7 GWAS hits omitted
←C3
VAV1→
←ADGRE4P
←INSR
ARHGEF18→
CAMSAP3→
←GPR108
ADGRE1→
MBD3L5→
←LOC100128573
←XAB2
←MIR6791
←FLJ25758
←PEX11G
MIR6792→
TRIP10→
←MBD3L4
TEX45→
PET100→
←SH2D3A
MBD3L2→
ZNF358→
←PCP2
←MBD3L3
MCOLN1→
ZNF557→
PNPLA6→
STXBP2→
6.8
7
7.2
7.4
7.6
Position on chr19 (Mb)

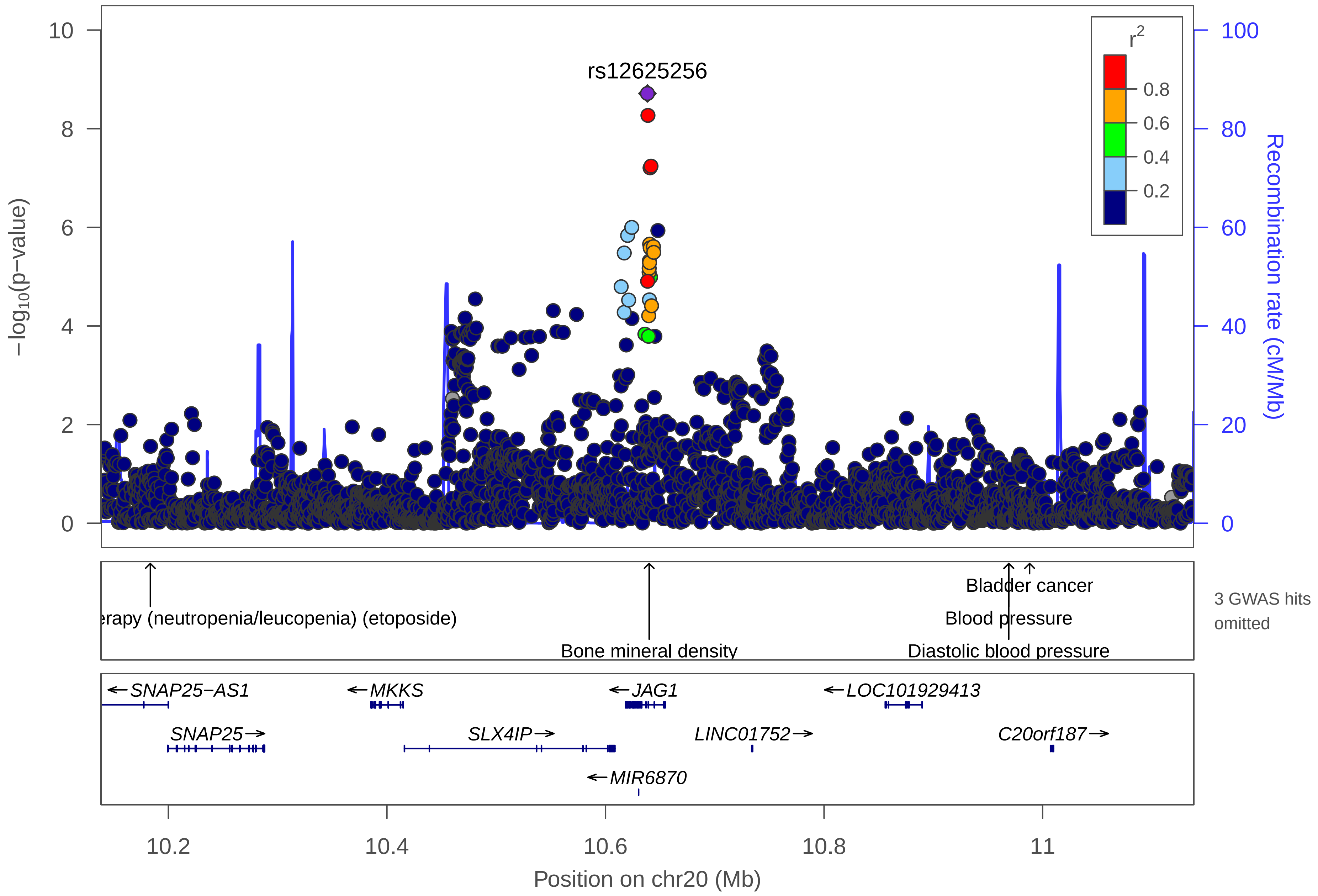


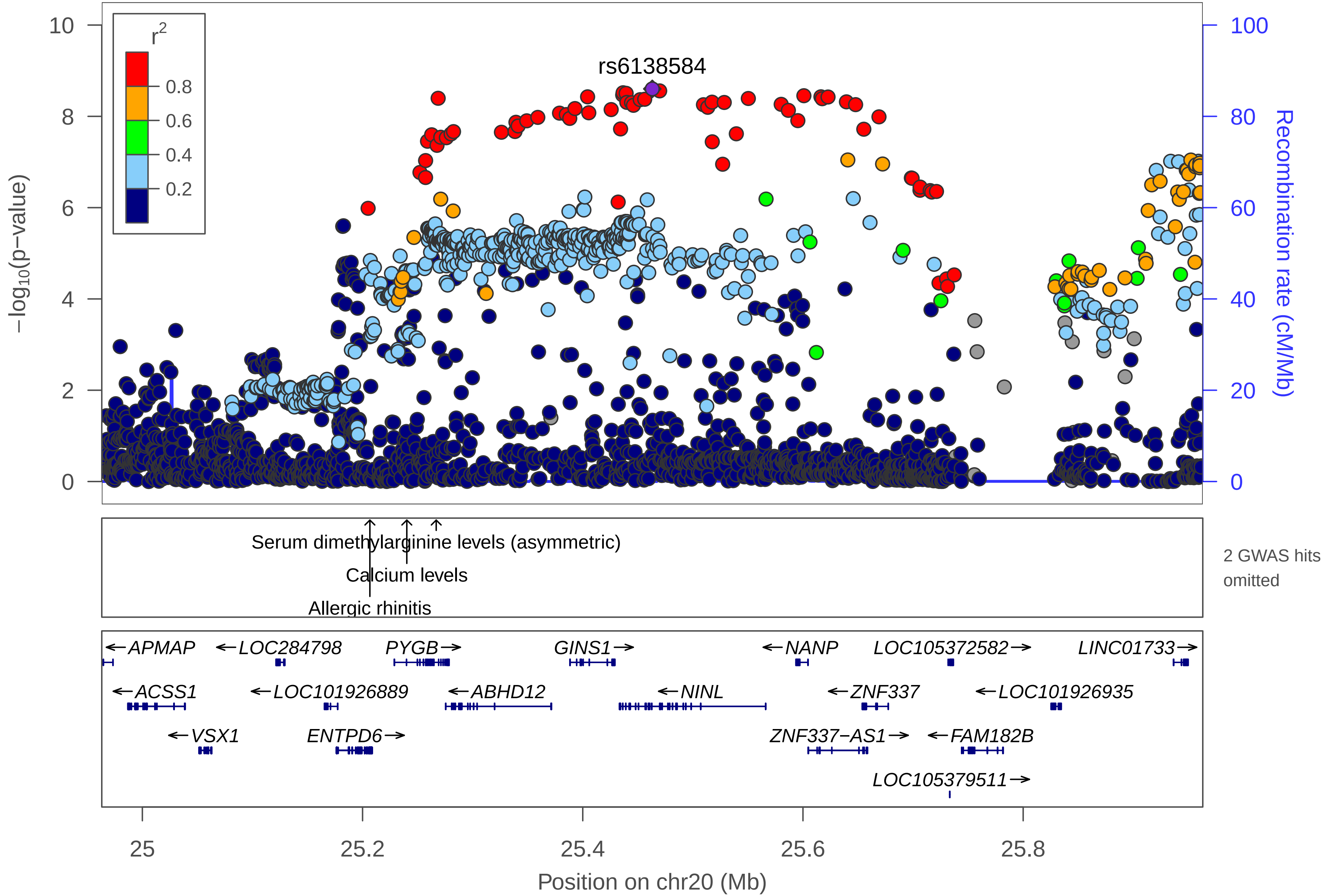
rs56338130
r^2
0.8
0.6
0.4
0.2
$-\log_{10}$(p−value)
Recombination rate (cM/Mb)
0
2
4
6
8
10
0
20
40
60
80
100
al sclerosis (sporadic)
Periodontitis (Mean PAL)
Self−reported allergy
Breast cancer
6 GWAS hits omitted
←UNC13A
B3GNT3→
CCDC124→
←IL12RB1
IFI30→
←JUND
GDF15→
←ELL
UBA52→
MAP1S→
←INSL3
KCNN1→
MAST3→
←PDE4C
PGPEP1→
←FKBP8
FCHO1→
SLC5A5→
ARRDC2→
PIK3R2→
MIR3188→
←LRRC25
KXD1→
←JAK3
MPV17L2→
←LSM4
SSBP4→
REX1BD→
RPL18A→
←RAB3A
MIR3189→
←CRLF1
SNORA68→
LOC102725254→
←ISYNA1
TMEM59L→
←LOC729966
←KIAA1683
17.8
18
18.2
18.4
18.6
Position on chr19 (Mb)

