

Supplemental material for “A large multi-ethnic genome-wide association study of prostate cancer identifies two novel risk variants and ethnic differences”

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Table S1: Descriptive factors for KP study population, broken down by study, used in the genome-wide association study of prostate cancer.

	RPGEH				Men's Health Study				Pro Health Study			
	Cases		Controls		Cases		Controls		Cases		Controls	
	N	%	N	%	N	%	N	%	N	%	N	%
Total	4640		27601		2743		10903		400		91	
Race/ethnicity:												
African American	86	1.9%	622	2.3%	117	4.3%	937	8.6%	398	99.5%	91	100.0%
Asian	165	3.6%	1941	7.0%	123	4.5%	997	9.1%	0	0.0%	0	0.0%
non-Hispanic white	4183	90.2%	22857	82.8%	2222	81.0%	8009	73.5%	1	0.2%	0	0.0%
Latino	206	4.4%	2181	7.9%	281	10.2%	960	8.8%	1	0.2%	0	0.0%
Age:												
Age < 50	38	0.8%	4619	16.7%	30	1.1%	0	0.0%	18	4.5%	0	0.0%
50 ≤ Age < 60	520	11.2%	5050	18.3%	578	21.1%	2472	22.7%	126	31.5%	14	15.4%
60 ≤ Age < 70	1837	39.6%	7242	26.2%	1593	58.1%	4957	45.5%	174	43.5%	41	45.1%
70 ≤ Age	2245	48.4%	10690	38.7%	542	19.8%	3474	31.9%	82	20.5%	36	39.6%
PSA:												
Mean (SD)	13.6	(66.1)	2.5	(6.2)	8.5	(25.2)	2.4	(3.5)	12.2	(44.2)	2.8	(3.1)
Median (MAD)	6.9	(3.6)	1.5	(1.3)	5.8	(2.6)	1.5	(1.2)	6.5	(2.8)	1.7	(1.6)
Interquartile range	5.0-10.7		0.8-2.8		4.5-8.3		0.8-2.9		5.0-10.0		0.9-3.7	
Stage:												
Localized	3444	74.2%	—	—	1849	67.4%	—	—	334	83.5%	—	—
Regional	370	8.0%	—	—	245	8.9%	—	—	41	10.2%	—	—
Distant	82	2.0%	—	—	16	0.7%	—	—	5	1.3%	—	—
Unknown	158	3.9%	—	—	34	1.6%	—	—	16	4.0%	—	—
Gleason:												
≤5	116	2.5%	—	—	43	1.6%	—	—	8	2.0%	—	—
6	1889	55.6%	—	—	972	61.1%	—	—	206	54.1%	—	—
7	1062	31.3%	—	—	436	27.4%	—	—	143	37.5%	—	—
8	192	5.7%	—	—	84	5.3%	—	—	16	4.2%	—	—
9	119	3.5%	—	—	49	3.1%	—	—	6	1.6%	—	—
10	18	0.5%	—	—	7	0.4%	—	—	2	0.5%	—	—

Table S2: Genome-wide significant SNPs found in our cohort. Meta-analysis is given for the four RPGEH race/ethnicity groups for the fixed effects (FE) and random effects (RE) analysis. Information is given for each SNP's rs number, chromosomal location, chromosomal position, correlation with other previously reported SNPs in the vicinity (using KP non-Hispanic white race/ethnicity individuals), and type of region in the genome the SNP is located in. RAF, risk allele frequency.

Round / Condition	SNP	Risk Allele	Ref. Allele	Group	RAF	OR (95% CI)	P	r_{info}^2
0	rs3731827 2p11.2 85806068 $r_{\text{rs10187424}}^2 = 0.99$ DHS	T	C	KP NH white	0.584	1.11 (1.06, 1.16)	5.6e-06	1.00
				KP Latino	0.630	1.18 (1.00, 1.39)	0.046	1.00
				KP Asian	0.604	1.39 (1.14, 1.69)	0.0012	1.00
				KP Af-Amer	0.413	1.23 (1.08, 1.41)	0.0025	1.00
				Kaiser Meta FE	—	1.13 (1.09, 1.18)	9.7e-10	—
				Kaiser Meta RE	—	1.19 (1.08, 1.30)	0.00026	—
0	rs13016083 2q22.3 148570945 (no prev) intergenic	T	C	KP NH white	0.696	1.14 (1.08, 1.19)	1.6e-07	0.99
				KP Latino	0.722	1.11 (0.93, 1.31)	0.26	0.98
				KP Asian	0.645	1.13 (0.92, 1.38)	0.24	1.00
				KP Af-Amer	0.880	1.18 (0.95, 1.47)	0.15	0.97
				Kaiser Meta FE	—	1.13 (1.09, 1.19)	1.6e-08	—
				Kaiser Meta RE	—	1.13 (1.09, 1.19)	1.6e-08	—
				MEC	0.694	0.99 (0.87, 1.13)	0.79	0.81
PEGASUS	0.693	1.03 (0.96, 1.11)	0.39	1.00				
0	rs4646284 (See text)							
0	rs7808935 7p15.2 27977363 $r_{\text{rs10486567}}^2 = 0.99$ intron	T	C	KP NH white	0.766	1.17 (1.11, 1.23)	2.4e-09	1.00
				KP Latino	0.606	1.21 (1.03, 1.41)	0.019	1.00
				KP Asian	0.155	1.00 (0.77, 1.29)	1	1.00
				KP Af-Amer	0.700	1.18 (1.02, 1.37)	0.03	1.00
				Kaiser Meta FE	—	1.17 (1.12, 1.22)	2.7e-11	—
				Kaiser Meta RE	—	1.17 (1.12, 1.22)	2.7e-11	—
0	rs142463603 8p21.2 23507262 $r_{\text{rs142463603}}^2 = 0.89$ intergenic	A	C	KP NH white	0.417	1.17 (1.12, 1.22)	7.4e-13	0.99
				KP Latino	0.435	1.19 (1.01, 1.39)	0.035	0.99
				KP Asian	0.312	1.22 (1.00, 1.49)	0.048	0.99
				KP Af-Amer	0.542	1.19 (1.04, 1.37)	0.011	0.98
				Kaiser Meta FE	—	1.18 (1.13, 1.22)	4.1e-16	—
				Kaiser Meta RE	—	1.18 (1.13, 1.22)	4.1e-16	—
0	rs11986220 8q24.21 128531689 (exact) DHS	A	T	KP NH white	0.099	1.56 (1.46, 1.67)	2.3e-40	1.00
				KP Latino	0.083	1.09 (0.83, 1.43)	0.52	0.99
				KP Asian	0.136	1.83 (1.44, 2.33)	9.2e-07	0.99
				KP Af-Amer	0.067	1.38 (1.06, 1.80)	0.016	1.00
				Kaiser Meta FE	—	1.54 (1.45, 1.63)	4.1e-45	—
				Kaiser Meta RE	—	1.47 (1.24, 1.74)	1e-05	—
0	9:33975799 9p13.3 33975799 (no prev) intron	CA	C	KP NH white	0.801	0.86 (0.82, 0.91)	1.1e-07	0.95
				KP Latino	0.874	0.83 (0.66, 1.04)	0.1	0.95
				KP Asian	0.968	0.59 (0.34, 1.03)	0.062	0.67
				KP Af-Amer	0.906	0.98 (0.76, 1.26)	0.87	0.89
				Kaiser Meta FE	—	0.86 (0.82, 0.91)	2e-08	—
				Kaiser Meta RE	—	0.86 (0.82, 0.91)	2e-08	—
				MEC	0.906	1.05 (0.90, 1.22)	0.54	0.90
				PEGASUS	0.791	0.94 (0.90, 0.98)	0.13	0.99
0	rs10993994 10q11.23 51549496 (exact) DHS	T	C	KP NH white	0.401	1.21 (1.16, 1.26)	2.9e-18	1.00
				KP Latino	0.388	1.31 (1.12, 1.53)	0.00064	1.00
				KP Asian	0.498	1.18 (0.97, 1.43)	0.092	1.00
				KP Af-Amer	0.600	1.08 (0.94, 1.24)	0.29	1.00
				Kaiser Meta FE	—	1.21 (1.16, 1.25)	6.5e-21	—
				Kaiser Meta RE	—	1.20 (1.13, 1.27)	6.8e-10	—

Round / Condition	SNP	Risk Allele	Ref. Allele	Group	RAF	OR (95% CI)	P	r^2_{info}
0	rs376592364 11q13.3 69011693 $r^2_{\text{rs10875943}} = 0.99$ intergenic	A	T	KP NH white	0.480	0.82 (0.79, 0.86)	6.5e-19	0.98
				KP Latino	0.607	0.84 (0.72, 0.98)	0.029	0.98
				KP Asian	0.901	0.88 (0.65, 1.20)	0.41	0.98
				KP Af-Amer	0.446	0.91 (0.80, 1.05)	0.2	0.97
				Kaiser Meta FE	—	0.83 (0.80, 0.86)	5.9e-20	—
				Kaiser Meta RE	—	0.83 (0.80, 0.86)	5.9e-20	—
0	12:49672714 12q13.12 49672714 $r^2_{\text{rs10875943}} = 0.84$ DHS	A	G	KP NH white	0.746	0.90 (0.85, 0.94)	9.1e-06	1.00
				KP Latino	0.702	0.96 (0.81, 1.14)	0.64	1.00
				KP Asian	0.319	0.68 (0.55, 0.85)	0.0005	1.00
				KP Af-Amer	0.472	0.81 (0.71, 0.92)	0.0018	1.00
				Kaiser Meta FE	—	0.88 (0.84, 0.92)	8e-09	—
				Kaiser Meta RE	—	0.85 (0.76, 0.95)	0.003	—
0	12:53309584 12q13.13 53309584 $r^2_{\text{rs902774}} = 0.77$ DHS	G	A	KP NH white	0.878	0.81 (0.76, 0.87)	1e-10	1.00
				KP Latino	0.916	0.81 (0.63, 1.05)	0.12	1.00
				KP Asian	0.992	—	—	1.00
				KP Af-Amer	0.846	0.69 (0.57, 0.82)	2.7e-05	1.00
				Kaiser Meta FE	—	0.80 (0.75, 0.85)	2e-14	—
				Kaiser Meta RE	—	0.78 (0.70, 0.87)	4.9e-06	—
0	rs34582366 14q23.1 61933357 $r^2_{\text{rs7153648}} = 2.1e-06$ DHS	G	T	KP NH white	0.959	1.42 (1.26, 1.59)	1.3e-08	0.98
				KP Latino	0.963	1.32 (0.83, 2.08)	0.24	0.96
				KP Asian	0.921	1.11 (0.77, 1.60)	0.58	0.98
				KP Af-Amer	0.880	1.13 (0.91, 1.41)	0.27	0.92
				Kaiser Meta FE	—	1.32 (1.20, 1.46)	2.3e-08	—
				Kaiser Meta RE	—	1.28 (1.12, 1.47)	0.00035	—
				MEC	0.865	0.96 (0.85, 1.09)	0.56	0.96
				PEGASUS	0.957	0.90 (0.76, 1.06)	0.19	—
0	rs11263763 17q12 36103565 $r^2_{\text{rs7501939}} = 0.71$ DHS	G	A	KP NH white	0.481	0.81 (0.78, 0.85)	1.8e-21	0.97
				KP Latino	0.434	0.84 (0.72, 0.99)	0.034	0.99
				KP Asian	0.293	0.80 (0.65, 1.00)	0.047	0.95
				KP Af-Amer	0.399	0.87 (0.75, 1.00)	0.047	0.96
				Kaiser Meta FE	—	0.82 (0.78, 0.85)	5.3e-24	—
				Kaiser Meta RE	—	0.82 (0.78, 0.85)	5.3e-24	—
0	rs8071558 17q24.3 69107673 $r^2_{\text{rs1859962}} = 0.99$ DHS	C	G	KP NH white	0.483	1.14 (1.09, 1.18)	6.8e-09	1.00
				KP Latino	0.543	1.19 (1.02, 1.38)	0.03	1.00
				KP Asian	0.400	1.03 (0.85, 1.25)	0.75	1.00
				KP Af-Amer	0.199	1.21 (1.04, 1.40)	0.013	1.00
				Kaiser Meta FE	—	1.14 (1.09, 1.18)	7.2e-11	—
				Kaiser Meta RE	—	1.14 (1.09, 1.18)	7.2e-11	—
0	rs2659124 (See text)							
0	rs5759167 22q13.2 43500212 (exact) DHS	G	T	KP NH white	0.505	1.14 (1.09, 1.19)	5.2e-09	0.93
				KP Latino	0.575	1.00 (0.85, 1.17)	0.99	1.00
				KP Asian	0.681	1.15 (0.94, 1.41)	0.19	0.98
				KP Af-Amer	0.731	1.14 (0.98, 1.33)	0.091	1.00
				Kaiser Meta FE	—	1.13 (1.09, 1.18)	1.8e-09	—
				Kaiser Meta RE	—	1.13 (1.09, 1.18)	1.8e-09	—
1	rs7679673 4q24 106061534 (exact) intergenic	C	A	KP NH white	0.590	1.12 (1.07, 1.17)	4.4e-07	1.00
				KP Latino	0.498	1.16 (0.99, 1.36)	0.061	0.99
				KP Asian	0.233	1.12 (0.90, 1.40)	0.32	0.99
				KP Af-Amer	0.399	1.09 (0.94, 1.25)	0.24	0.99
				Kaiser Meta FE	—	1.12 (1.08, 1.17)	2.6e-08	—
				Kaiser Meta RE	—	1.12 (1.08, 1.17)	2.6e-08	—
1	rs12682374 8q24.21 128410948 $r^2_{\text{rs12682374}} = 0.95$ intergenic	C	G	KP NH white	0.506	1.26 (1.20, 1.31)	3.2e-24	1.00
				KP Latino	0.566	1.33 (1.13, 1.56)	0.00054	1.00
				KP Asian	0.408	1.02 (0.84, 1.24)	0.83	1.00
				KP Af-Amer	0.834	1.22 (1.00, 1.48)	0.047	0.98
				Kaiser Meta FE	—	1.25 (1.20, 1.30)	8.9e-27	—
				Kaiser Meta RE	—	1.23 (1.13, 1.33)	1.8e-06	—