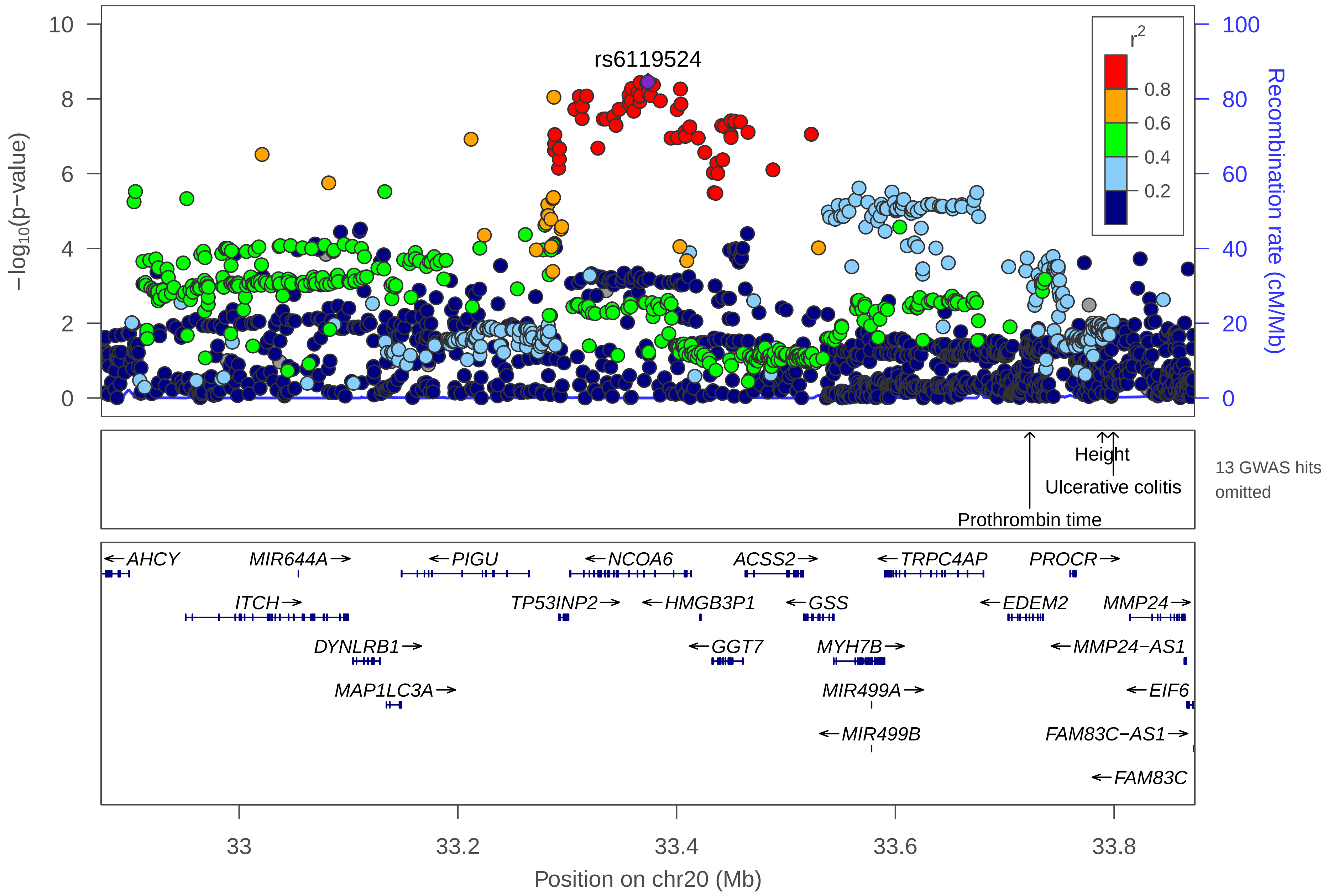


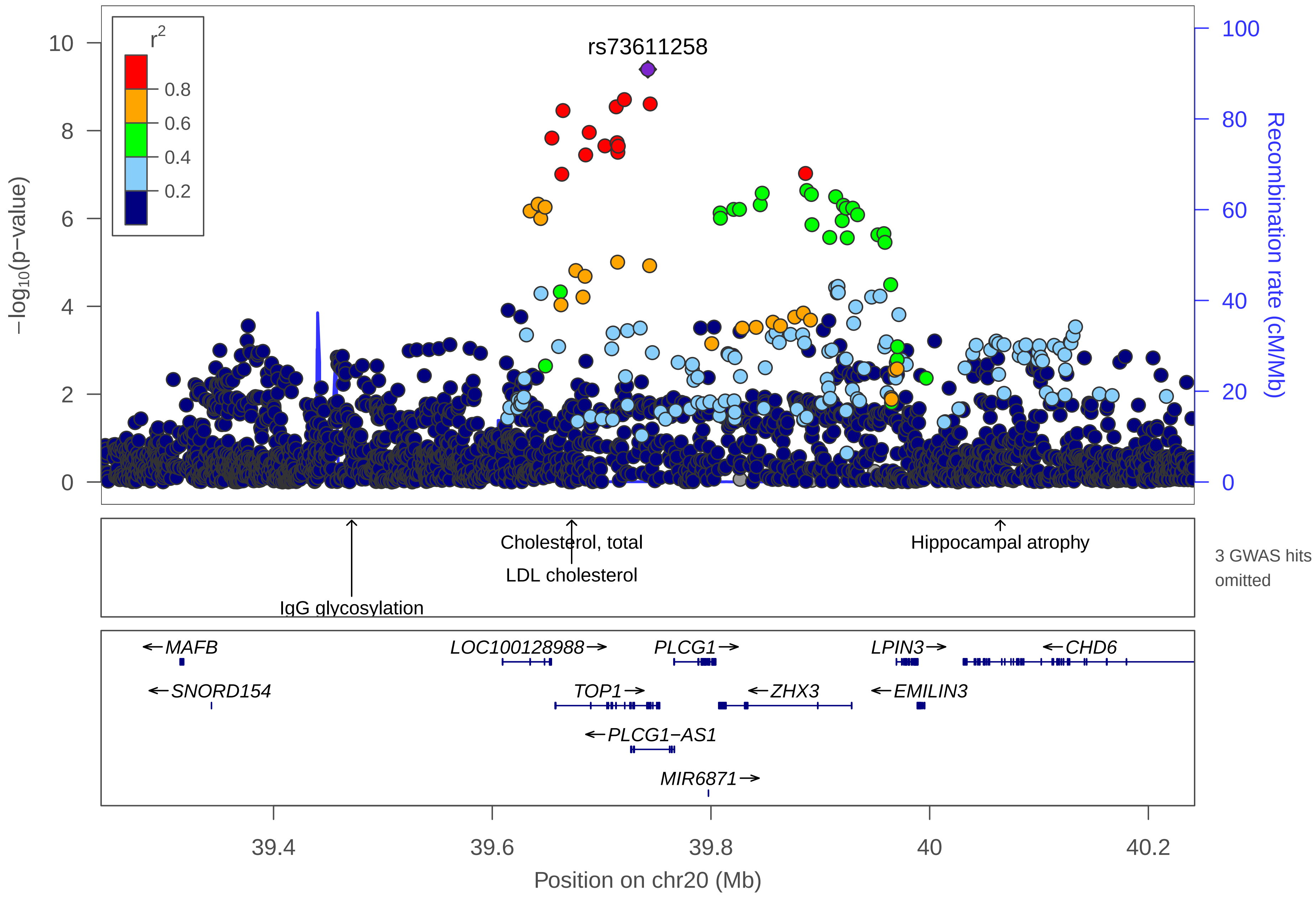
rs10418164
−log10(p−value)
15
10
5
0
r2
0.8
0.6
0.4
0.2
100
80
60
40
20
0
Recombination rate (cM/Mb)
Adiponectin
HDL chol
Triglyce
18 GWAS hits omitted
DPY19L3→
PDCD5→
NUDT19→
←SLC7A9
FAAP24→
GPATCH1→
←CEBPA
←ANKRD27
TDRD12→
←CEP89
WDR88→
CEBPA−AS1→
←SNORA68B
←RHPN2
LRP3→
CEBPG→
RGS9BP→
←SLC7A10
←PEPD
33
33.2
33.4
33.6
33.8
Position on chr19 (Mb)

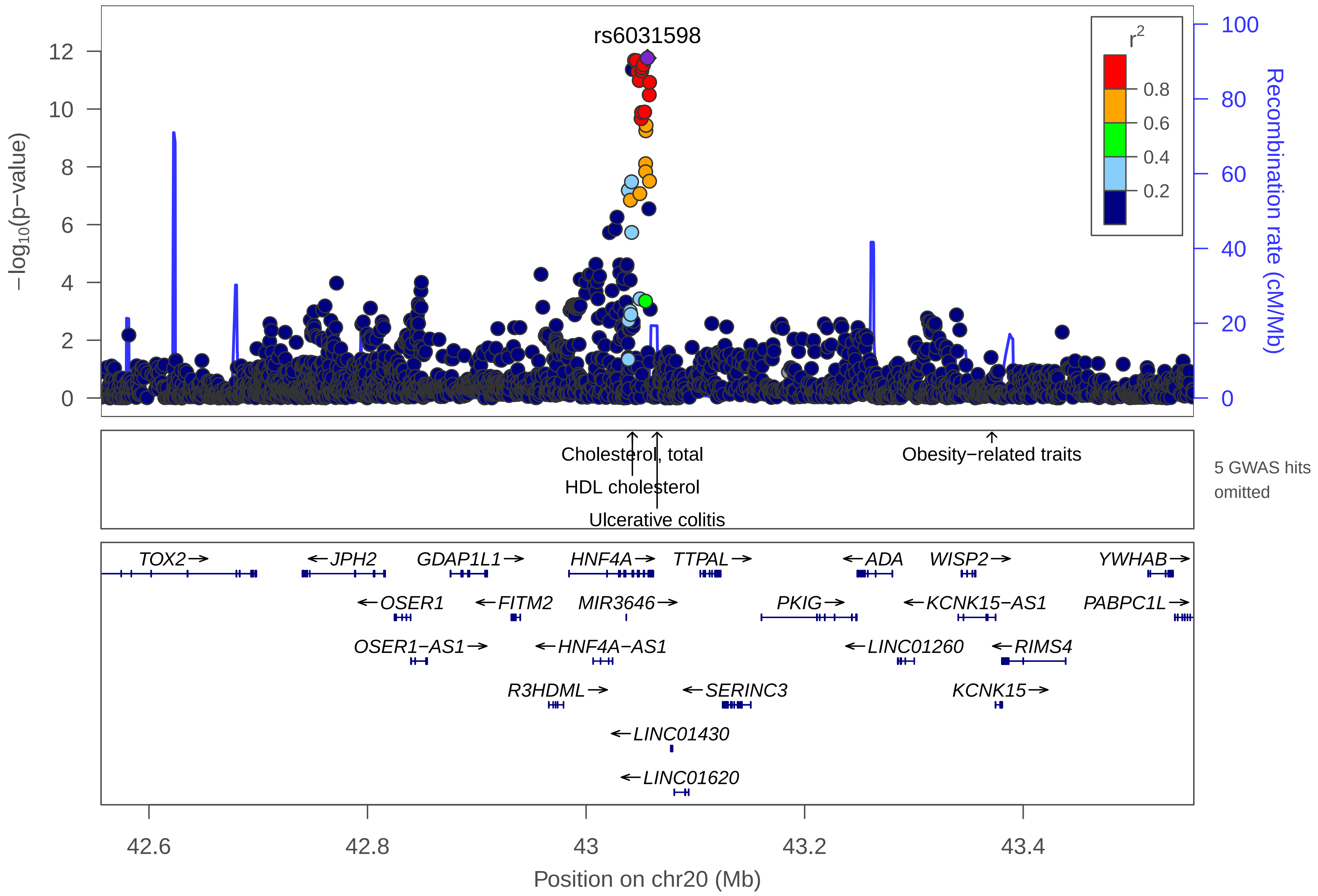

rs62128132
−log10(p−value)
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
r2
0.8
0.6
0.4
0.2
Blood trace element (Se levels)
Serum albumin level
Panic disorder
Serum total protein level
3 GWAS hits omitted
←SLC6A16
←PTH2
FCGRT→
←RRAS
←TSKS
PTOV1→
SIGLEC16→
←SNAR−A3
←MIR4324
GFY→
RCN3→
SCAF1→
AP2A1→
MIR4750→
←VRK3
←SNAR−A4
CD37→
←SLC17A7
←NOSIP
←IRF3
MIR6799→
←IL4I1
ZNF473→
←IZUMO2
←TEAD2
←PIH1D1
PRRG2→
PRMT1→
←FUZ
←NUP62
LOC400710→
DKKL1→
FLT3LG→
PRR12→
CPT1C→
MED25→
ATF5→
←SNAR−A5
←LOC101928295
BCL2L12→
MIR6800→
←SIGLEC11
←SNAR−A7
CCDC155→
MIR5088→
←PTOV1−AS1
←SNAR−A11
ALDH16A1→
ADM5→
MIR4749→
←SNAR−A9
RPL13A→
←PTOV1−AS2
←SNAR−A6
RPL13AP5→
←PNKP
←SNAR−A8
16 genes omitted
49.8
50
50.2
50.4
50.6
Position on chr19 (Mb)