Round / Condition	SNP	Risk Allele	Ref. Allele	Group	RAF	OR (95% CI)	P	r_{info}^2
1	rs71046513 11q13.3 69009755 $r_{\text{rs12793759}}^2 = 0.92$ DHS	ATT	A	KP NH white	0.817	0.86 (0.81, 0.91)	1.3e-07	0.92
				KP Latino	0.864	0.88 (0.70, 1.11)	0.29	0.95
				KP Asian	0.969	1.07 (0.53, 2.13)	0.85	0.74
				KP Af-Amer	0.789	0.84 (0.71, 1.00)	0.048	0.94
				Kaiser Meta FE	—	0.86 (0.82, 0.91)	1.2e-08	—
				Kaiser Meta RE	—	0.86 (0.82, 0.91)	1.2e-08	—
2	rs630045 6q22.1 117199790 $r_{\text{rs339331}}^2 = 1.00$ intron	C	G	KP NH white	0.706	1.14 (1.09, 1.20)	7.1e-08	1.00
				KP Latino	0.722	1.01 (0.85, 1.21)	0.88	1.00
				KP Asian	0.647	1.23 (1.00, 1.51)	0.053	0.99
				KP Af-Amer	0.762	1.07 (0.91, 1.26)	0.42	1.00
				Kaiser Meta FE	—	1.13 (1.08, 1.18)	3e-08	—
				Kaiser Meta RE	—	1.13 (1.08, 1.18)	3e-08	—
2	rs77541621 8q24.21 128077146 $r_{\text{rs6983561}}^2 = 0.47$ intergenic	G	A	KP NH white	0.978	0.49 (0.43, 0.56)	2.1e-26	0.90
				KP Latino	0.987	0.75 (0.39, 1.46)	0.4	0.90
				KP Asian	0.998	—	—	0.85
				KP Af-Amer	0.995	-	-	0.84
				Kaiser Meta FE	—	0.50 (0.44, 0.57)	3.1e-26	—
				Kaiser Meta RE	—	0.53 (0.38, 0.75)	0.00024	—
				MEC	0.996	—	—	0.84
				PEGASUS	0.972	0.51 (0.41, 0.63)	8.6e-10	0.84
8q24 loci	rs77541621	G	A	KP NH white	0.978	0.61 (0.50, 0.74)	1.2e-06	0.90
				KP Latino	0.987	1.00 (0.47, 2.15)	0.99	0.90
				KP Asian	0.998	—	—	0.85
				KP Af-Amer	0.995	—	—	0.84
				MEC	0.996	—	—	0.84
				PEGASUS	0.972	0.68 (0.49, 0.94)	0.020	0.84
3	rs72725879 8q24.21 128103969 $r_{\text{rs72725879}}^2 = 0.73$ DHS	C	T	KP NH white	0.811	0.85 (0.80, 0.90)	7.4e-09	0.98
				KP Latino	0.756	0.83 (0.69, 0.98)	0.032	0.99
				KP Asian	0.333	0.52 (0.41, 0.65)	2.6e-08	0.99
				KP Af-Amer	0.648	0.68 (0.59, 0.79)	2e-07	0.97
				Kaiser Meta FE	—	0.81 (0.77, 0.85)	1e-17	—
				Kaiser Meta RE	—	0.72 (0.59, 0.87)	0.00067	—
3	12:25430787 12p12.1 25430787 intergenic	C	T	KP NH white	0.966	0.72 (0.64, 0.81)	2.3e-08	0.96
				KP Latino	0.974	0.86 (0.53, 1.39)	0.53	0.97
				KP Asian	0.998	-	-	0.61
				KP Af-Amer	0.990	-	-	0.80
				Kaiser Meta FE	—	0.74 (0.66, 0.82)	4.8e-08	—
				Kaiser Meta RE	—	0.74 (0.65, 0.86)	4.7e-05	—
				MEC	0.991	—	—	0.81
				PEGASUS	0.957	1.10 (0.92, 1.33)	0.27	0.76
4	rs4527381 3p11.2 87221370 $r_{\text{rs17181170}}^2 = 0.79,$ $r_{\text{rs7629490}}^2 = 0.38,$ $r_{\text{rs17023900}}^2 = 0.064$ DHS	C	T	KP NH white	0.505	1.12 (1.07, 1.17)	6.9e-07	0.99
				KP Latino	0.595	1.13 (0.96, 1.32)	0.14	0.99
				KP Asian	0.678	1.10 (0.89, 1.36)	0.37	0.99
				KP Af-Amer	0.756	1.15 (0.97, 1.36)	0.1	0.98
				Kaiser Meta FE	—	1.12 (1.08, 1.17)	4.1e-08	—
				Kaiser Meta RE	—	1.12 (1.08, 1.17)	4.1e-08	—
				MEC	—	—	—	—
4	rs73351629 8q24.21 128018466 $r_{\text{rs73351629}}^2 = 0.84$ intergenic	C	G	KP NH white	0.670	1.16 (1.11, 1.22)	5.6e-10	0.99
				KP Latino	0.657	1.17 (0.99, 1.38)	0.069	0.99
				KP Asian	0.807	1.06 (0.82, 1.36)	0.67	0.98
				KP Af-Amer	0.748	1.30 (1.10, 1.54)	0.0018	0.98
				Kaiser Meta FE	—	1.17 (1.12, 1.22)	2e-12	—
				Kaiser Meta RE	—	1.17 (1.12, 1.22)	2e-12	—
4	rs36004513 2p22.3 34429966 (no prev) intergenic	G	GA	KP NH white	0.998	-	-	0.54
				KP Latino	0.989	0.36 (0.19, 0.66)	0.0011	0.76
				KP Asian	0.992	-	-	0.87
				KP Af-Amer	0.874	0.61 (0.49, 0.75)	2.2e-06	0.97
				Kaiser Meta FE	—	0.58 (0.47, 0.70)	3.1e-08	—
				Kaiser Meta RE	—	0.50 (0.31, 0.83)	0.0073	—
				MEC [†]	0.868	0.98 (0.87, 1.11)	0.80	0.99
				PEGASUS	—	—	—	—

Table S3: Cis-eQTL expression of the rs4646284 locus. Het, heterogeneity p-value.

Gene	Transcription		Normal prostate tissue				Tumor prostate tissue				Fixed Effects Meta-analysis of non-Mayo		
			Mayo ¹ (n=471, frozen, RNA-seq)		PHS+HPFS ² (n=56, paraffin, array)		TCGA ³ (n=128, paraffin, RNA-seq)		PHS+HPFS ⁴ (n=99, paraffin, RNA-seq)		Est (95% CI)	One-sided P	Het P
	Start	End	Est (95% CI)	P	Est (95% CI)	P	Est (95% CI)	P	Est (95% CI)				
IGF2R	160390130	160527583	-0.023 (-0.043, -0.003)	0.024	-0.032 (-0.130, 0.067)	0.53	0.344 (0.017, 0.671)	0.041	-0.052 (-0.151, 0.047)	0.3	-0.025 (-0.093, 0.043)	0.24	0.074
LOC729603	160514113	160517244	-0.044 (-0.079, -0.008)	0.018	-0.132 (-0.229, -0.036)	0.0072	0.084 (-0.248, 0.416)	0.62	-0.014 (-0.107, 0.080)	0.77	-0.065 (-0.131, 0.001)	0.027	0.15
SLC22A1	160542862	160579750	-0.421 (-0.499, -0.343)	1.3e-23	0.007 (-0.110, 0.125)	0.9	-0.292 (-0.620, 0.036)	0.084	-0.097 (-0.198, 0.005)	0.063	-0.065 (-0.140, 0.010)	0.046	0.16
SLC22A2	160637793	160679963	-0.255 (-0.356, -0.154)	1.1e-06	0.002 (-0.106, 0.110)	0.97	-0.192 (-0.522, 0.138)	0.26	-0.020 (-0.106, 0.065)	0.64	-0.019 (-0.084, 0.047)	0.29	0.55
SLC22A3	160769404	160873611	-0.684 (-0.761, -0.607)	3.2e-52	-0.346 (-0.755, 0.062)	0.096	-0.256 (-0.585, 0.073)	0.13	-0.383 (-0.738, -0.029)	0.034	-0.323 (-0.531, -0.115)	0.0012	0.87
LPAL2	160888217	160932156	-0.060 (-0.102, -0.017)	0.006	-0.216 (-0.375, -0.057)	0.0079	-0.454 (-0.776, -0.132)	0.0066	-0.080 (-0.205, 0.044)	0.21	-0.159 (-0.253, -0.065)	0.00045	0.073
LPA	160952514	161087407	0.017 (-0.068, 0.102)	0.69	-0.082 (-0.230, 0.066)	0.28	0.206 (-0.123, 0.535)	0.22	0.016 (-0.092, 0.125)	0.77	-0.003 (-0.088, 0.081)	1.00	0.25

¹Normal prostate tissue (fresh frozen) of 471 men with Gleason ≤ 7 undergoing radical prostatectomy or cystoprostatectomy from the Mayo Clinic, via RNA-seq.

²Normal prostate tissue (formalin-fixed paraffin embedded) of 56 prostate cancer cases from the Physicians Health Study (PHS) and the Health Professionals Follow-up Study (HPFS), via the Affymetrix GeneChip Human Gene 1.0 ST microarray.

³Prostate tumor tissue (formalin-fixed paraffin embedded) of 128 men from the The Cancer Genome Atlas (TCGA), via RNA-seq.

⁴Prostate tumor tissue (formalin-fixed paraffin embedded) of 99 men from the PHS and HPFS from trans-urethral resection of the prostate (TURP) or radical prostatectomy specimens, via the Affymetrix GeneChip Human Gene 1.0 ST microarray.

Table S4: Results at the 105 loci previously found to be associated with prostate cancer. These risk variants were identified in GWAS of European ancestry, unless otherwise noted, as follows: ^aidentified in a multi-ethnic sample, though mainly of European ancestry; ^bidentified in an Asian ancestry sample; ^cidentified in an African ancestry sample.