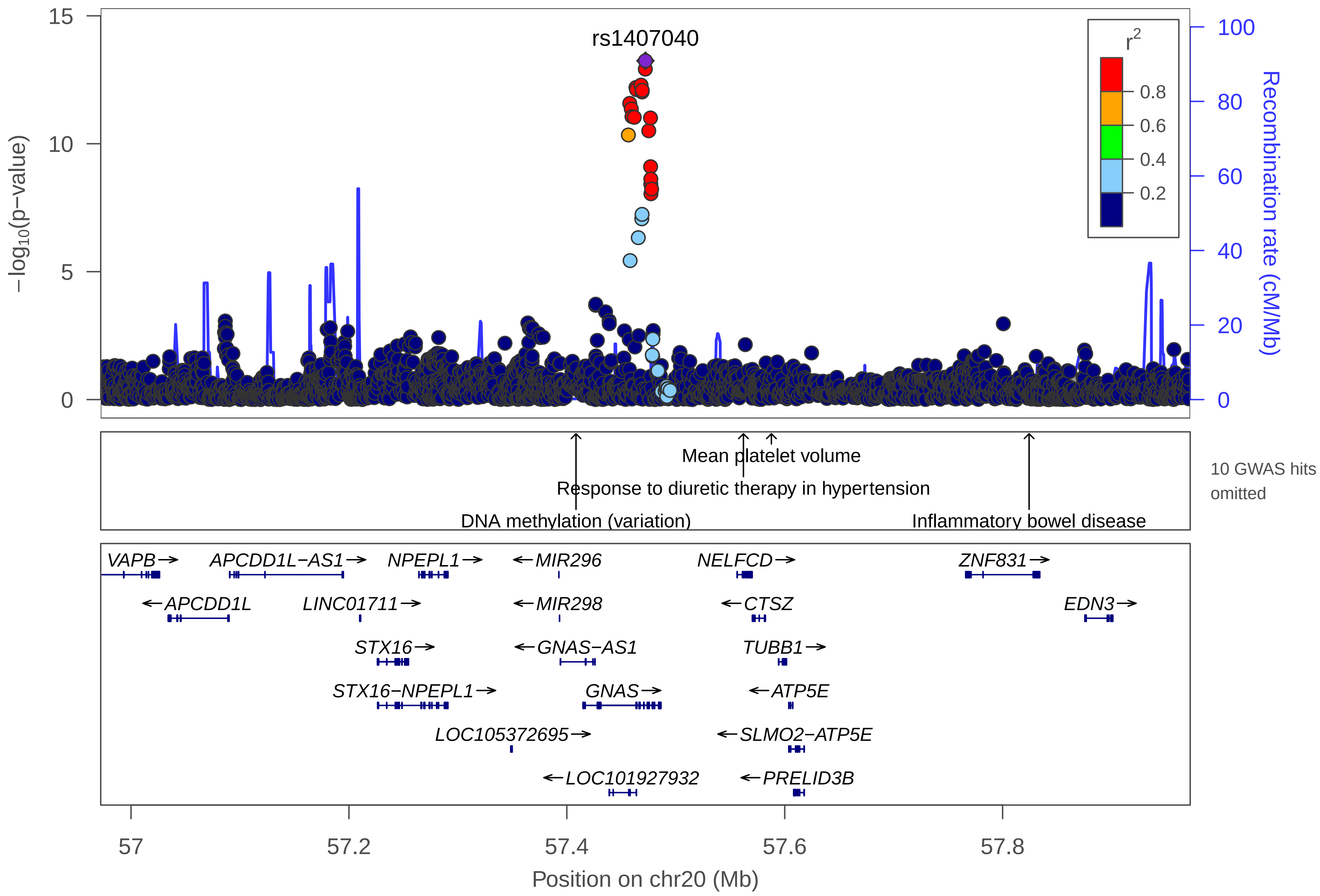

rs12625256
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
100
80
60
40
20
0
−log10(p−value)
Recombination rate (cM/Mb)
erapy (neutropenia/leucopenia) (etoposide)
Bone mineral density
Bladder cancer
Blood pressure
Diastolic blood pressure
3 GWAS hits omitted
←SNAP25−AS1
←MKKS
←JAG1
←LOC101929413
SNAP25→
SLX4IP→
LINC01752→
C20orf187→
←MIR6870
10.2
10.4
10.6
10.8
11
Position on chr20 (Mb)

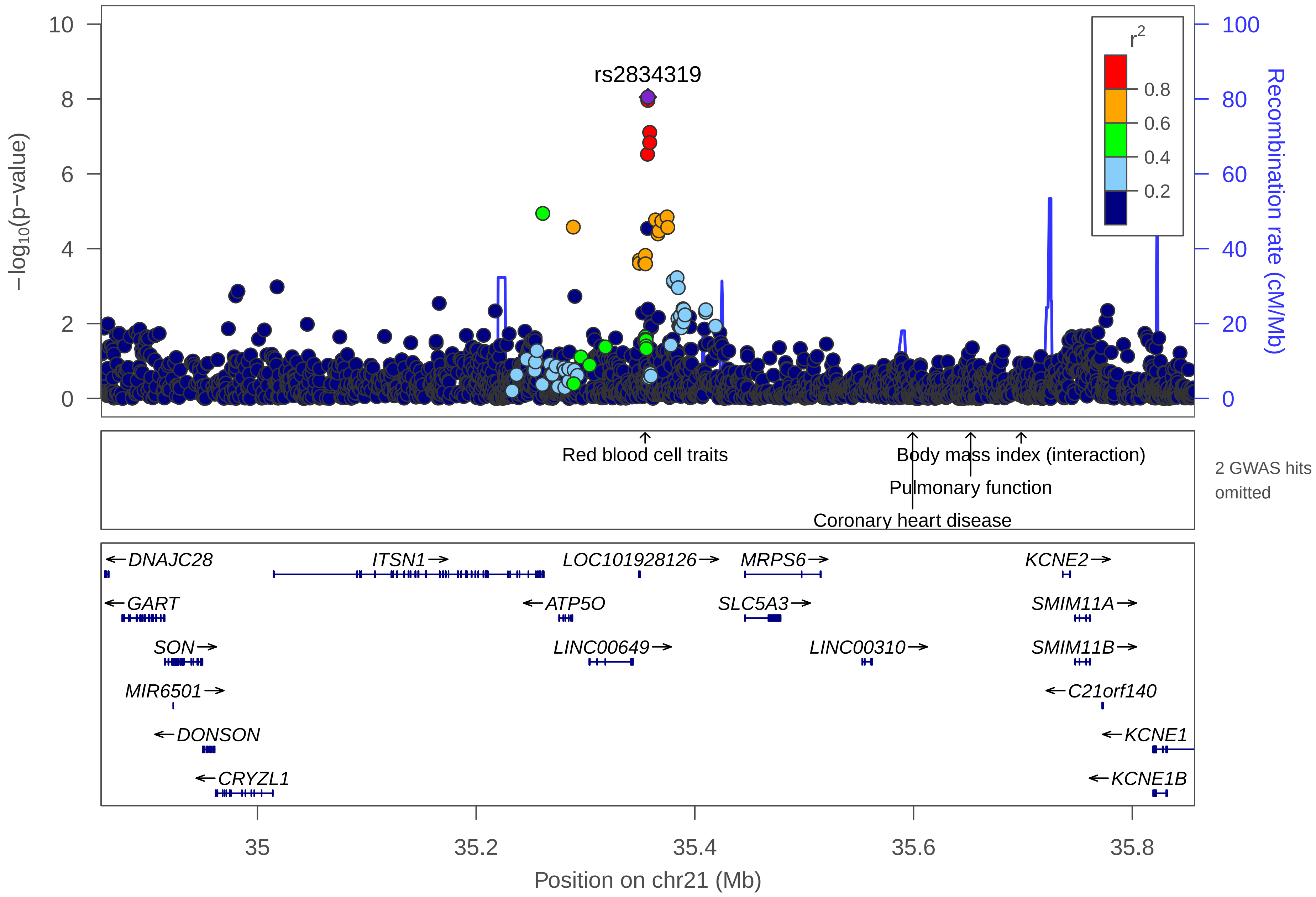

r2
0.8
0.6
0.4
0.2
rs6138584
−log10(p−value)
0
2
4
6
8
10
Recombination rate (cM/Mb)
0
20
40
60
80
100
Serum dimethylarginine levels (asymmetric)
Calcium levels
Allergic rhinitis
2 GWAS hits omitted
←APMAP
←LOC284798
PYGB→
GINS1→
←NANP
LOC105372582→
LINC01733→
←ACSS1
←LOC101926889
←ABHD12
←NINL
←ZNF337
←LOC101926935
←VSX1
ENTPD6→
ZNF337−AS1→
←FAM182B
LOC105379511→
25
25.2
25.4
25.6
25.8
Position on chr20 (Mb)