SNP	Region	Pos	Risk Allele	Ref. Allele	Previous OR (95% CI)	KP non-Hispanic white			KP Latino			KP Asian			KP African American			KP Meta FE		KP Meta RE		Meta FE power	Type						
						RAF	OR (95% CI)	P	r ²	RAF	OR (95% CI)	P	r ²	RAF	OR (95% CI)	P	r ²	RAF	OR (95% CI)	P	r ²			OR (95% CI)	P				
rs636291	1p35	10556007	A	C	1.18 (1.12, 1.24)	0.69	1.05 (1.00, 1.10)	0.036	0.98	0.59	0.99 (0.85, 1.16)	0.89	0.99	0.72	0.96 (0.78, 1.18)	0.71	1.00	0.31	0.98 (0.85, 1.14)	0.83	0.97	1.04 (0.99, 1.08)	0.888	1.04 (0.99, 1.08)	0.888	1.04 (0.99, 1.08)	0.888	1/ 1	intron
rs17596929	1q21	150658287	G	A	1.08 (1.06, 1.11)	0.21	1.14 (1.08, 1.20)	1e-06	0.97	0.22	0.85 (0.70, 1.04)	0.11	0.97	0.086	0.89 (0.64, 1.25)	0.51	0.98	0.089	1.22 (0.97, 1.54)	0.091	0.96	1.12 (1.06, 1.17)	9e-06	1.04 (0.88, 1.22)	0.68	0.98 / 0.71	DHS		
rs1218582	1q21	154834183	G	A	1.06 (1.03, 1.09)	0.46	1.08 (1.03, 1.12)	0.001	0.95	0.59	0.90 (0.77, 1.05)	0.17	0.99	0.89	0.87 (0.64, 1.17)	0.35	0.94	0.65	0.91 (0.79, 1.05)	0.2	0.98	1.05 (1.00, 1.09)	0.031	0.96 (0.85, 1.09)	0.53	0.97 / 0.62	utr		
rs4245739	1q32	204518842	A	C	1.10 (1.06, 1.14)	0.73	1.08 (1.03, 1.13)	0.0017	1.00	0.74	1.28 (1.07, 1.54)	0.0079	1.00	0.95	1.45 (0.89, 2.36)	0.13	1.00	0.75	0.98 (0.84, 1.15)	0.83	1.00	1.09 (1.04, 1.14)	0.0003	1.11 (0.99, 1.24)	0.066	1 / 0.98	intergenic		
rs1775148	1q32	205757824	C	T	1.06 (1.04, 1.08)	0.36	1.02 (0.97, 1.07)	0.4	0.99	0.48	0.95 (0.82, 1.11)	0.55	0.99	0.44	1.19 (0.98, 1.44)	0.077	0.98	0.6	1.17 (1.02, 1.35)	0.029	0.98	1.03 (0.99, 1.08)	0.11	1.06 (0.97, 1.16)	0.19	0.97 / 0.61	intron		
rs11902236	2p25	10117868	A	G	1.07 (1.03, 1.10)	0.29	1.01 (0.96, 1.05)	0.8	1.00	0.25	1.06 (0.89, 1.26)	0.51	1.00	0.17	1.01 (0.78, 1.31)	0.92	0.94	0.57	0.93 (0.81, 1.07)	0.33	0.93	1.00 (0.96, 1.05)	0.91	1.00 (0.96, 1.05)	0.91	0.98 / 0.73	intergenic		
rs9287719	2p25	10710730	C	T	1.06 (1.04, 1.08)	0.49	1.06 (1.01, 1.11)	0.0092	1.00	0.47	0.91 (0.78, 1.06)	0.24	1.00	0.39	1.02 (0.83, 1.24)	0.88	1.00	0.3	0.99 (0.85, 1.15)	0.9	1.00	1.04 (1.00, 1.08)	0.038	1.02 (0.96, 1.09)	0.49	0.97 / 0.65	intron		
rs13385191	2p24	20888265	G	A	1.07 (1.02, 1.12)	0.24	1.03 (0.98, 1.09)	0.2	1.00	0.27	1.00 (0.84, 1.19)	1	1.00	0.41	1.14 (0.95, 1.37)	0.17	1.00	0.069	0.88 (0.67, 1.17)	0.39	0.99	1.03 (0.99, 1.08)	0.16	1.03 (0.99, 1.08)	0.16	0.97 / 0.66	DHS		
rs1465618 ^a	2p21	43559349	A	G	1.08 (1.03, 1.12)	0.21	1.04 (0.99, 1.09)	0.15	0.99	0.37	1.10 (0.94, 1.28)	0.24	1.00	0.68	1.05 (0.86, 1.28)	0.64	0.99	0.13	1.16 (0.95, 1.42)	0.14	1.00	1.05 (1.00, 1.10)	0.037	1.05 (1.00, 1.10)	0.037	0.99 / 0.83	intron		
rs721048	2p15	63131731	A	G	1.05 (1.01, 1.12)	0.19	1.07 (1.01, 1.13)	0.016	1.00	0.17	1.09 (0.89, 1.33)	0.41	1.00	0.052	1.22 (0.81, 1.83)	0.34	1.00	0.048	1.14 (0.83, 1.56)	0.42	1.00	1.07 (1.02, 1.13)	0.0063	1.07 (1.02, 1.13)	0.0063	1 / 1	intergenic		
rs10187424 ^a	2p11	85792497	A	G	1.09 (1.06, 1.12)	0.58	1.11 (1.06, 1.16)	5.4e-06	1.00	0.62	1.16 (0.99, 1.36)	0.075	1.00	0.6	1.38 (1.13, 1.68)	0.0015	0.99	0.37	1.20 (1.05, 1.38)	0.0082	1.00	1.13 (1.08, 1.17)	2.7e-09	1.17 (1.08, 1.27)	0.00021	1 / 0.99	DHS		
rs12621278 ^a	2q31	173311553	A	G	1.33 (1.24, 1.42)	0.94	1.25 (1.13, 1.38)	1.1e-05	1.00	0.93	1.23 (0.89, 1.71)	0.21	1.00	0.75	0.97 (0.78, 1.21)	0.8	1.00	0.98	1.08 (0.63, 1.86)	0.78	1.00	1.19 (1.10, 1.30)	4.7e-05	1.16 (1.01, 1.33)	0.036	1 / 1	coding		
rs2292884	2q37	238443226	G	A	1.14 (1.09, 1.19)	0.24	1.07 (1.01, 1.13)	0.024	0.80	0.29	0.96 (0.81, 1.13)	0.62	1.00	0.27	0.94 (0.75, 1.18)	0.61	0.89	0.55	0.96 (0.83, 1.10)	0.54	1.00	1.04 (0.99, 1.09)	0.14	1.02 (0.95, 1.09)	0.56	1 / 1	DHS		
rs3771570	2q37	242382864	A	G	1.12 (1.08, 1.17)	0.15	1.08 (1.01, 1.14)	0.017	0.99	0.13	1.16 (0.93, 1.45)	0.2	1.00	0.13	0.94 (0.71, 1.26)	0.7	0.97	0.036	0.74 (0.49, 1.10)	0.13	0.99	1.07 (1.01, 1.13)	0.022	1.04 (0.92, 1.18)	0.54	1 / 0.96	intergenic		
rs2960753	3p12	87110674	T	C	1.13 (1.06, 1.20)	0.12	1.11 (1.04, 1.18)	0.0024	1.00	0.17	1.20 (0.99, 1.45)	0.066	1.00	0.24	1.15 (0.93, 1.42)	0.2	1.00	0.47	1.02 (0.89, 1.17)	0.8	0.98	1.10 (1.04, 1.16)	0.0005	1.10 (1.04, 1.16)	0.0005	1 / 0.99	intergenic		
rs2055100 ^a	3p11	87467332	C	T	1.29 (1.13, 1.29)	0.24	1.04 (0.99, 1.09)	0.13	1.00	0.19	1.09 (0.83, 1.22)	0.97	1.00	0.089	1.05 (0.77, 1.45)	0.74	1.00	0.13	1.06 (0.87, 1.29)	0.58	1.00	1.04 (0.99, 1.09)	0.11	1.04 (0.99, 1.09)	0.11	1 / 1	intergenic		
rs7611694	3q13	113275624	A	C	1.10 (1.07, 1.13)	0.6	1.08 (1.03, 1.13)	0.0007	0.99	0.65	0.97 (0.83, 1.14)	0.75	0.99	0.3	1.17 (0.95, 1.43)	0.14	0.96	0.65	1.00 (0.87, 1.15)	0.99	0.98	1.07 (1.03, 1.11)	0.001	1.07 (1.03, 1.11)	0.0016	1 / 1	DHS		
rs10934853	3q21	128038373	A	C	1.12 (1.08, 1.16)	0.29	1.07 (1.02, 1.12)	0.0079	0.96	0.38	0.94 (0.81, 1.11)	0.47	1.00	0.47	1.07 (0.88, 1.30)	0.47	0.96	0.69	1.04 (0.90, 1.20)	0.61	0.98	1.06 (1.01, 1.10)	0.013	1.06 (1.01, 1.10)	0.013	1 / 1	DHS		
rs676931 ^a	3q23	114102833	T	C	1.04 (1.01, 1.07)	0.44	1.06 (1.01, 1.10)	0.012	1.00	0.41	1.02 (0.88, 1.19)	0.78	1.00	0.32	0.94 (0.77, 1.15)	0.52	1.00	0.79	1.12 (0.95, 1.33)	0.18	1.00	1.05 (1.01, 1.10)	0.01	1.05 (1.01, 1.10)	0.01	0.74 / 0.18	DHS		
rs10096632 ^a	3q26	170130102	A	C	1.11 (1.08, 1.14)	0.5	1.04 (1.00, 1.09)	0.055	0.96	0.4	1.14 (0.98, 1.34)	0.098	0.97	0.33	0.85 (0.69, 1.04)	0.12	0.97	0.26	1.03 (0.88, 1.21)	0.68	0.96	1.04 (1.00, 1.08)	0.55	1.03 (0.95, 1.12)	0.46	1 / 1	intergenic		
rs13009409	4q13	73855253	T	C	1.08 (1.05, 1.10)	0.31	1.04 (0.99, 1.09)	0.13	1.00	0.44	0.97 (0.83, 1.13)	0.67	1.00	0.53	1.23 (1.01, 1.49)	0.04	1.00	0.35	1.06 (0.92, 1.22)	0.43	1.00	1.04 (1.00, 1.08)	0.058	1.05 (0.98, 1.11)	0.14	1 / 0.91	intergenic		
rs1849292	4q13	7449158	G	A	1.10 (1.07, 1.13)	0.53	1.04 (1.00, 1.09)	0.052	1.00	0.62	1.00 (0.85, 1.18)	0.97	0.98	0.61	1.12 (0.92, 1.36)	0.26	1.00	0.67	1.06 (0.91, 1.22)	0.46	0.97	1.04 (1.00, 1.09)	0.028	1.04 (1.00, 1.09)	0.028	1 / 1	intron		
rs1250420 ^a	4q22	9544609	A	C	1.08 (1.05, 1.12)	0.46	1.07 (1.03, 1.12)	0.0012	1.00	0.52	1.22 (1.05, 1.42)	0.0095	1.00	0.54	1.02 (0.85, 1.24)	0.82	1.00	0.4	1.05 (0.91, 1.21)	0.48	1.00	1.08 (1.04, 1.12)	0.00013	1.08 (1.03, 1.13)	0.00038	1 / 0.95	intron		
rs17021918 ^a	4q22	9556277	T	C	1.11 (1.07, 1.15)	0.65	1.07 (1.02, 1.12)	0.0025	1.00	0.71	1.11 (0.94, 1.32)	0.22	1.00	0.66	1.01 (0.83, 1.23)	0.93	1.00	0.77	1.00 (0.85, 1.18)	1	1.00	1.07 (1.02, 1.11)	0.0022	1.07 (1.02, 1.11)	0.0022	1 / 1	DHS		
rs7679673 ^a	4q24	106061534	C	A	1.10 (1.06, 1.14)	0.59	1.12 (1.07, 1.17)	9.9e-07	1.00	0.5	1.15 (0.99, 1.35)	0.071	0.99	0.23	1.08 (0.87, 1.35)	0.48	0.99	0.4	1.11 (0.96, 1.27)	0.16	0.99	1.12 (1.07, 1.16)	5.5e-08	1.12 (1.07, 1.16)	5.5e-08	1 / 1	intergenic		
rs2242652 ^a	5p15	1280208	G	A	1.15 (1.11, 1.19)	0.81	1.05 (0.97, 1.13)	0.2	0.54	0.83	1.14 (0.92, 1.43)	0.23	0.95	0.84	0.99 (0.71, 1.39)	0.96	0.55	0.85	1.09 (0.89, 1.35)	0.4	0.85	1.06 (0.99, 1.13)	0.082	1.06 (0.99, 1.13)	0.082	1 / 0.98	intron		
rs12653946	5p15	1895629	T	C	1.10 (1.06, 1.16)	0.44	1.05 (1.00, 1.11)	0.058	0.69	0.48	1.06 (0.91, 1.24)	0.45	1.00	0.36	1.03 (0.81, 1.31)	0.81	0.61	0.4	1.07 (0.92, 1.25)	0.35	0.85	1.05 (1.01, 1.10)	0.026	1.05 (1.01, 1.10)	0.026	1 / 0.97	DHS		
rs2121875 ^a	5p12	44365545	G	T	1.05 (1.02, 1.08)	0.33	0.98 (0.94, 1.03)	0.38	1.00	0.49	1.16 (0.99, 1.35)	0.059	1.00	0.49	1.06 (0.88, 1.28)	0.57	1.00	0.69	1.12 (0.96, 1.30)	0.15	0.97	1.00 (0.96, 1.05)	0.81	1.06 (0.96, 1.16)	0.25	0.88 / 0.37	DHS		
rs6869841	5q35	172939426	A	G	1.07 (1.04, 1.11)	0.21	1.00 (0.94, 1.05)	0.86	1.00	0.18	1.04 (0.85, 1.28)	0.7	0.99	0.17	1.14 (0.89, 1.47)	0.3	0.96	0.36	1.08 (0.94, 1.25)	0.25	0.99	1.01 (0.97, 1.06)	0.61	1.01 (0.97, 1.06)	0.61	0.96 / 0.58	DHS		
rs4713266	6p24	11219030	C	T	1.06 (1.04, 1.08)	0.51	1.02 (0.97, 1.06)	0.47	0.99	0.42	0.97 (0.83, 1.13)	0.71	0.99	0.22	1.04 (0.82, 1.31)	0.76	0.99	0.74	1.08 (0.92, 1.27)	0.35	0.92	1.02 (0.98, 1.06)	0.39	1.02 (0.98, 1.06)	0.39	0.97 / 0.65	DHS		
rs15457135	6p22	30073776	A	G	1.07 (1.05, 1.10)	0.2	1.10 (1.04, 1.16)	0.0006	0.97	0.23	1.26 (1.06, 1.50)	0.0085	0.99	0.3	0.77 (0.62, 0.95)	0.015	0.99	0.15	0.87 (0.71, 1.06)	0.17	0.96	1.08 (1.02, 1.13)	0.0031	1.00 (0.83, 1.20)	0.96	0.95 / 0.55	intron		
rs133067 ^a	6p21	31118511	G	T	1.05 (1.02, 1.09)	0.19	1.00 (0.95, 1.06)	0.97	1.00	0.26	0.97 (0.82, 1.16)	0.74	1.00	0.32	1.19 (0.97, 1.45)	0.091	1.00	0.19	0.82 (0.69, 0.98)	0.033	1.00	0.99 (0.95, 1.04)	0.82	0.99 (0.88, 1.10)	0.8	0.75 / 0.19	coding		

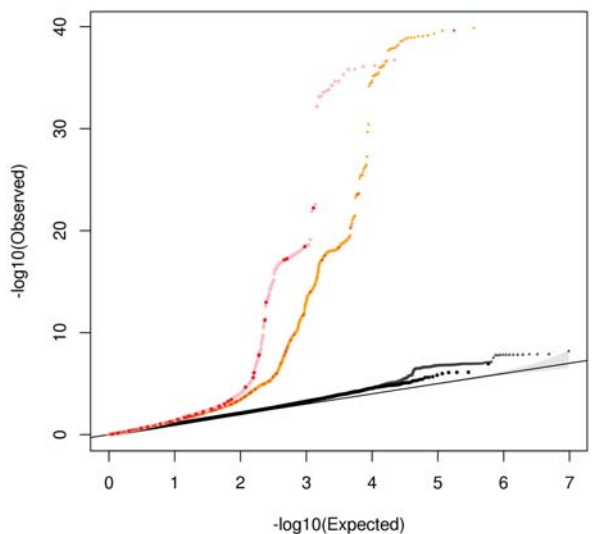
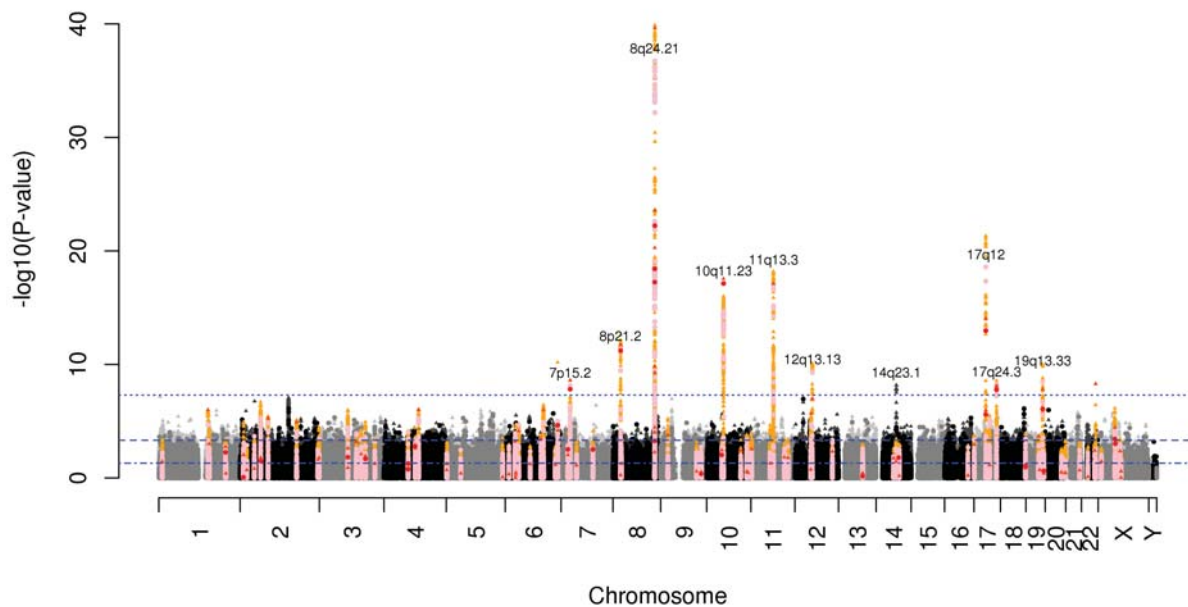
SNP	Region	Pos	Risk Allele	Ref. Allele	Previous OR (95% CI)	KP non-Hispanic white			KP Latino			KP Asian			KP African American			KP Meta FE		KP Meta RE		Meta FE power	Type				
						RAF	OR (95% CI)	P	r ²	RAF	OR (95% CI)	P	r ²	RAF	OR (95% CI)	P	r ²	RAF	OR (95% CI)	P	r ²			OR (95% CI)	P		
rs17826*	9q31	110156300	C	T	1.41 (1.29, 1.54)	0.15	0.97 (0.91, 1.03)	0.27	0.97	0.13	0.93 (0.73, 1.17)	0.53	0.96	0.11	1.08 (0.80, 1.45)	0.63	0.99	0.28	1.05 (0.90, 1.23)	0.52	0.94	0.98 (0.93, 1.03)	0.41	0.98 (0.93, 1.03)	0.41	1 / 1	intergenic
rs1571801	9q33	124427373	A	C	1.07 (1.02, 1.12)	0.25	1.03 (0.98, 1.08)	0.31	1.00	0.2	1.14 (0.94, 1.37)	0.19	1.00	0.086	1.27 (0.93, 1.72)	0.13	1.00	0.15	0.91 (0.75, 1.10)	0.34	1.00	1.03 (0.98, 1.08)	0.21	1.04 (0.95, 1.14)	0.4	0.97 / 0.62	intron
rs76934034	10q11	46082985	T	C	1.13 (1.09, 1.17)	0.92	1.13 (1.04, 1.22)	0.0036	0.99	0.92	0.95 (0.71, 1.26)	0.7	0.99	0.99	—	—	0.84	0.98	0.84 (0.52, 1.35)	0.46	0.77	1.10 (1.02, 1.19)	0.011	1.06 (0.92, 1.22)	0.4	0.98 / 0.73	intron
rs10993994	10q11	51549496	T	C	1.23 (1.18, 1.28)	0.4	1.21 (1.16, 1.26)	2.9e-18	1.00	0.39	1.31 (1.12, 1.53)	0.00064	1.00	0.5	1.18 (0.97, 1.43)	0.092	1.00	0.6	1.08 (0.94, 1.24)	0.29	1.00	1.21 (1.16, 1.25)	6.5e-21	1.20 (1.13, 1.27)	6.8e-10	1 / 1	DHS
rs3850699	10q24	104414221	A	G	1.10 (1.07, 1.13)	0.7	1.07 (1.02, 1.12)	0.0039	0.99	0.75	1.14 (0.95, 1.37)	0.15	0.99	0.81	0.96 (0.76, 1.22)	0.74	0.98	0.63	1.04 (0.90, 1.20)	0.57	0.98	1.07 (1.02, 1.12)	0.0022	1.07 (1.02, 1.12)	0.0022	1 / 0.99	intron
rs2252004*	10q26	128447709	C	T	1.16 (1.10, 1.22)	0.91	1.04 (0.97, 1.12)	0.28	0.99	0.75	1.10 (0.92, 1.31)	0.31	0.99	0.71	1.08 (0.88, 1.33)	0.45	1.00	0.54	1.10 (0.96, 1.26)	0.17	0.97	1.06 (1.00, 1.13)	0.844	1.06 (1.00, 1.13)	0.844	1 / 1	intergenic
rs4962146	10q26	126066872	C	T	1.09 (1.05, 1.14)	0.28	1.02 (0.98, 1.08)	0.33	0.90	0.24	1.11 (0.93, 1.33)	0.25	1.00	0.029	1.07 (0.57, 2.00)	0.83	0.79	0.18	1.00 (0.84, 1.19)	0.90	1.00	1.03 (0.98, 1.08)	0.33	1.03 (0.98, 1.08)	0.23	1 / 0.9	intron
rs7127900*	11p15	2233574	A	G	1.22 (1.17, 1.27)	0.2	1.10 (1.03, 1.17)	0.0029	0.70	0.27	1.07 (0.90, 1.27)	0.43	1.00	0.12	0.97 (0.69, 1.38)	0.88	0.68	0.36	1.07 (0.93, 1.24)	0.34	0.90	1.09 (1.03, 1.15)	0.0017	1.09 (1.03, 1.15)	0.0017	1 / 1	intergenic
rs1938781*	11q12	58915110	C	T	1.16 (1.11, 1.21)	0.21	1.05 (1.00, 1.11)	0.052	1.00	0.23	1.18 (0.99, 1.40)	0.073	1.00	0.26	1.00 (0.81, 1.24)	0.96	1.00	0.32	0.98 (0.85, 1.14)	0.83	0.99	1.05 (1.00, 1.10)	0.633	1.05 (1.00, 1.10)	0.633	1 / 1	intron
rs10896449	11q13	68994667	G	A	1.19 (1.15, 1.23)	0.52	1.21 (1.16, 1.26)	7.5e-18	1.00	0.4	1.19 (1.02, 1.38)	0.03	1.00	0.091	1.07 (0.78, 1.46)	0.69	1.00	0.69	1.11 (0.96, 1.29)	0.15	1.00	1.20 (1.15, 1.24)	4.7e-19	1.20 (1.15, 1.24)	4.7e-19	1 / 1	intergenic
rs11568818	11q22	102401661	A	G	1.10 (1.06, 1.14)	0.55	1.05 (1.01, 1.10)	0.015	1.00	0.64	1.19 (1.01, 1.40)	0.033	1.00	0.9	1.23 (0.87, 1.75)	0.24	0.95	0.55	1.03 (0.90, 1.18)	0.65	1.00	1.06 (1.02, 1.11)	0.0026	1.06 (1.02, 1.11)	0.0026	1 / 1	DHS
rs11214775*	11q23	113801781	G	A	1.07 (1.04, 1.09)	0.7	1.06 (1.01, 1.11)	0.017	1.00	0.76	1.13 (0.94, 1.36)	0.18	0.99	0.75	0.94 (0.76, 1.16)	0.55	1.00	0.71	1.06 (0.91, 1.22)	0.46	0.99	1.06 (1.01, 1.10)	0.0099	1.06 (1.01, 1.10)	0.0099	0.98 / 0.73	intron
rs80130819	12q13	48419618	A	C	1.14 (1.09, 1.18)	0.92	1.06 (0.98, 1.14)	0.18	0.98	0.93	0.90 (0.66, 1.23)	0.51	0.97	0.99	—	—	0.97	0.98	0.96 (0.61, 1.52)	0.86	0.93	1.04 (0.97, 1.12)	0.28	1.04 (0.97, 1.12)	0.28	0.99 / 0.82	intergenic
rs10875943	12q13	49676010	C	T	1.07 (1.04, 1.10)	0.29	1.12 (1.07, 1.18)	2.1e-06	0.95	0.33	1.03 (0.88, 1.21)	0.72	1.00	0.82	1.44 (1.10, 1.89)	0.0085	1.00	0.61	1.15 (1.00, 1.32)	0.043	1.00	1.12 (1.08, 1.17)	6.6e-08	1.13 (1.05, 1.22)	0.0013	0.99 / 0.77	intergenic
rs902774	12q13	53273904	A	G	1.17 (1.11, 1.24)	0.15	1.17 (1.11, 1.24)	1e-07	0.99	0.13	1.09 (0.87, 1.36)	0.45	0.99	0.027	1.18 (0.68, 2.02)	0.56	1.00	0.079	1.07 (0.84, 1.37)	0.58	1.00	1.16 (1.10, 1.23)	8.6e-08	1.16 (1.10, 1.23)	8.6e-08	1 / 1	DHS
rs1270884	12q24	114685571	A	G	1.07 (1.04, 1.10)	0.48	1.06 (1.02, 1.11)	0.0048	0.99	0.38	1.12 (0.96, 1.32)	0.15	0.99	0.28	0.93 (0.75, 1.15)	0.49	0.97	0.21	1.22 (1.03, 1.44)	0.018	0.97	1.07 (1.03, 1.11)	0.00667	1.08 (1.00, 1.17)	0.044	0.99 / 0.84	intergenic
rs9600079	13q22	73728139	T	G	1.01 (0.97, 1.06)	0.45	1.02 (0.98, 1.06)	0.37	1.00	0.41	1.09 (0.93, 1.27)	0.3	1.00	0.46	1.09 (0.90, 1.32)	0.37	1.00	0.51	0.98 (0.85, 1.13)	0.79	0.97	1.02 (0.98, 1.06)	0.24	1.02 (0.98, 1.06)	0.24	0.1 / 0.0023	intergenic
rs8008270	14q22	53372330	G	A	1.12 (1.08, 1.17)	0.81	1.07 (1.01, 1.13)	0.018	1.00	0.86	1.19 (0.94, 1.51)	0.14	1.00	0.99	—	—	0.98	0.74	1.09 (0.93, 1.28)	0.28	0.97	1.08 (1.02, 1.13)	0.0045	1.08 (1.02, 1.13)	0.0045	1 / 0.99	intron
rs7153648	14q23	61122526	C	G	1.11 (1.07, 1.14)	0.091	1.08 (1.01, 1.17)	0.036	0.95	0.11	1.11 (0.87, 1.43)	0.39	0.93	0.2	1.12 (0.88, 1.41)	0.36	0.97	0.33	0.97 (0.84, 1.12)	0.65	0.96	1.07 (1.00, 1.13)	0.046	1.07 (1.00, 1.13)	0.046	0.99 / 0.79	intergenic
rs7141529	14q24	69126744	G	A	1.09 (1.06, 1.12)	0.51	1.05 (1.01, 1.10)	0.017	1.00	0.55	0.98 (0.84, 1.14)	0.78	1.00	0.77	1.15 (0.91, 1.45)	0.24	1.00	0.53	1.01 (0.88, 1.15)	0.93	1.00	1.05 (1.01, 1.09)	0.02	1.05 (1.01, 1.09)	0.02	1 / 0.99	intergenic
rs8014671	14q24	71092256	G	A	1.06 (1.04, 1.08)	0.58	1.01 (0.97, 1.05)	0.66	0.99	0.57	1.02 (0.87, 1.19)	0.84	0.99	0.37	1.05 (0.86, 1.28)	0.63	0.97	0.47	1.00 (0.87, 1.14)	0.95	0.97	1.01 (0.97, 1.05)	0.6	1.01 (0.97, 1.05)	0.6	0.97 / 0.64	intergenic
rs12051443	16q22	71691329	A	G	1.06 (1.04, 1.08)	0.33	1.01 (0.97, 1.06)	0.62	1.00	0.44	1.04 (0.89, 1.21)	0.63	1.00	0.69	1.05 (0.86, 1.29)	0.63	1.00	0.27	1.06 (0.91, 1.23)	0.46	0.99	1.02 (0.98, 1.06)	0.38	1.02 (0.98, 1.06)	0.38	0.96 / 0.6	intron
rs684232	17p13	618965	G	A	1.10 (1.07, 1.14)	0.35	1.08 (1.03, 1.13)	0.0012	0.98	0.41	1.04 (0.89, 1.21)	0.64	0.98	0.59	0.96 (0.79, 1.16)	0.67	0.99	0.64	1.01 (0.87, 1.16)	0.93	1.00	1.06 (1.02, 1.11)	0.0028	1.06 (1.02, 1.11)	0.0028	1 / 1	DHS
rs11649743	17q12	36074979	G	A	1.15 (1.09, 1.21)	0.81	1.15 (1.09, 1.22)	1e-06	0.99	0.83	1.10 (0.89, 1.36)	0.37	0.99	0.67	1.18 (0.96, 1.44)	0.12	0.99	0.91	0.95 (0.73, 1.24)	0.69	0.82	1.14 (1.08, 1.20)	5.9e-07	1.14 (1.08, 1.20)	5.9e-07	1 / 1	DHS
rs7501939	17q12	36101156	C	T	1.22 (1.17, 1.27)	0.6	1.19 (1.14, 1.24)	9.9e-15	1.00	0.64	1.18 (1.00, 1.38)	0.05	1.00	0.72	1.13 (0.91, 1.39)	0.27	1.00	0.5	1.04 (0.91, 1.19)	0.55	1.00	1.17 (1.13, 1.22)	4.2e-15	1.16 (1.09, 1.23)	5.8e-07	1 / 1	DHS
rs11650494	17q21	47345186	A	G	1.15 (1.09, 1.22)	0.086	1.07 (0.99, 1.16)	0.072	0.99	0.068	0.91 (0.66, 1.24)	0.54	0.98	0.011	0.74 (0.27, 2.09)	0.58	0.98	0.24	0.93 (0.79, 1.09)	0.37	0.97	1.04 (0.97, 1.11)	0.29	1.02 (0.92, 1.12)	0.75	1 / 0.96	intergenic
rs211001*	17q21	4736749	A	G	1.51 (1.35, 1.69)	0.0001	—	—	0.94	0.0034	—	—	1.00	0.0002	—	—	0.80	0.056	1.06 (0.79, 1.41)	0.71	1.00	1.06 (0.79, 1.41)	0.71	1.06 (0.79, 1.41)	0.71	0.87 / 0.34	intron
rs1859962	17q24	69108753	G	T	1.19 (1.14, 1.24)	0.48	1.13 (1.09, 1.18)	7.7e-09	1.00	0.55	1.16 (0.99, 1.36)	0.06	1.00	0.4	1.03 (0.85, 1.24)	0.79	1.00	0.32	1.08 (0.93, 1.24)	0.31	0.97	1.13 (1.08, 1.17)	1.6e-09	1.13 (1.08, 1.17)	1.6e-09	1 / 1	DHS
rs7241993	18q23	76737973	G	A	1.09 (1.05, 1.12)	0.69	1.04 (0.99, 1.09)	0.14	1.00	0.7	1.13 (0.95, 1.35)	0.15	1.00	0.61	0.93 (0.77, 1.13)	0.46	1.00	0.47	1.06 (0.92, 1.21)	0.43	1.00	1.04 (1.00, 1.08)	0.079	1.04 (1.00, 1.08)	0.079	1 / 0.97	intergenic
rs8102476	19q13	38735613	C	T	1.12 (1.08, 1.15)	0.56	1.09 (1.04, 1.14)	0.0002	0.98	0.53	1.02 (0.88, 1.19)	0.79	1.00	0.41	1.26 (1.04, 1.53)	0.02	0.98	0.73	1.12 (0.96, 1.31)	0.14	1.00	1.09 (1.05, 1.14)	1.8e-05	1.09 (1.05, 1.14)	1.8e-05	1 / 1	intergenic
rs11672691	19q13	41985387	G	A	1.08 (1.05, 1.12)	0.75	1.03 (0.98, 1.09)	0.2	0.95	0.76	1.01 (0.85, 1.22)	0.88	0.96	0.59	1.11 (0.91, 1.34)	0.3	0.99	0.26	1.04 (0.89, 1.21)	0.62	0.93	1.04 (0.99, 1.09)	0.12	1.04 (0.99, 1.09)	0.12	0.99 / 0.85	DHS
rs2735839	19q13	51384623	G	A	1.15 (1.08, 1.22)	0.85	1.20 (1.13, 1.28)	1.6e-08	1.00	0.79	1.21 (1.00, 1.47)	0.052	1.00	0.58	1.15 (0.95, 1.40)	0.15	1.00	0.7	1.02 (0.88, 1.18)	0.8	1.00	1.17 (1.11, 1.24)	5.7e-09	1.16 (1.07, 1.25)	0.00012	1 / 1	DHS
rs103294*	19q13	54797848	C	T	1.25 (1.21, 1.36)	0.8	0.98 (0.93, 1.03)	0.39	1.00	0.75	1.09 (0.91, 1.30)	0.35	1.00	0.55	0.98 (0.82, 1.17)	0.83	1.00	0.9	0.97 (0.78, 1.21)								

Table S5: Risk score of and variance explained by the 105 previously reported hits. PCs, top 10 principal components (for race/ethnicity group) for ancestry; *The KP Asian risk score excludes rs7210100 and rs6983561, as they have $r^2 = 0.87$ and $r^2 = 0.44$, respectively, to other previously reported SNPs in the risk score (there were no other SNPs with pairwise $r^2 > 0.3$ in any of the race/ethnicity groups).