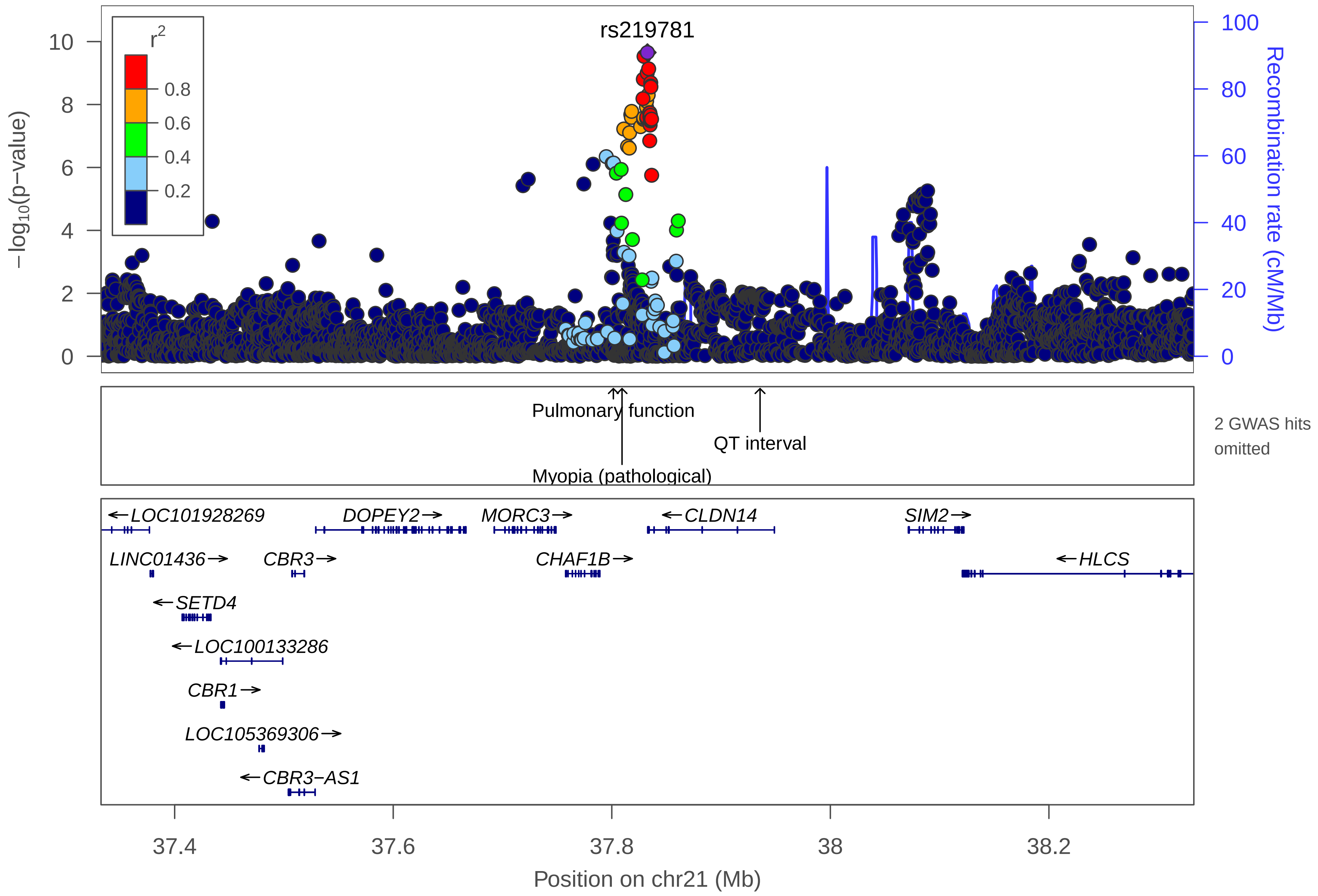

rs6119524
−log10(p−value)
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
100
80
60
40
20
0
Height
Ulcerative colitis
Prothrombin time
13 GWAS hits omitted
←AHCY
MIR644A→
←PIGU
←NCOA6
ACSS2→
←TRPC4AP
PROCR→
ITCH→
TP53INP2→
←HMGB3P1
←GSS
←EDEM2
MMP24→
DYNLRB1→
←GGT7
MYH7B→
←MMP24−AS1
MAP1LC3A→
MIR499A→
←EIF6
←MIR499B
FAM83C−AS1→
←FAM83C
33
33.2
33.4
33.6
33.8
Position on chr20 (Mb)

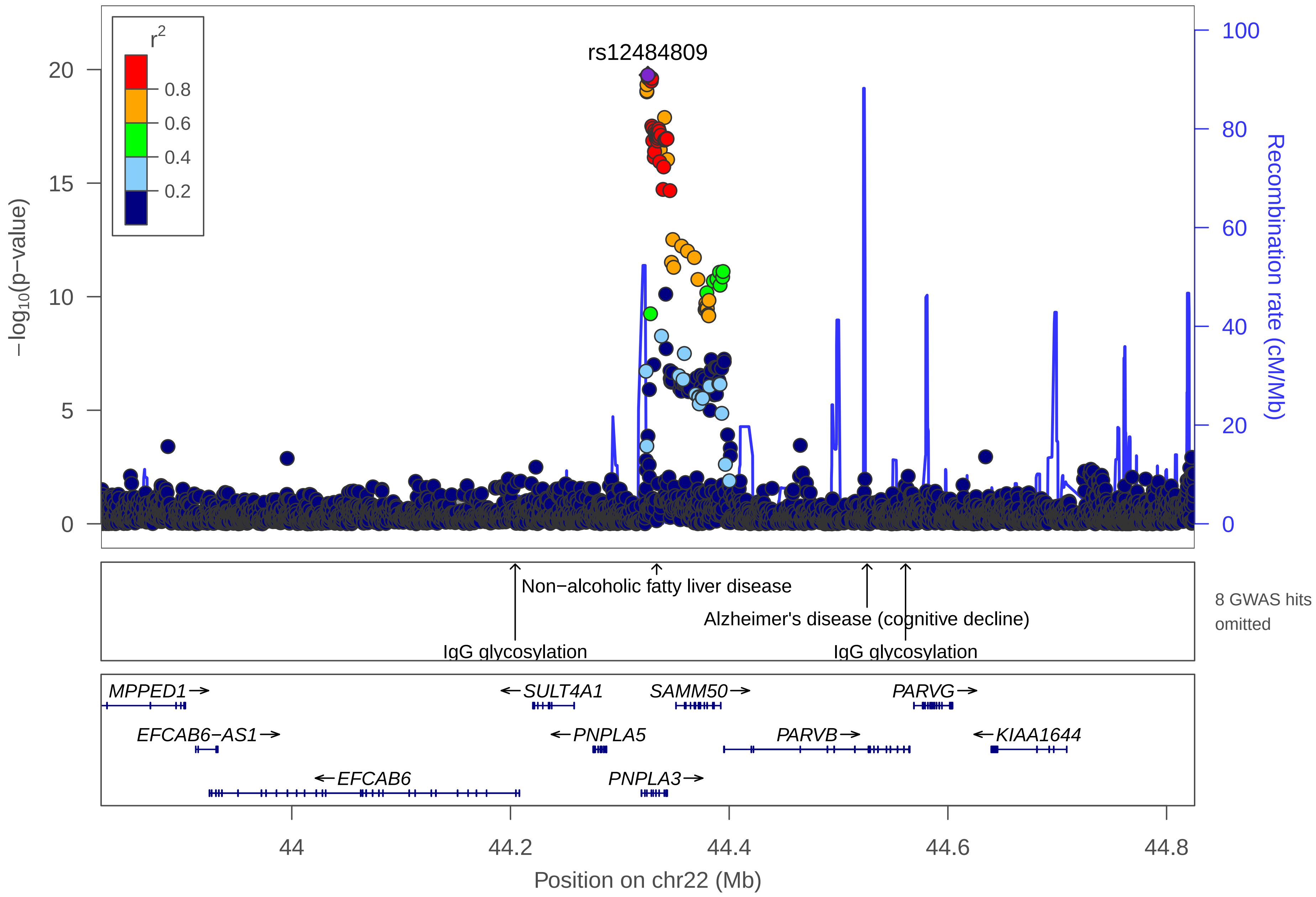

r2
0.8
0.6
0.4
0.2
rs73611258
−log10(p−value)
10
8
6
4
2
0
100
80
60
40
20
0
Recombination rate (cM/Mb)
Cholesterol, total
LDL cholesterol
IgG glycosylation
Hippocampal atrophy
3 GWAS hits omitted
←MAFB
←SNORD154
LOC100128988→
PLCG1→
TOP1→
←ZHX3
←PLCG1−AS1
MIR6871→
LPIN3→
←EMILIN3
←CHD6
39.4
39.6
39.8
40
40.2
Position on chr20 (Mb)