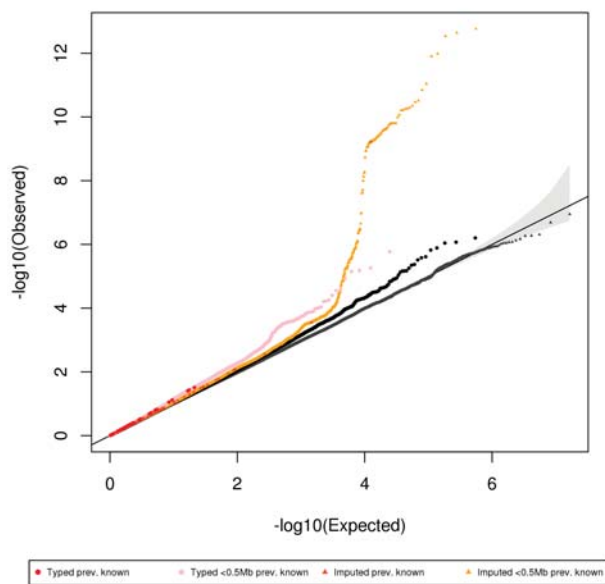
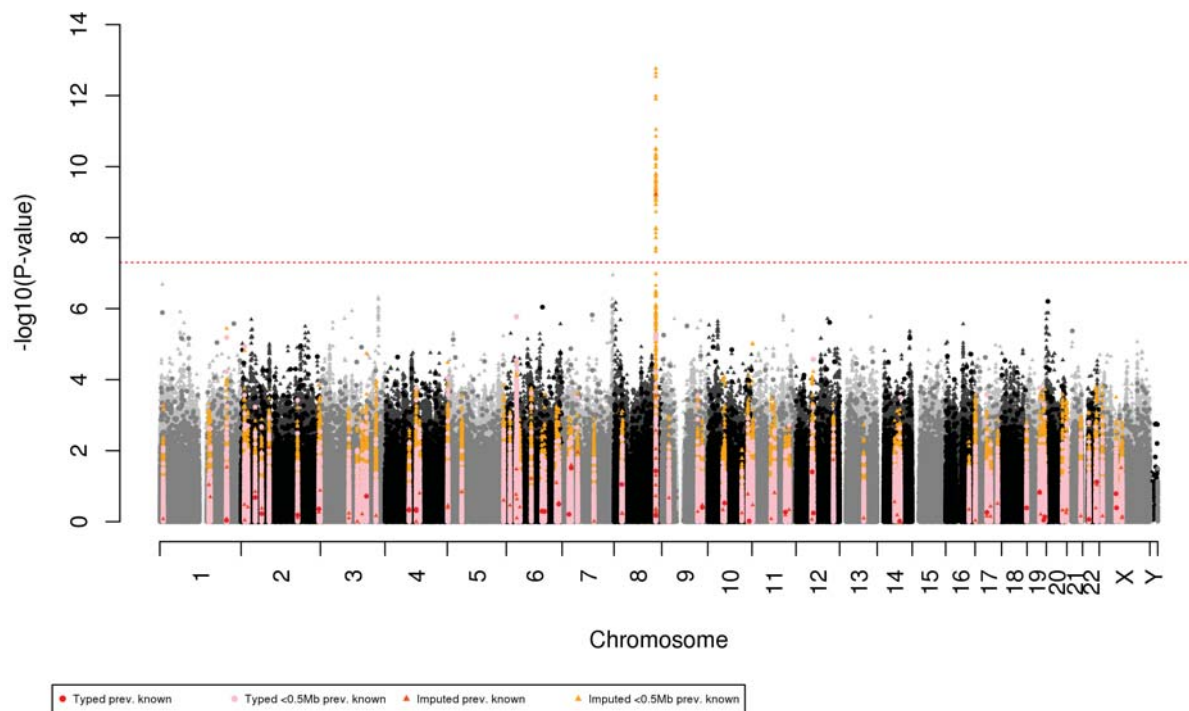
	KP NH white	KP Latino	KP Asian*	KP Af-Amer
Risk score p	2.0×10^{-211}	3.5×10^{-16}	1.0×10^{-8}	1.10×10^{-15}
r^2 age, BMI	0.073	0.122	0.101	0.051
r^2 age, BMI, risk score	0.123	0.156	0.121	0.099
r^2 age, BMI, PCs	0.076	0.147	0.112	0.060
r^2 age, BMI, PCs, risk score	0.127	0.183	0.138	0.104

Figure S1: Manhattan plots and Q-Q plots of each race/ethnicity, and of the meta-analysis, followed by conditional analysis plots. In the race/ethnicity-specific plots, the triangles are imputed SNPs, whereas the circles are based on the genotyped SNPs; in the meta-analysis all points are imputed. The color coding of the plot is described in the legend, where “<0.5Mb prev. known” indicates that a SNP was previously identified to be a prostate cancer risk variant, and that the current SNP is within 0.5 megabases of that SNP (a 1 megabase window).

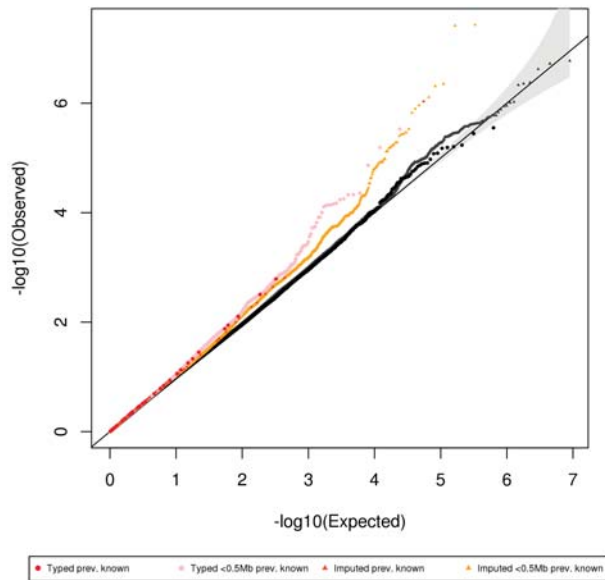
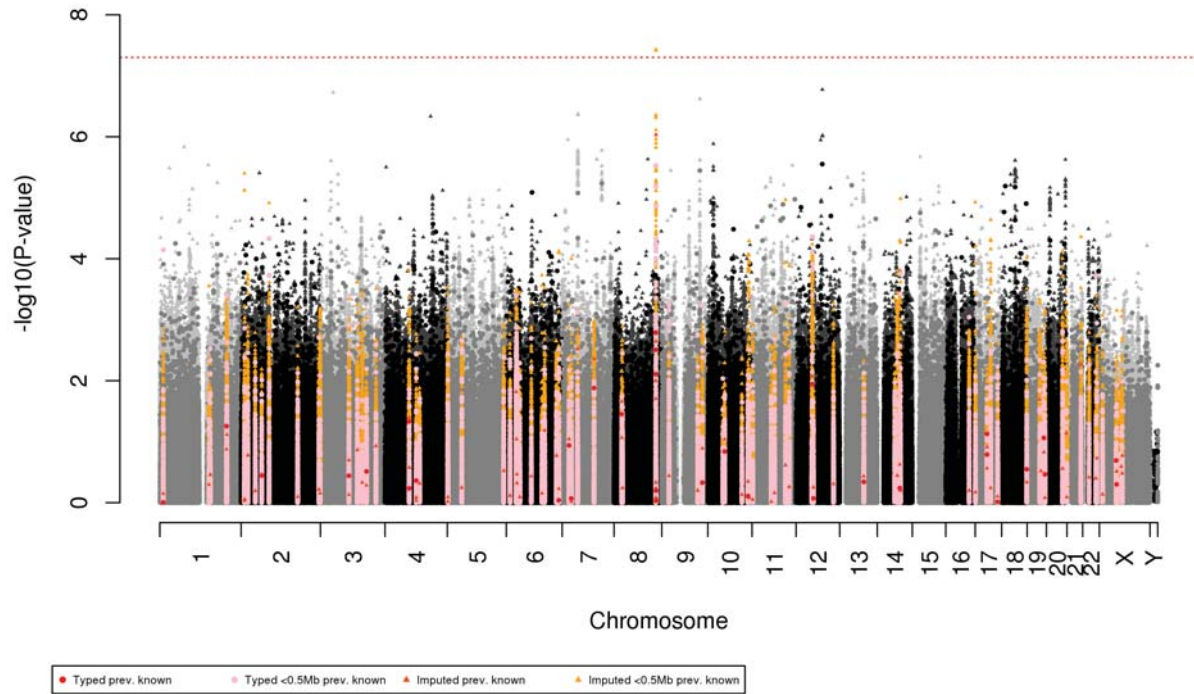
(S1.1) Round 0 of non-Hispanic white race/ethnicity. $\lambda_{\text{typed}} = 1.063$, $\lambda_{\text{imputed}} = 1.058$



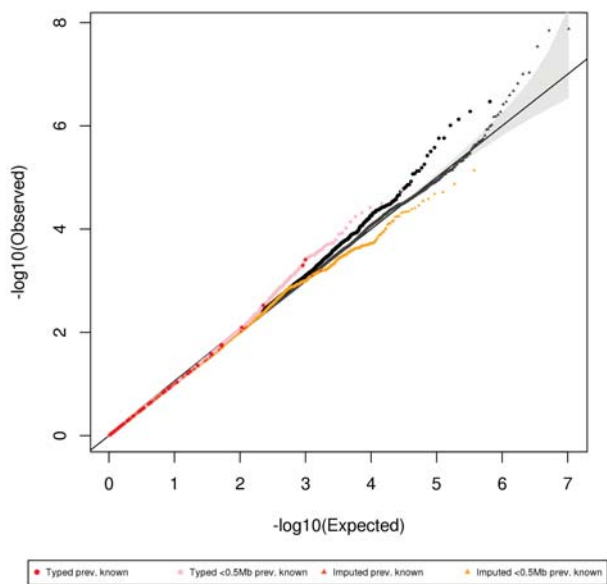
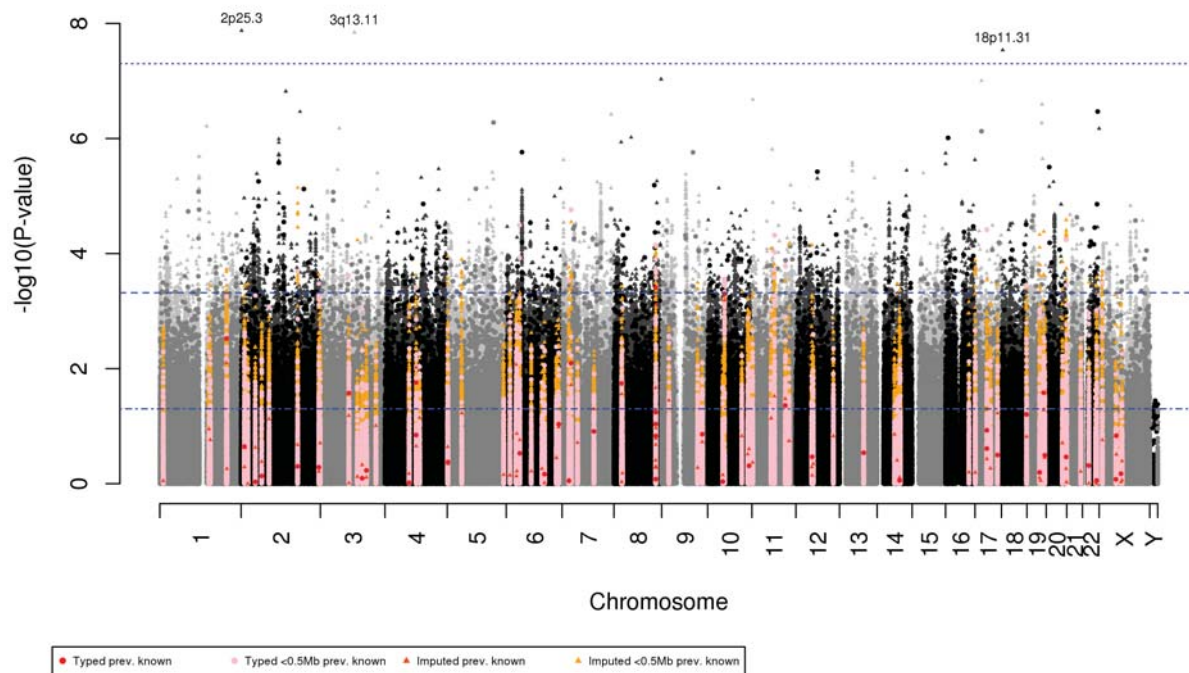
(S1.2) Round 0 of African American race/ethnicity. $\lambda_{\text{typed}} = 1.040$, $\lambda_{\text{imputed}} = 1.009$