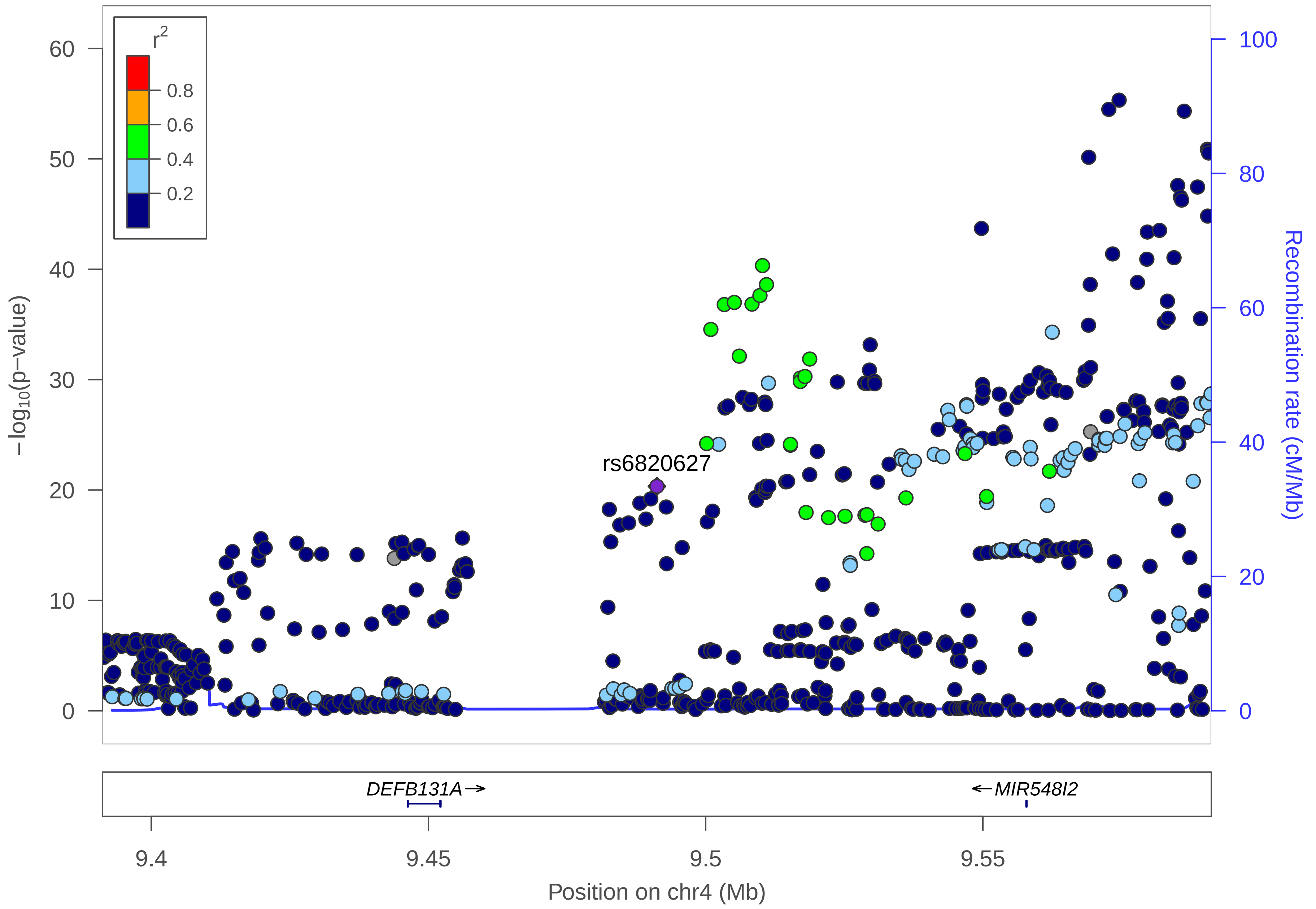

rs6031598
r2
0.8
0.6
0.4
0.2
−log10(p−value)
0
2
4
6
8
10
12
Recombination rate (cM/Mb)
0
20
40
60
80
100
Cholesterol, total
HDL cholesterol
Ulcerative colitis
Obesity−related traits
5 GWAS hits omitted
TOX2→
←JPH2
GDAP1L1→
HNF4A→
TTPAL→
←ADA
WISP2→
YWHAB→
←OSER1
←FITM2
MIR3646→
PKIG→
←KCNK15−AS1
PABPC1L→
OSER1−AS1→
←HNF4A−AS1
←LINC01260
←RIMS4
R3HDML→
←SERINC3
KCNK15→
←LINC01430
←LINC01620
42.6
42.8
43
43.2
43.4
Position on chr20 (Mb)

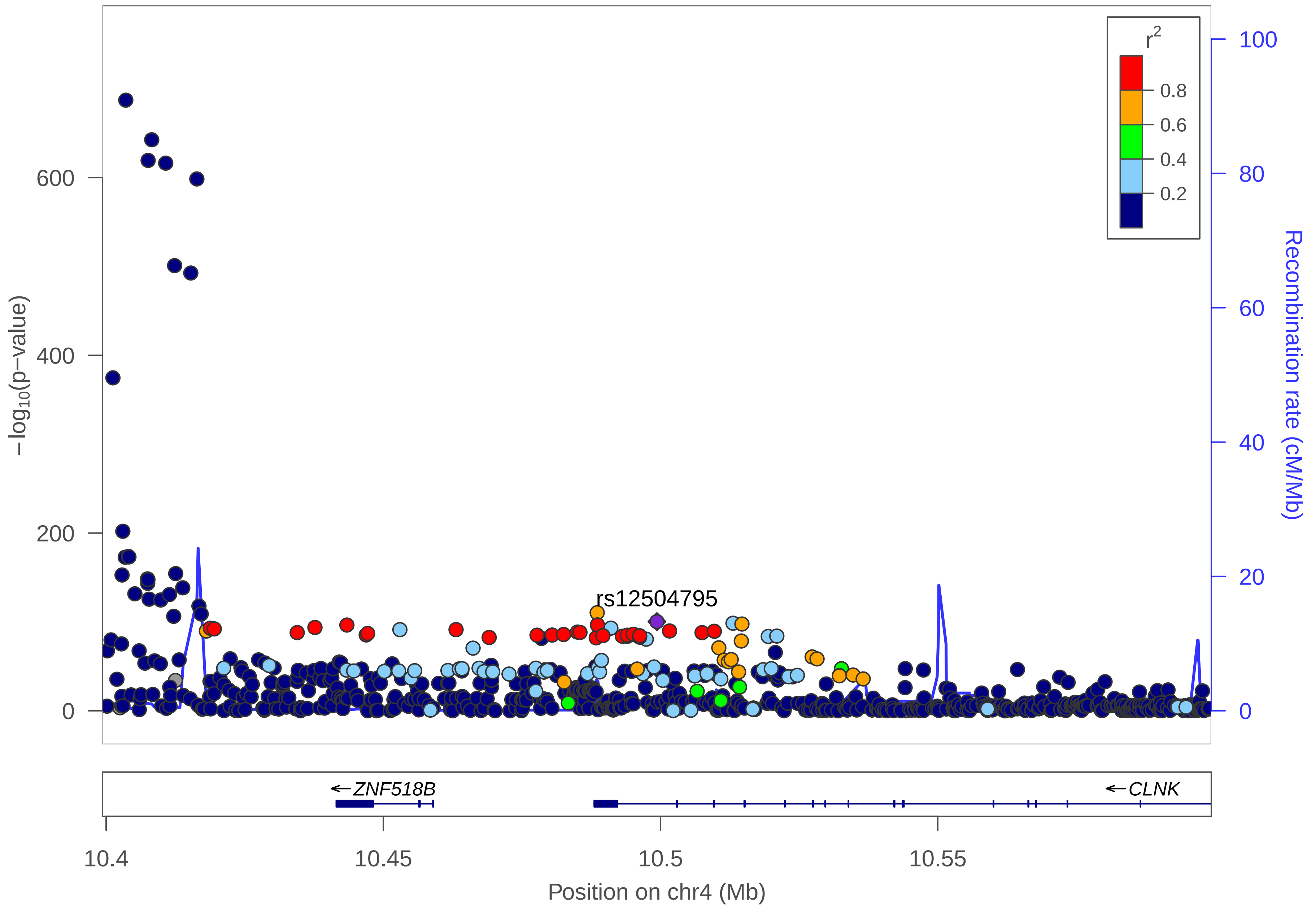

rs1407040
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
r2
0.8
0.6
0.4
0.2
Mean platelet volume
Response to diuretic therapy in hypertension
DNA methylation (variation)
Inflammatory bowel disease
10 GWAS hits omitted
VAPB→
APCDD1L−AS1→
NPEPL1→
←MIR296
NELFCD→
ZNF831→
←APCDD1L
LINC01711→
←MIR298
←CTSZ
EDN3→
STX16→
←GNAS−AS1
TUBB1→
STX16−NPEPL1→
GNAS→
←ATP5E
LOC105372695→
←SLMO2−ATP5E
←LOC101927932
←PRELID3B
57
57.2
57.4
57.6
57.8
Position on chr20 (Mb)

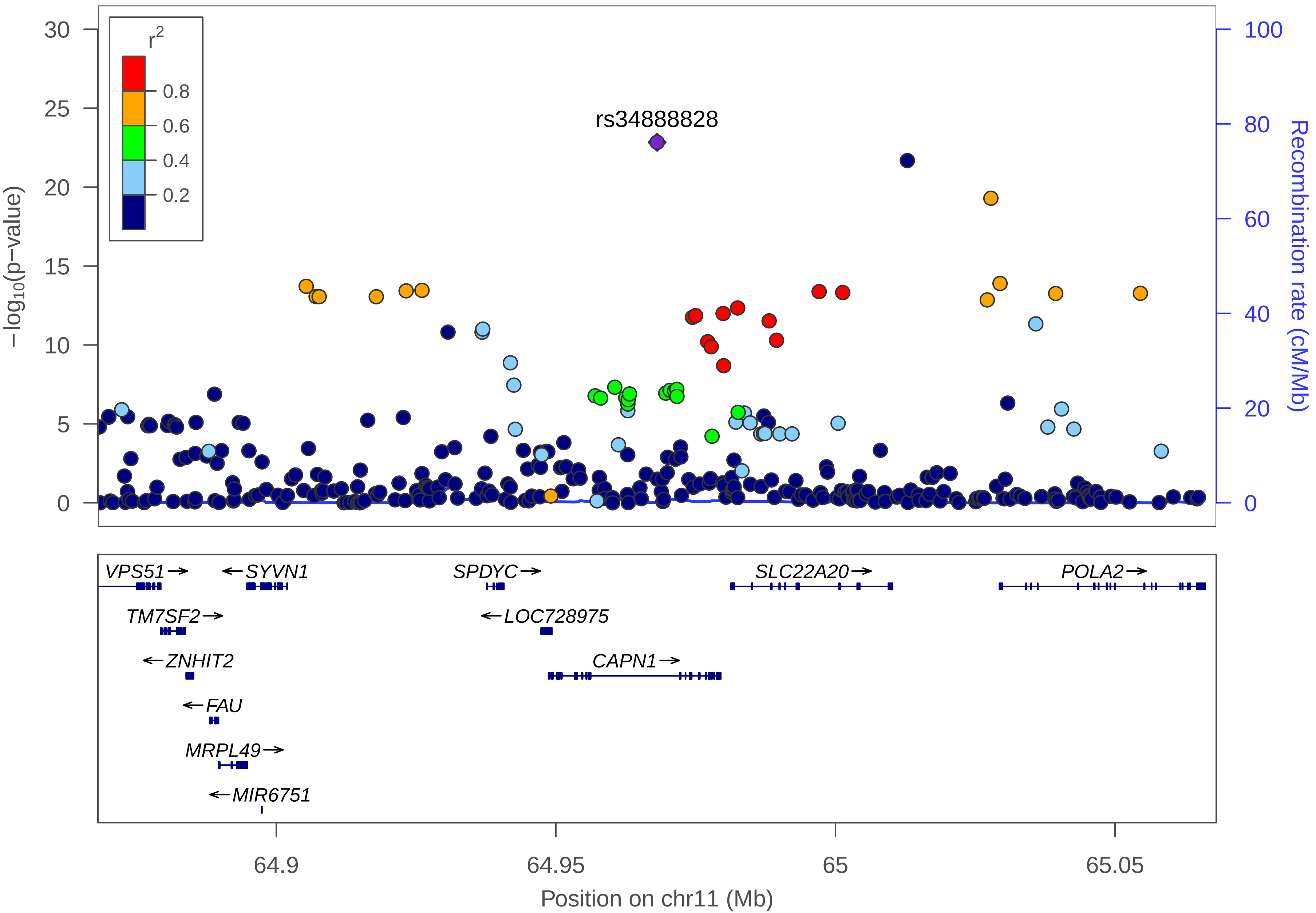

rs2834319
r^2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
−log$_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Red blood cell traits
Body mass index (interaction)
Pulmonary function
Coronary heart disease
2 GWAS hits omitted
←DNAJC28
ITSN1→
LOC101928126→
MRPS6→
KCNE2→
←GART
←ATP5O
SLC5A3→
SMIM11A→
SON→
LINC00649→
LINC00310→
SMIM11B→
MIR6501→
←C21orf140
←DONSON
←KCNE1
←CRYZL1
←KCNE1B
35
35.2
35.4
35.6
35.8
Position on chr21 (Mb)