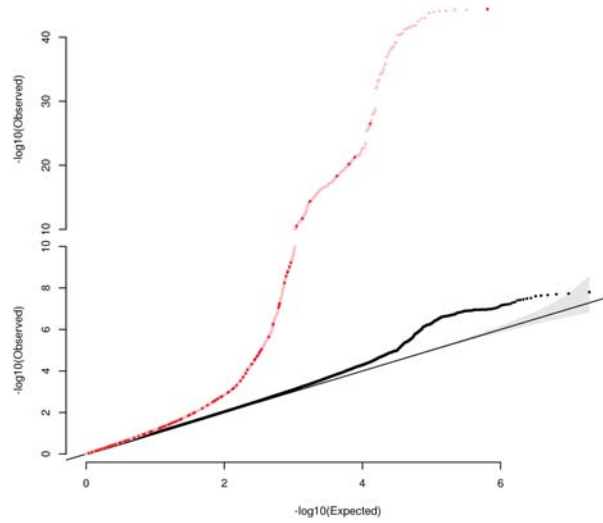
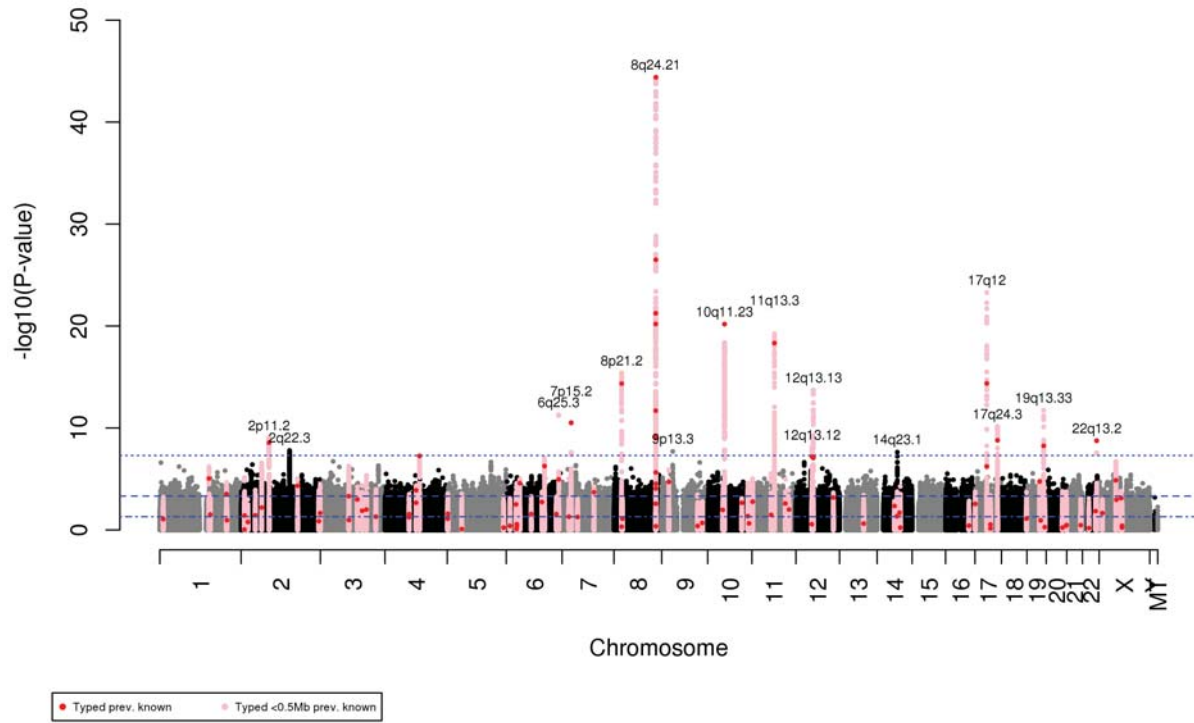
(S1.3) Round 0 of Asian race/ethnicity. $\lambda_{\text{typed}} = 1.025$, $\lambda_{\text{imputed}} = 1.015$



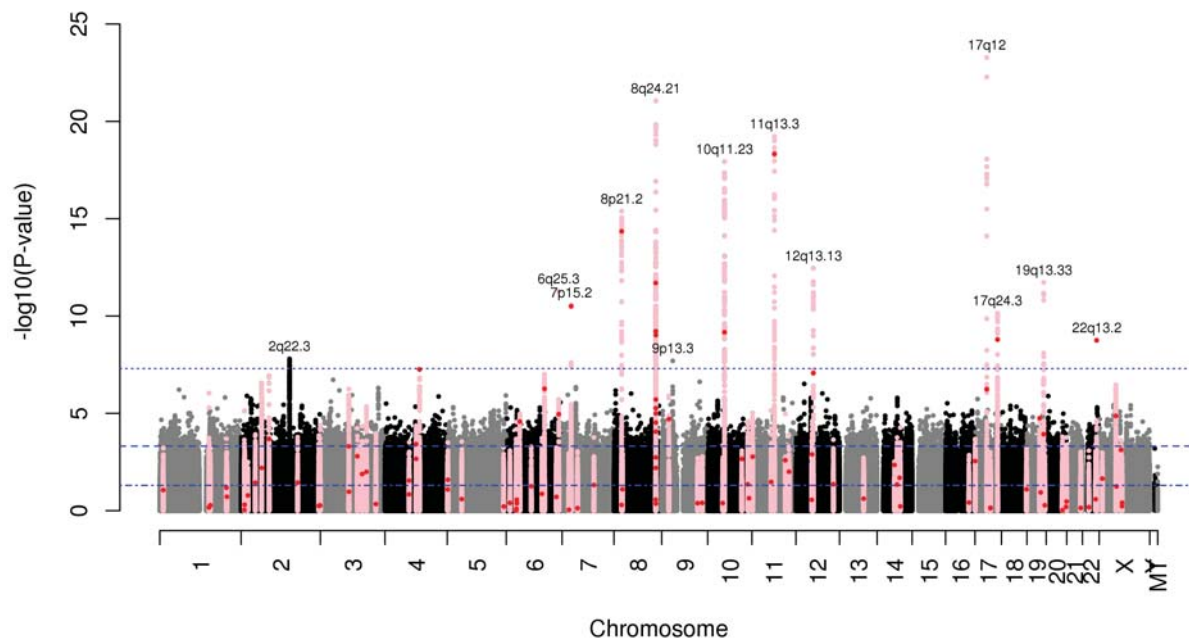
(S1.4) Round 0 of Latino race/ethnicity. $\lambda_{\text{typed}} = 1.035$, $\lambda_{\text{imputed}} = 1.017$



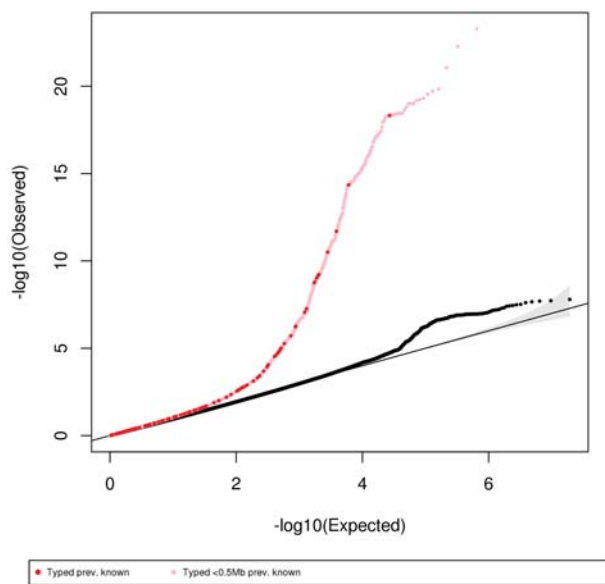
(S1.5) Round 0 of Meta-analysis fixed effects. $\lambda = 1.052$



(S1.6) Round 0 of Meta-analysis random effects. $\lambda = 0.872$

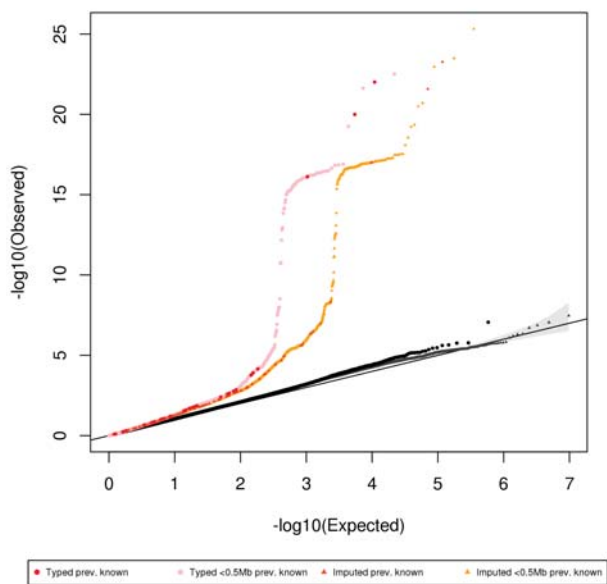
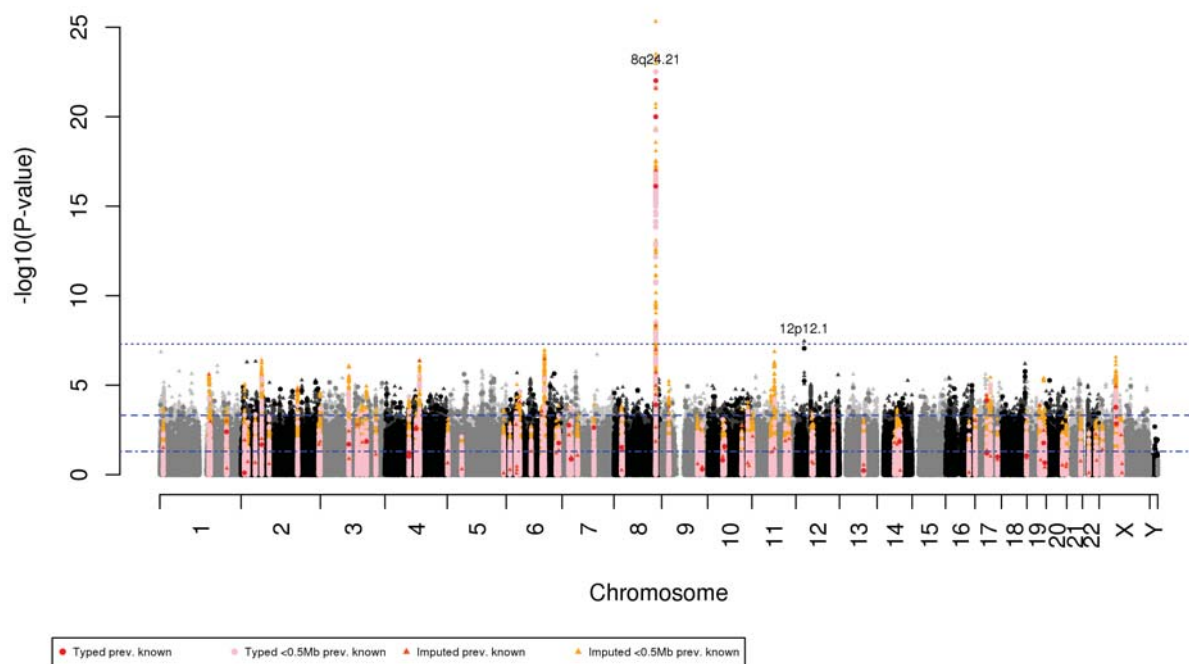


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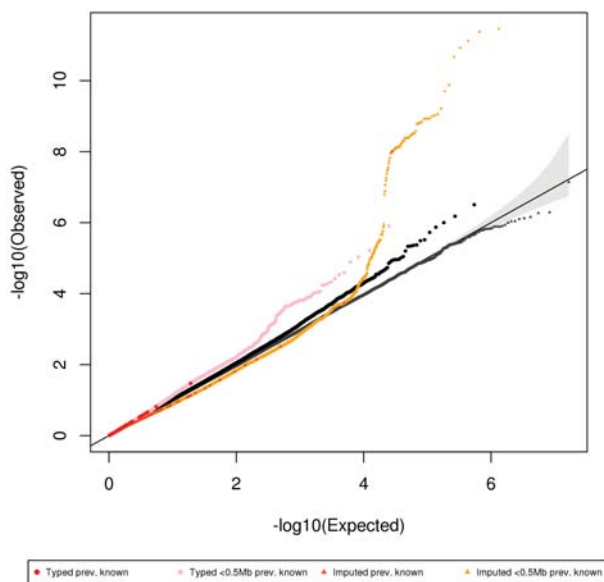
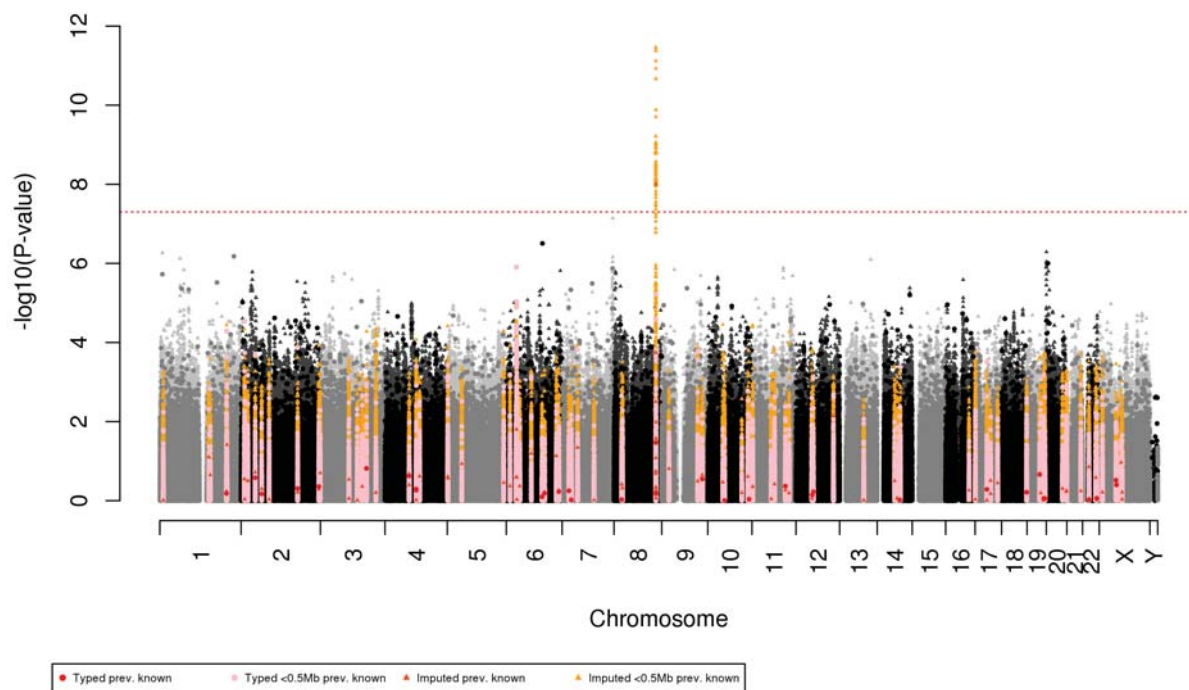