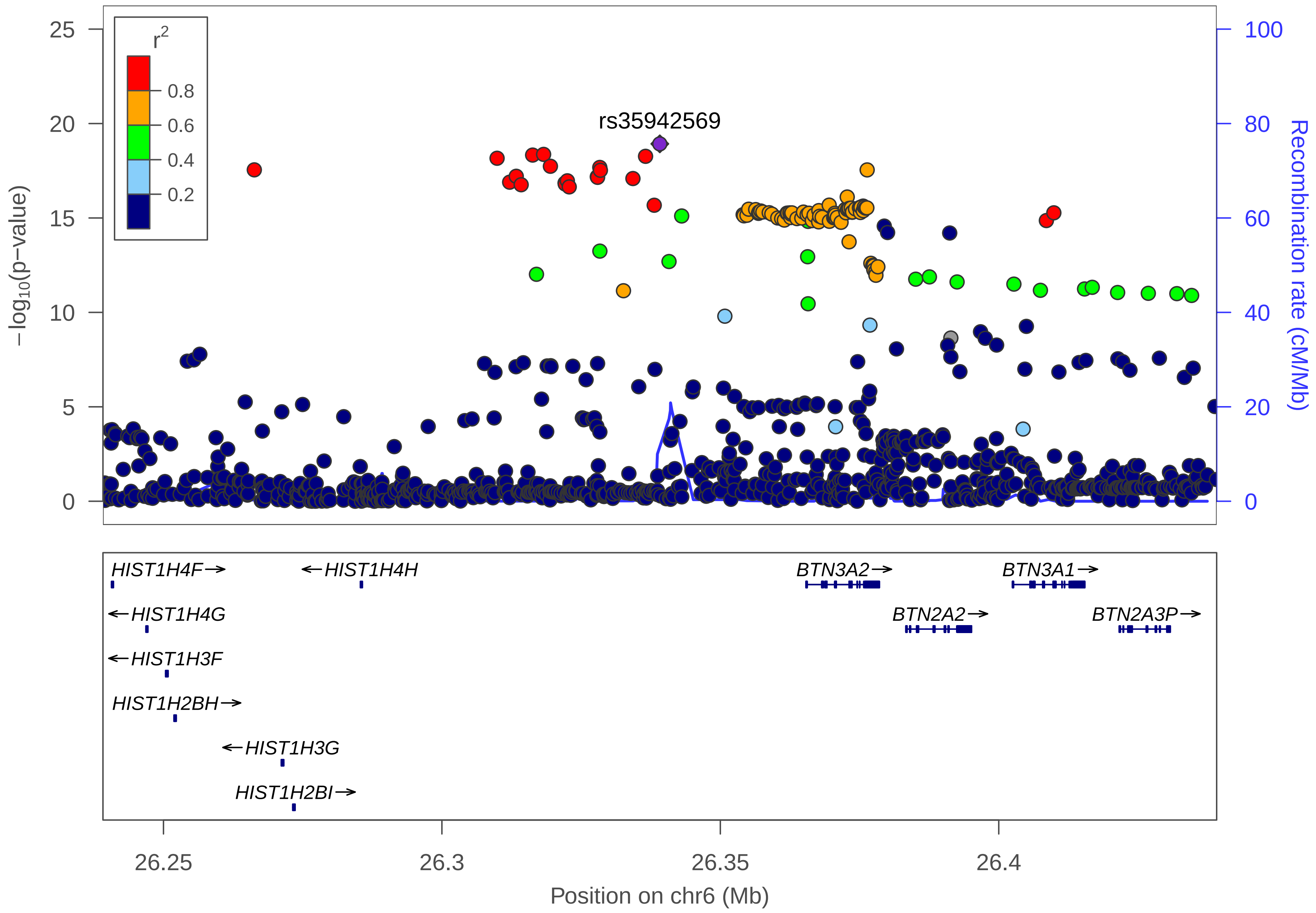

rs219781
r^2
0.8
0.6
0.4
0.2
10
8
6
4
2
0
$-\log_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Pulmonary function
Myopia (pathological)
QT interval
2 GWAS hits omitted
←LOC101928269
DOPEY2→
MORC3→
←CLDN14
SIM2→
LINC01436→
CBR3→
CHAF1B→
←HLCS
←SETD4
←LOC100133286
CBR1→
LOC105369306→
←CBR3−AS1
37.4
37.6
37.8
38
38.2
Position on chr21 (Mb)

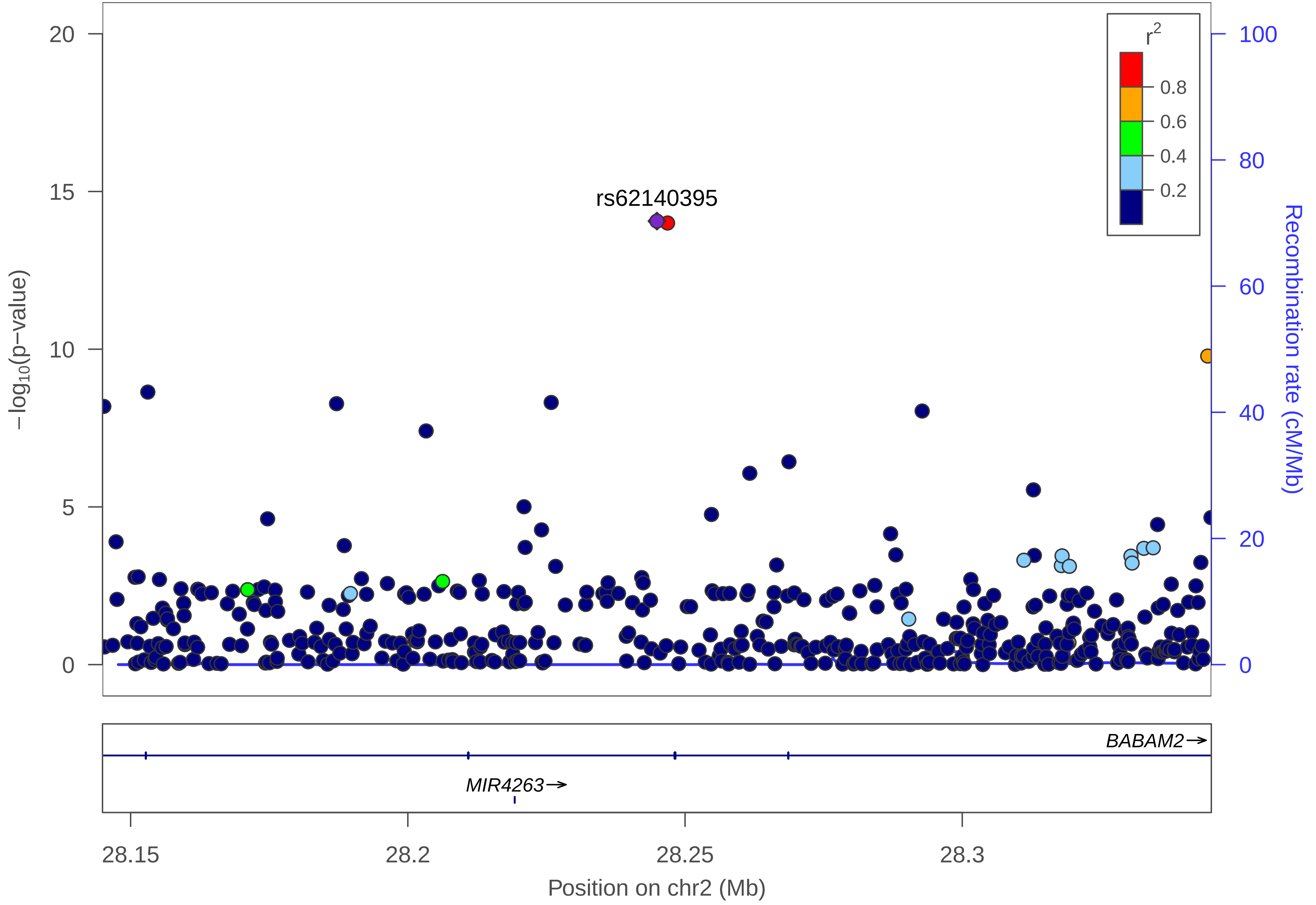

rs12484809
r^2
0.8
0.6
0.4
0.2
$-\log_{10}$(p−value)
0
5
10
15
20
Recombination rate (cM/Mb)
0
20
40
60
80
100
Non−alcoholic fatty liver disease
Alzheimer's disease (cognitive decline)
IgG glycosylation
IgG glycosylation
8 GWAS hits omitted
MPPED1→
←SULT4A1
SAMM50→
PARVG→
EFCAB6−AS1→
←PNPLA5
PARVB→
←KIAA1644
←EFCAB6
PNPLA3→
44
44.2
44.4
44.6
44.8
Position on chr22 (Mb)