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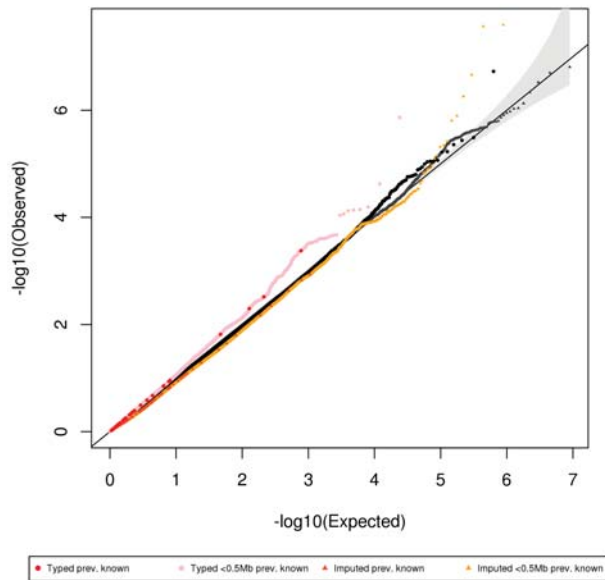
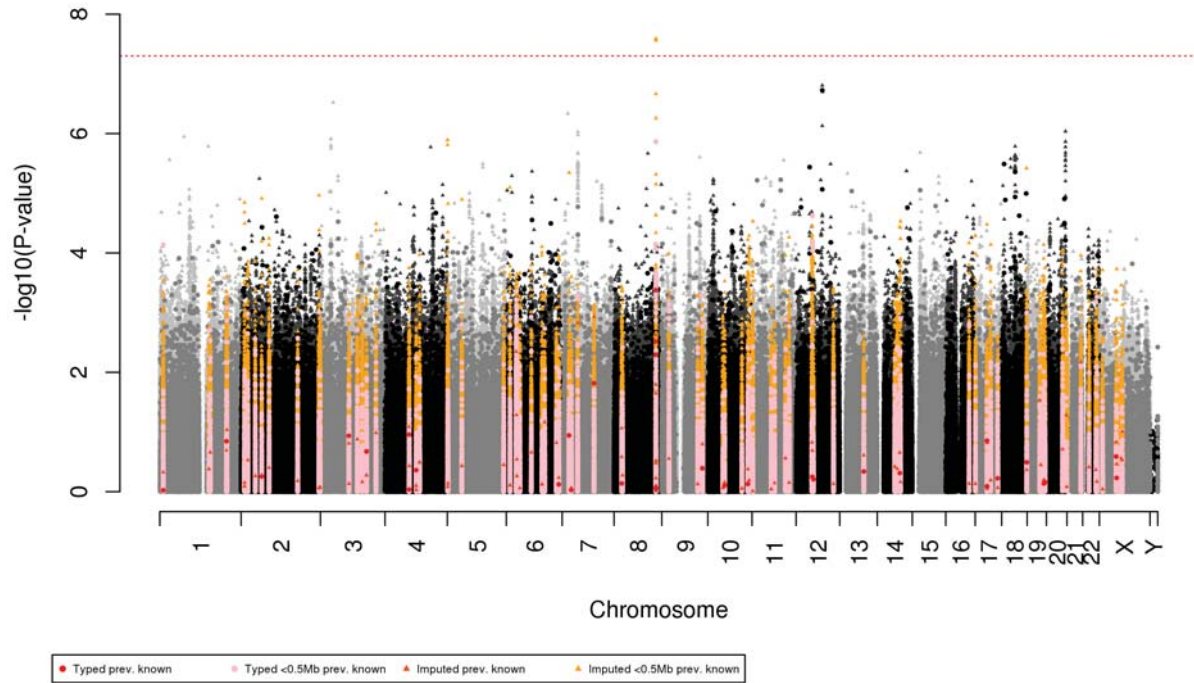
(S1.7) Round 1 of non-Hispanic white race/ethnicity. $\lambda_{\text{typed}} = 1.065$, $\lambda_{\text{imputed}} = 1.047$



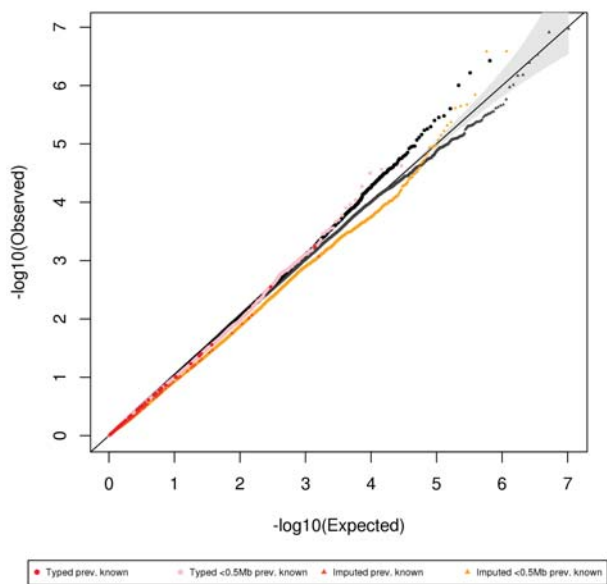
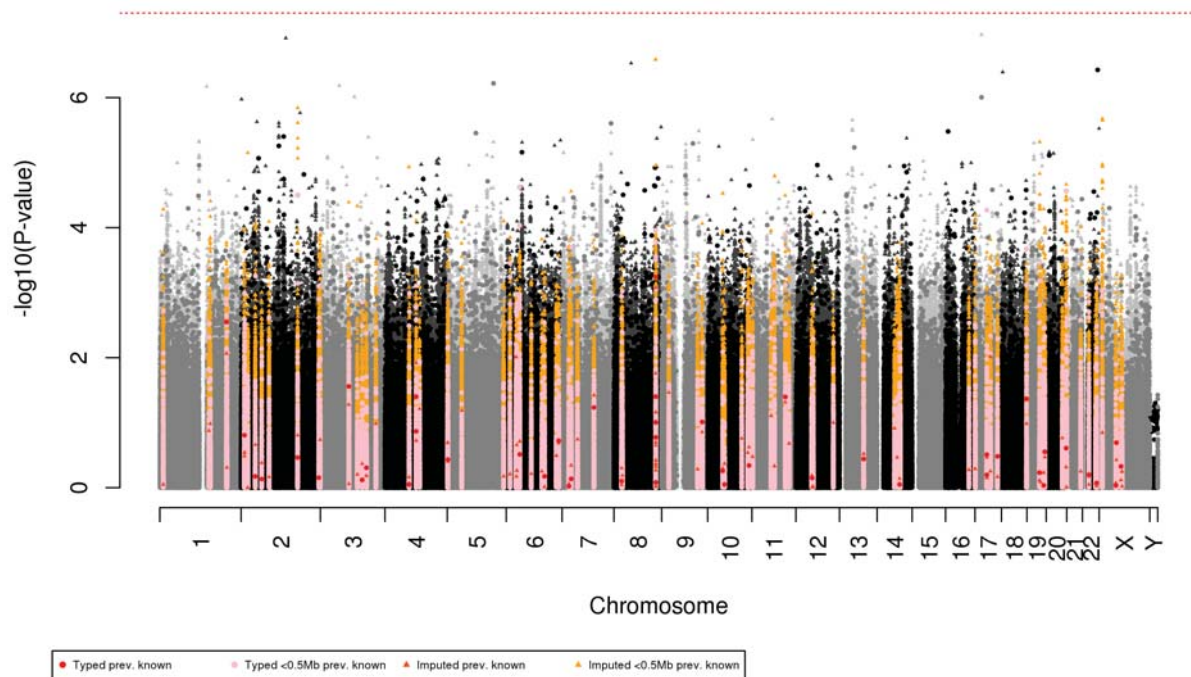
(S1.8) Round 1 of African American race/ethnicity. $\lambda_{\text{typed}} = 1.039$, $\lambda_{\text{imputed}} = 0.999$



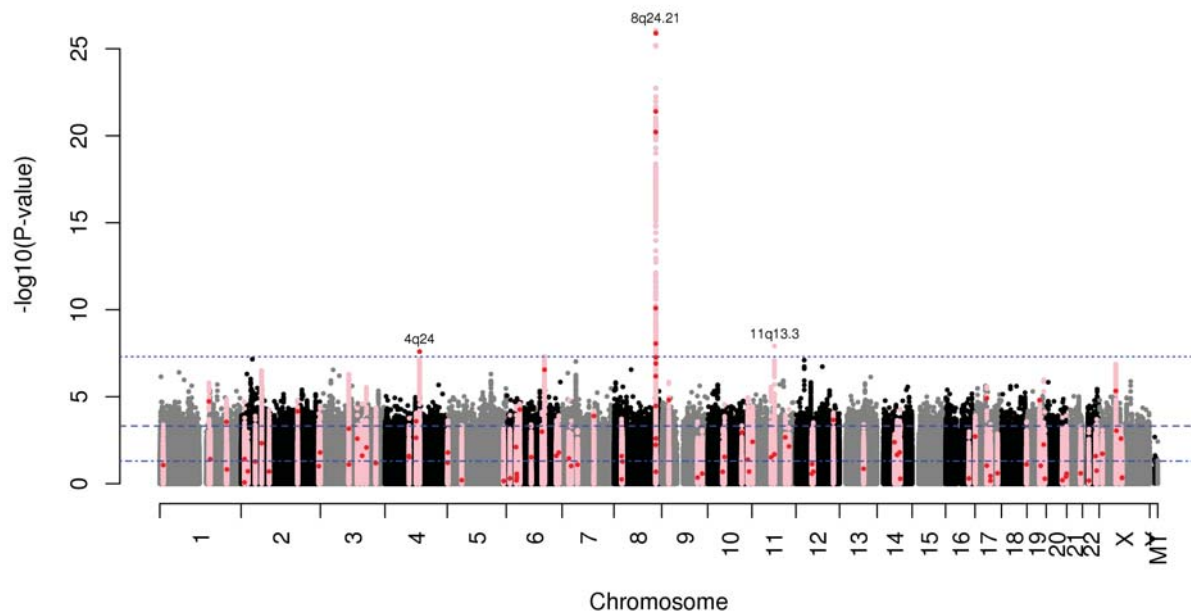
(S1.9) Round 1 of Asian race/ethnicity. $\lambda_{\text{typed}} = 1.026$, $\lambda_{\text{imputed}} = 0.982$



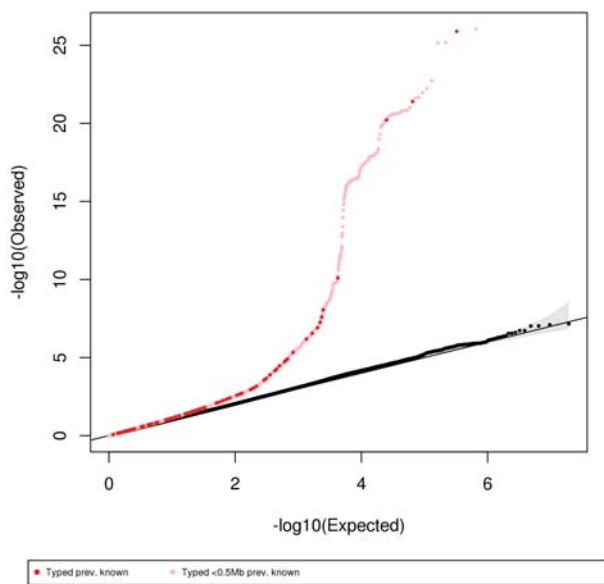
(S1.10) Round 1 of Latino race/ethnicity. $\lambda_{\text{typed}} = 1.029$, $\lambda_{\text{imputed}} = 0.996$



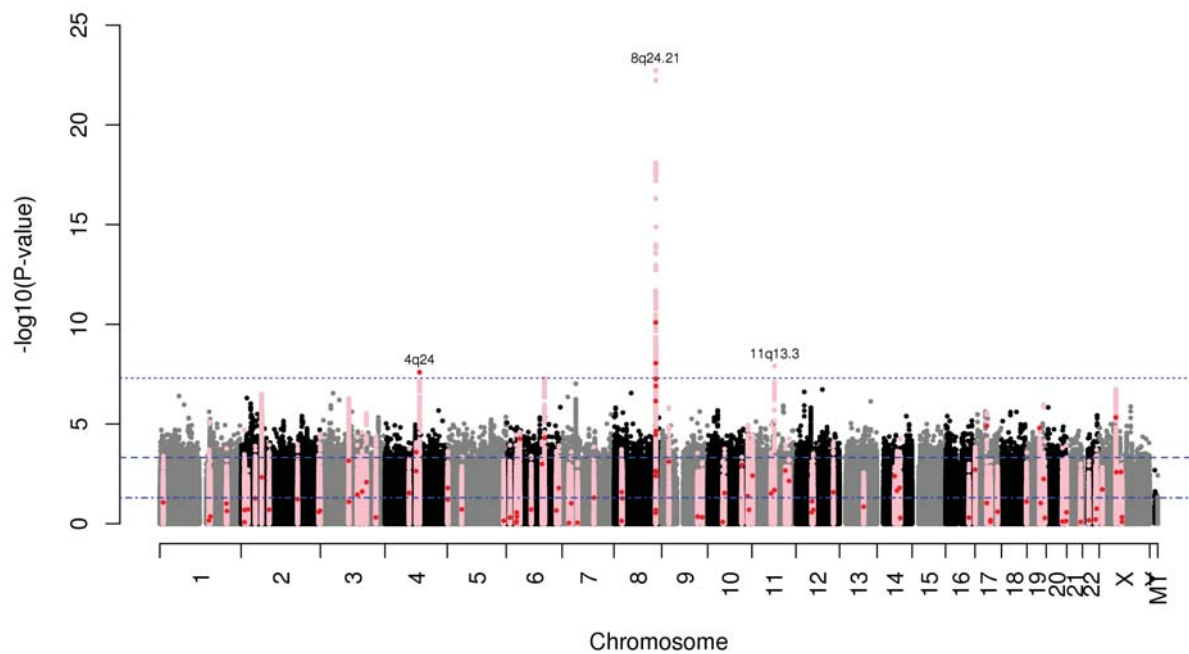
(S1.11) Round 1 of Meta-analysis fixed effects. $\lambda = 1.053$