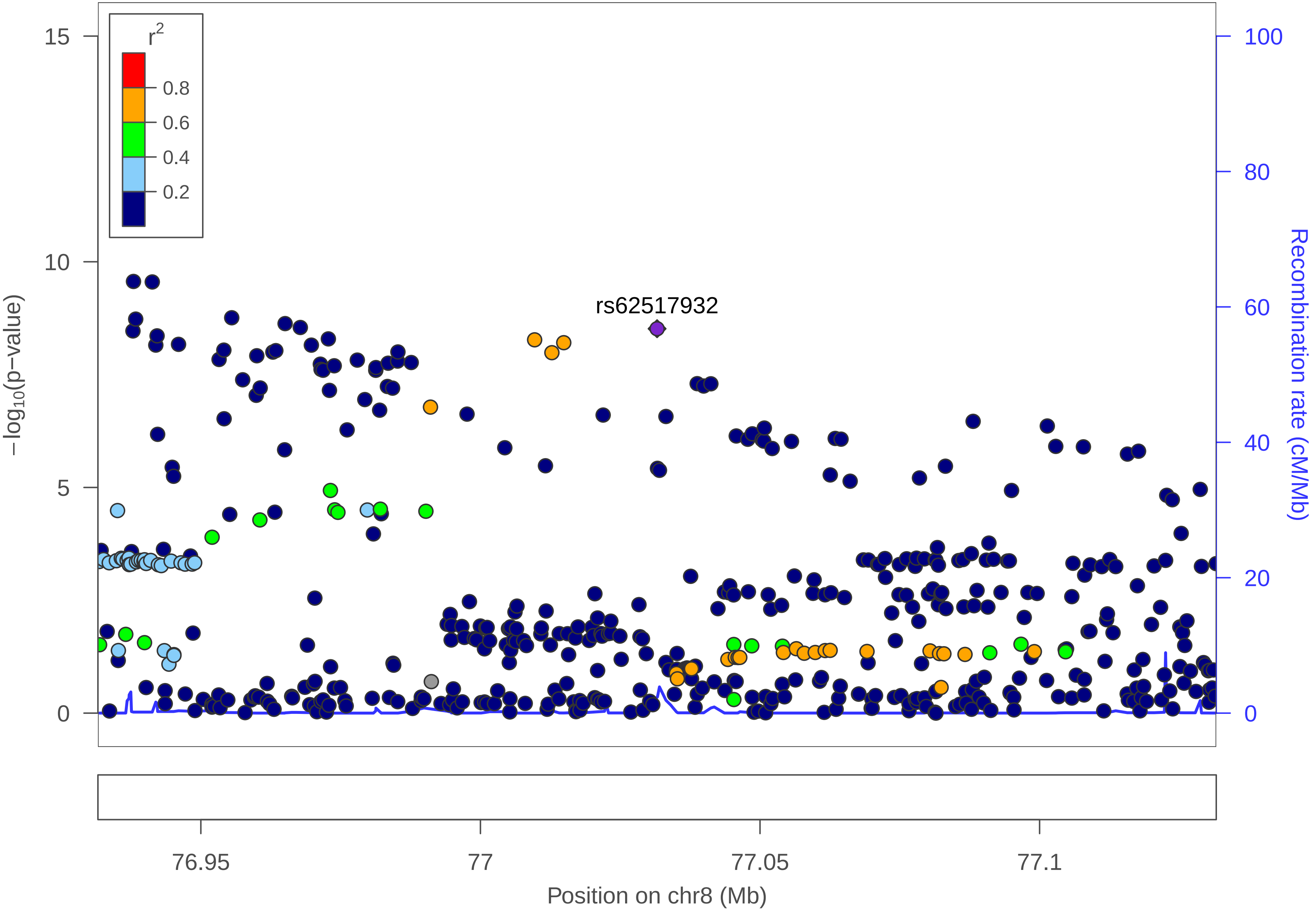

r2
0.8
0.6
0.4
0.2
60
50
40
30
20
10
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs6820627
DEFB131A→
←MIR548I2
9.4
9.45
9.5
9.55
Position on chr4 (Mb)

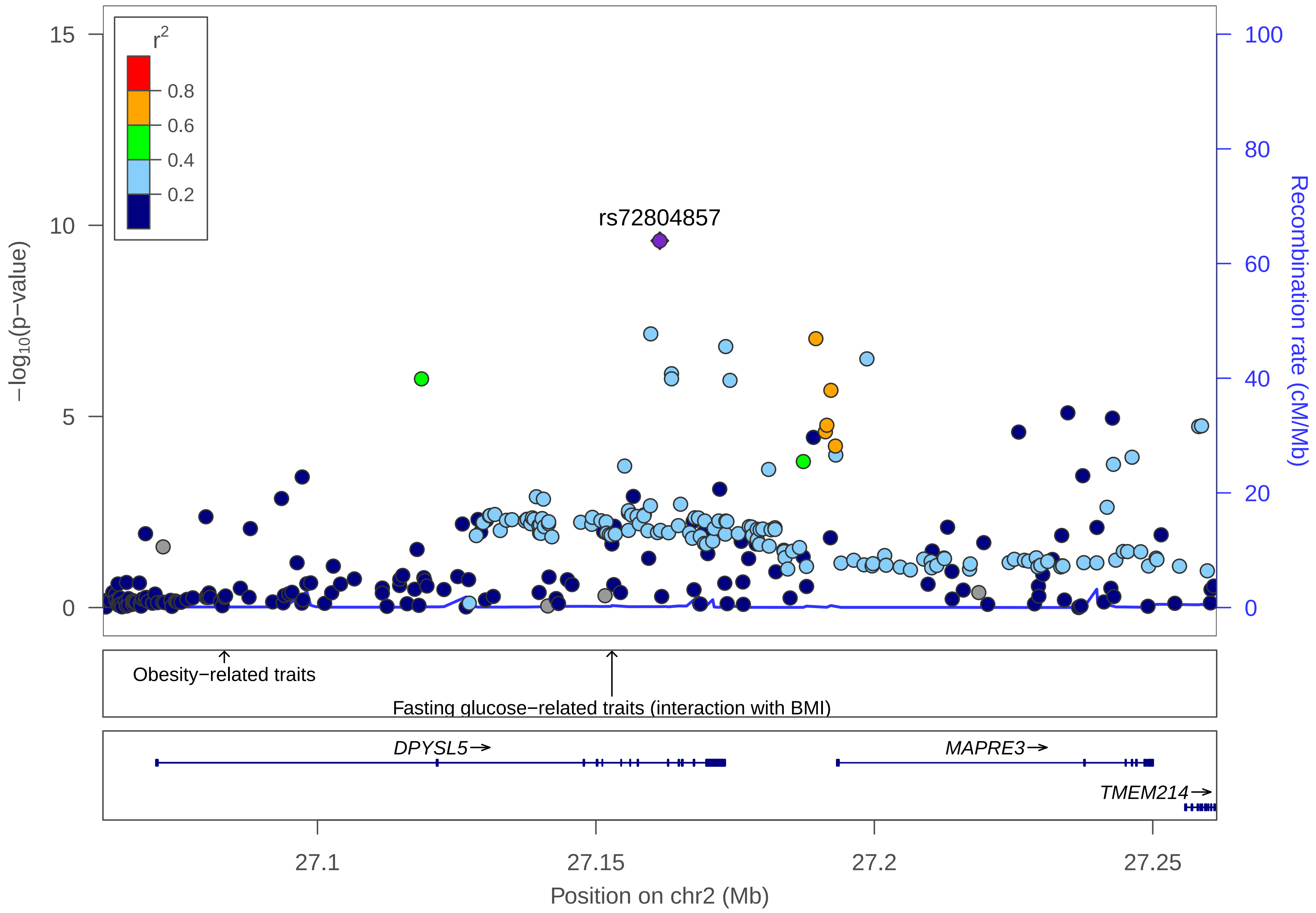

r^2
0.8
0.6
0.4
0.2
600
400
200
0
$-\log_{10}$(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
rs12504795
←ZNF518B
←CLNK
10.4
10.45
10.5
10.55
Position on chr4 (Mb)

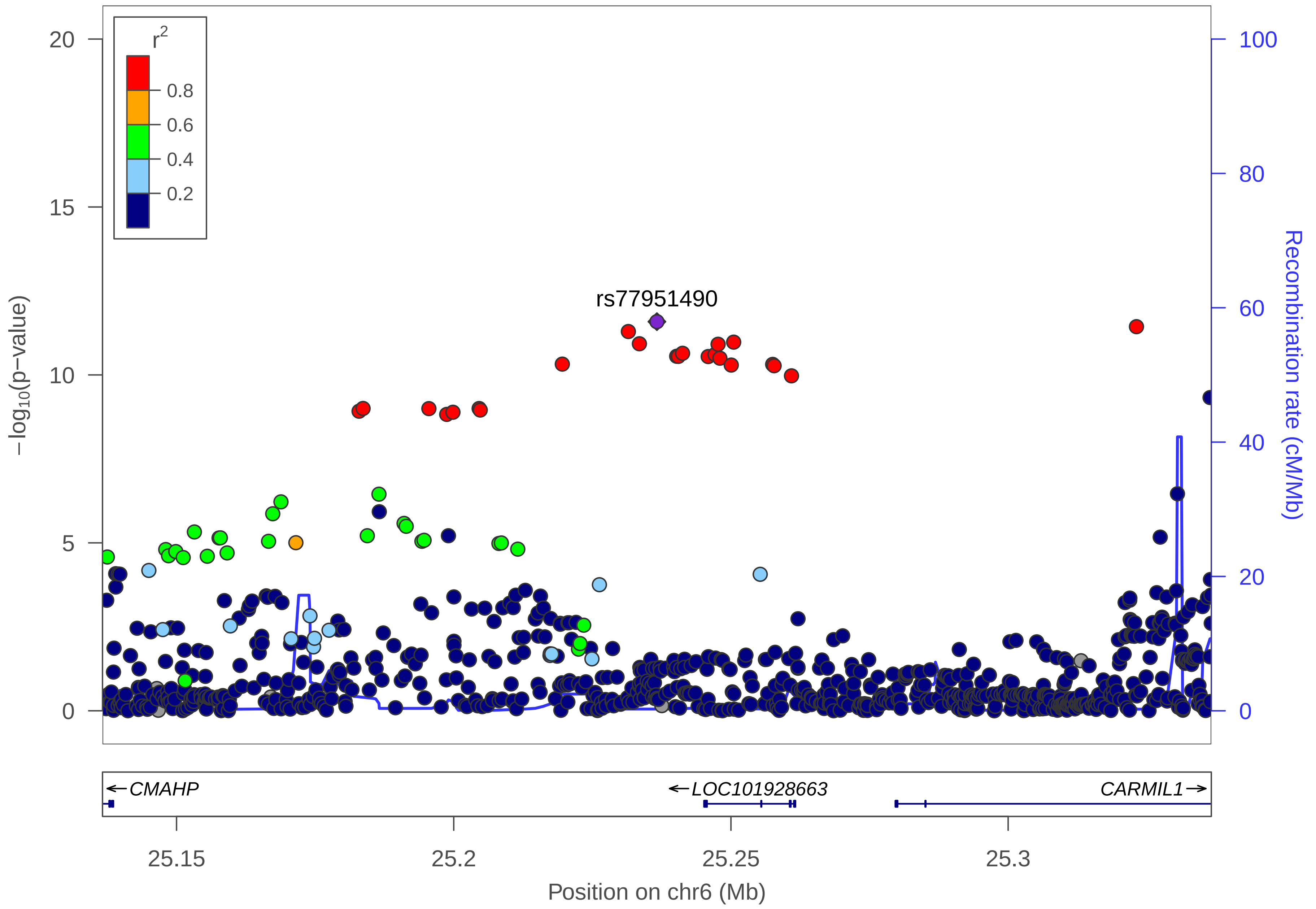

rs34888828
r²
0.8
0.6
0.4
0.2
30
25
20
15
10
5
0
−log₁₀(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
VPS51→
←SYVN1
SPDYC→
SLC22A20→
POLA2→
TM7SF2→
←LOC728975
←ZNHIT2
CAPN1→
←FAU
MRPL49→
←MIR6751
64.9
64.95
65
65.05
Position on chr11 (Mb)

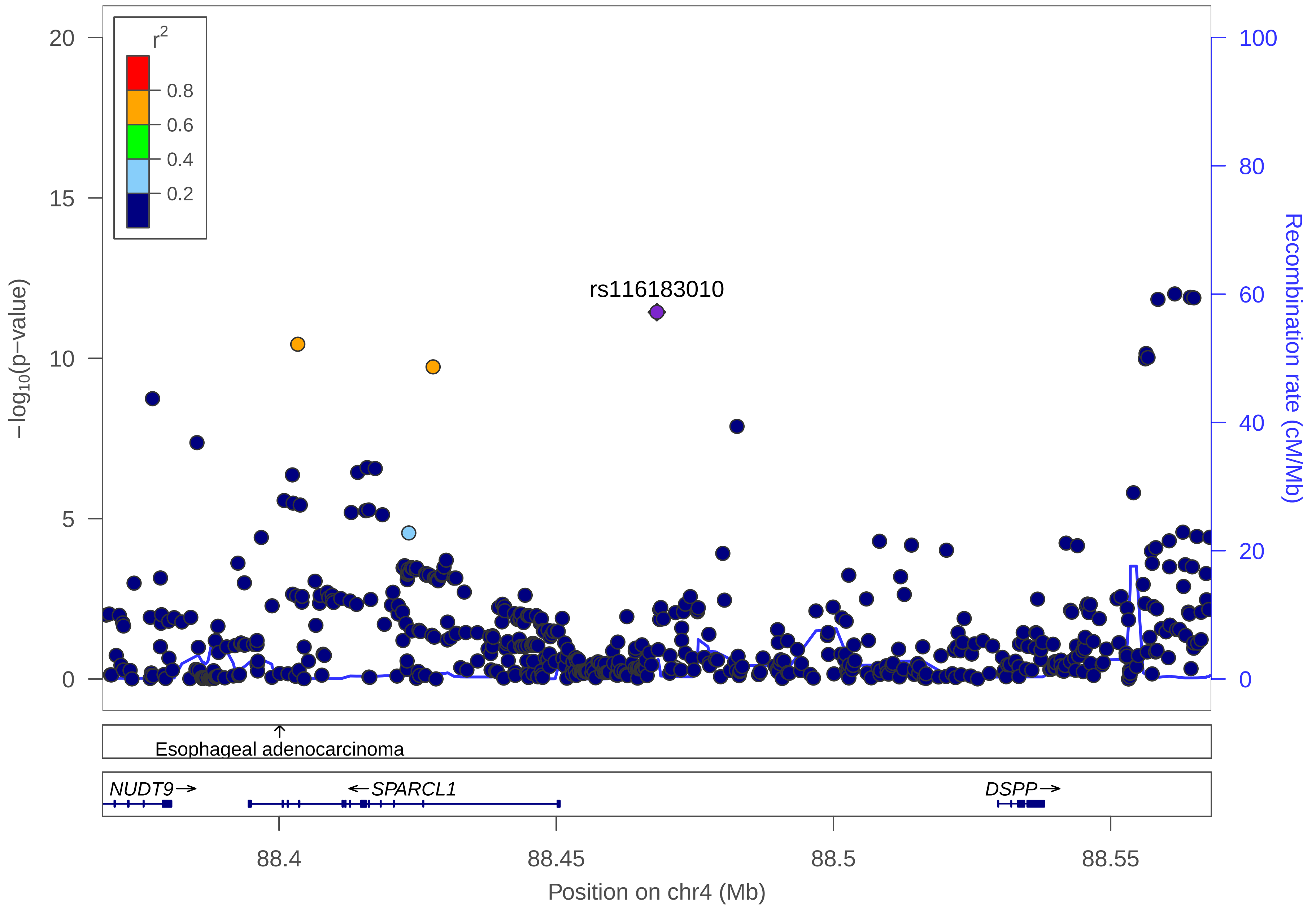

r2
0.8
0.6
0.4
0.2
rs35942569
25
20
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
HIST1H4F→
←HIST1H4H
BTN3A2→
BTN3A1→
←HIST1H4G
BTN2A2→
BTN2A3P→
←HIST1H3F
HIST1H2BH→
←HIST1H3G
HIST1H2BI→
26.25
26.3
26.35
26.4
Position on chr6 (Mb)

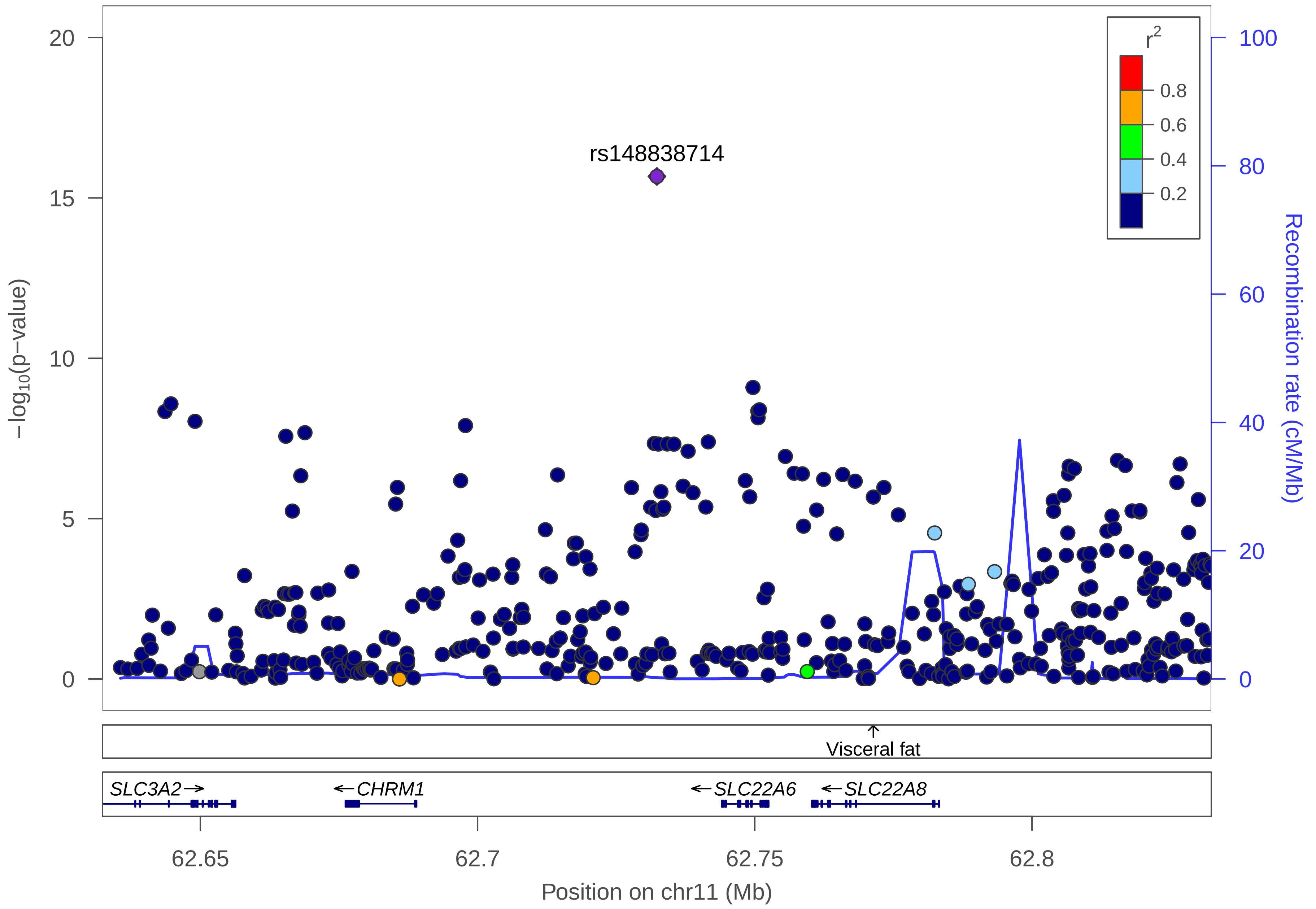

r2
0.8
0.6
0.4
0.2
rs62140395
−log10(p−value)
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
BABAM2→
MIR4263→
28.15
28.2
28.25
28.3
Position on chr2 (Mb)


r^2
0.8
0.6
0.4
0.2
15
10
5
0
−log$_{10}$(p−value)
rs62517932
100
80
60
40
20
0
Recombination rate (cM/Mb)
76.95
77
77.05
77.1
Position on chr8 (Mb)


r^2
0.8
0.6
0.4
0.2
rs72804857
15
10
5
0
−log10(p−value)
100
80
60
40
20
0
Recombination rate (cM/Mb)
Obesity−related traits
Fasting glucose−related traits (interaction with BMI)
DPYSL5→
MAPRE3→
TMEM214→
27.1
27.15
27.2
27.25
Position on chr2 (Mb)


r²
0.8
0.6
0.4
0.2
rs77951490
−log₁₀(p−value)
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
←CMAHP
←LOC101928663
CARMIL1→
25.15
25.2
25.25
25.3
Position on chr6 (Mb)


r2
0.8
0.6
0.4
0.2
rs116183010
−log10(p−value)
20
15
10
5
0
Recombination rate (cM/Mb)
100
80
60
40
20
0
Esophageal adenocarcinoma
NUDT9→
←SPARCL1
DSPP→
88.4
88.45
88.5
88.55
Position on chr4 (Mb)


rs148838714
−log10(p−value)
0
5
10
15
20
Recombination rate (cM/Mb)
0
20
40
60
80
100
r2
0.8
0.6
0.4
0.2
Visceral fat
SLC3A2→
←CHRM1
←SLC22A6
←SLC22A8
62.65
62.7
62.75
62.8
Position on chr11 (Mb)