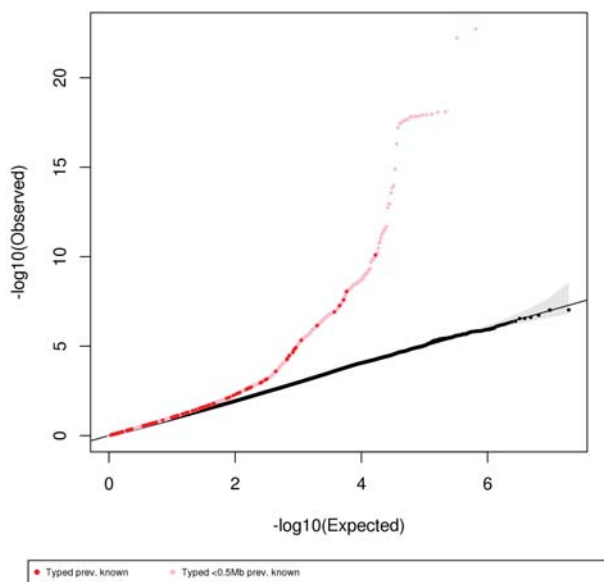
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(S1.12) Round 1 of Meta-analysis random effects. $\lambda = 0.872$

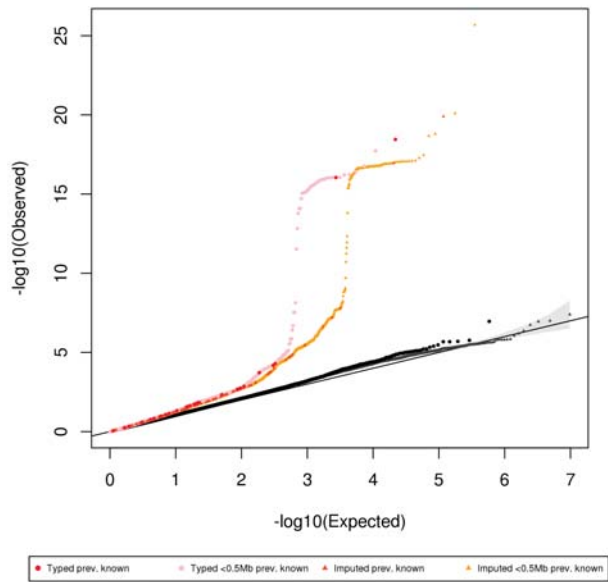
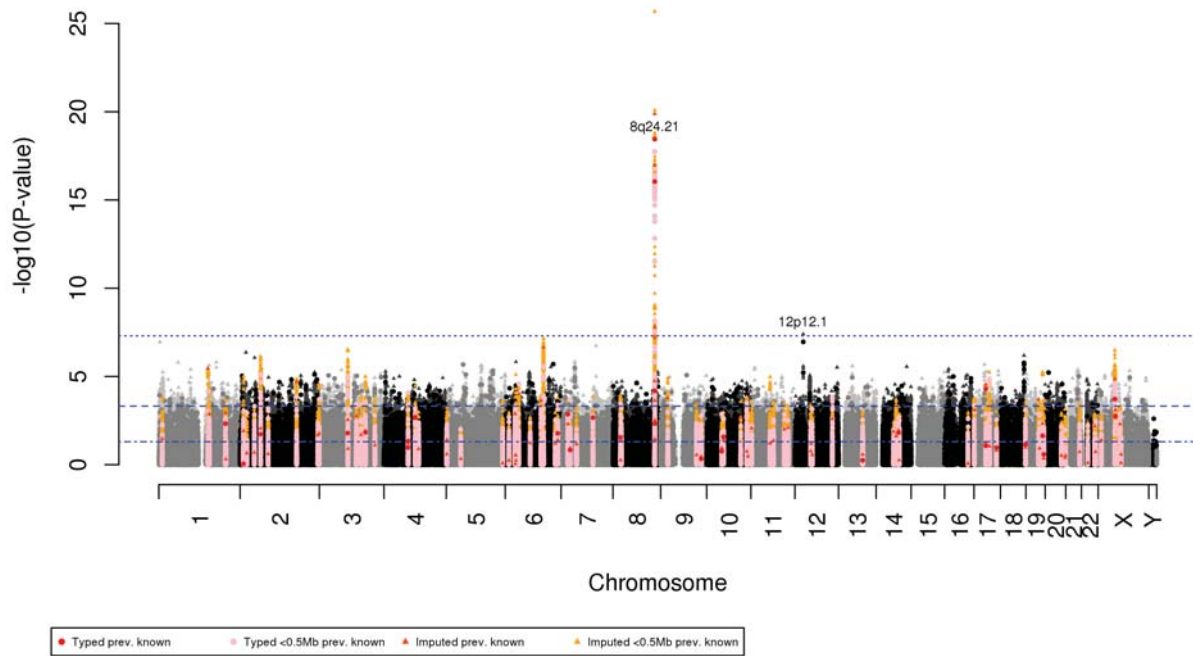


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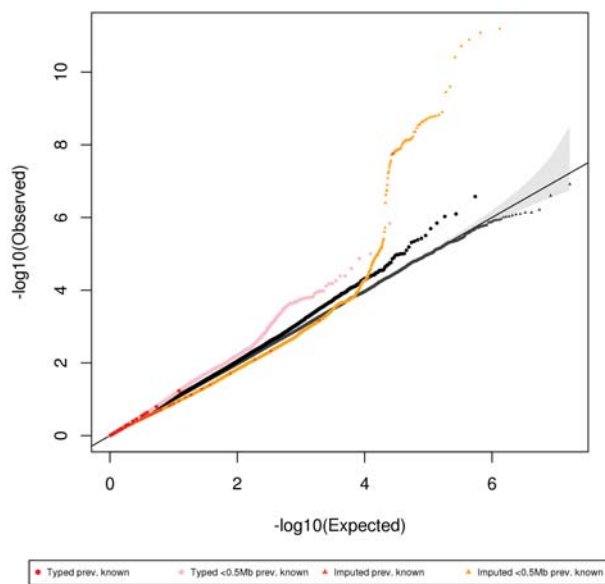
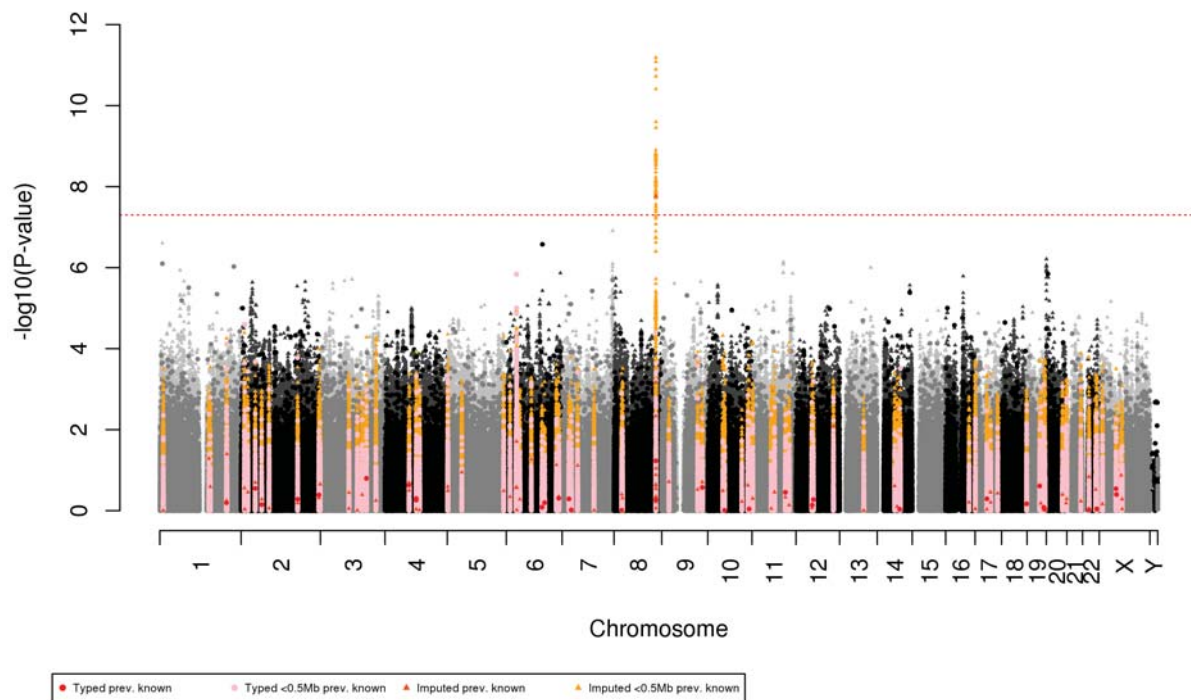


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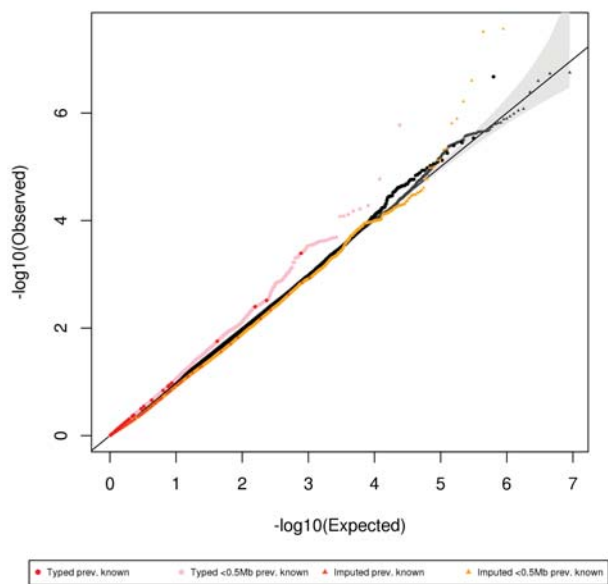
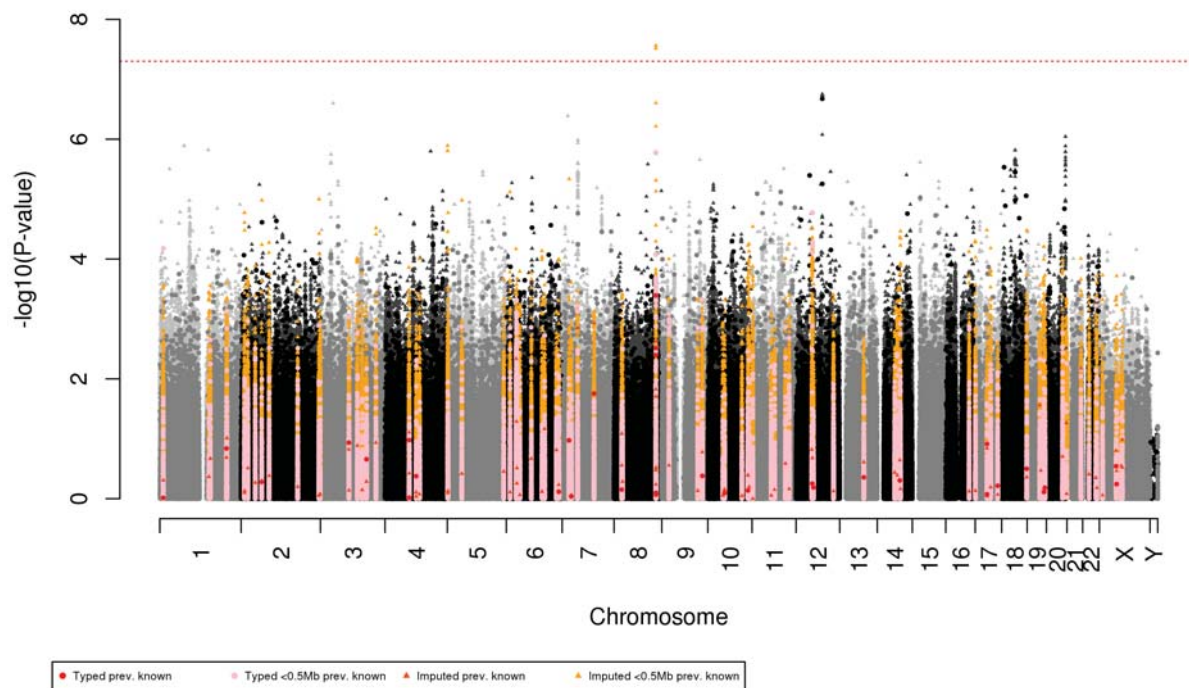
(S1.13) Round 2 of non-Hispanic white race/ethnicity. $\lambda_{\text{typed}} = 1.065$, $\lambda_{\text{imputed}} = 1.047$



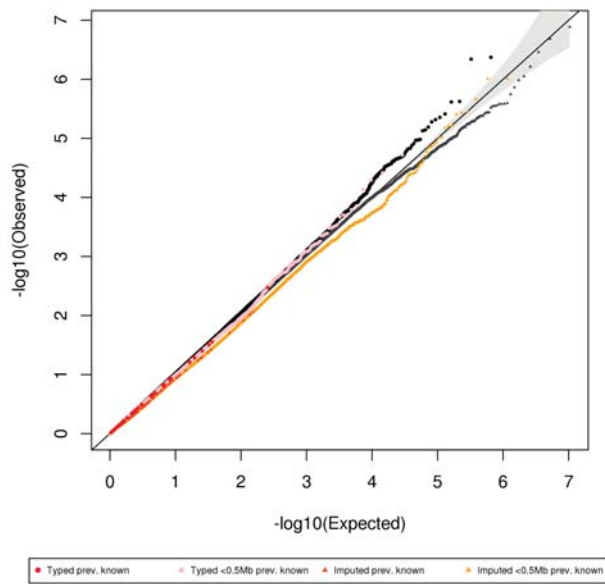
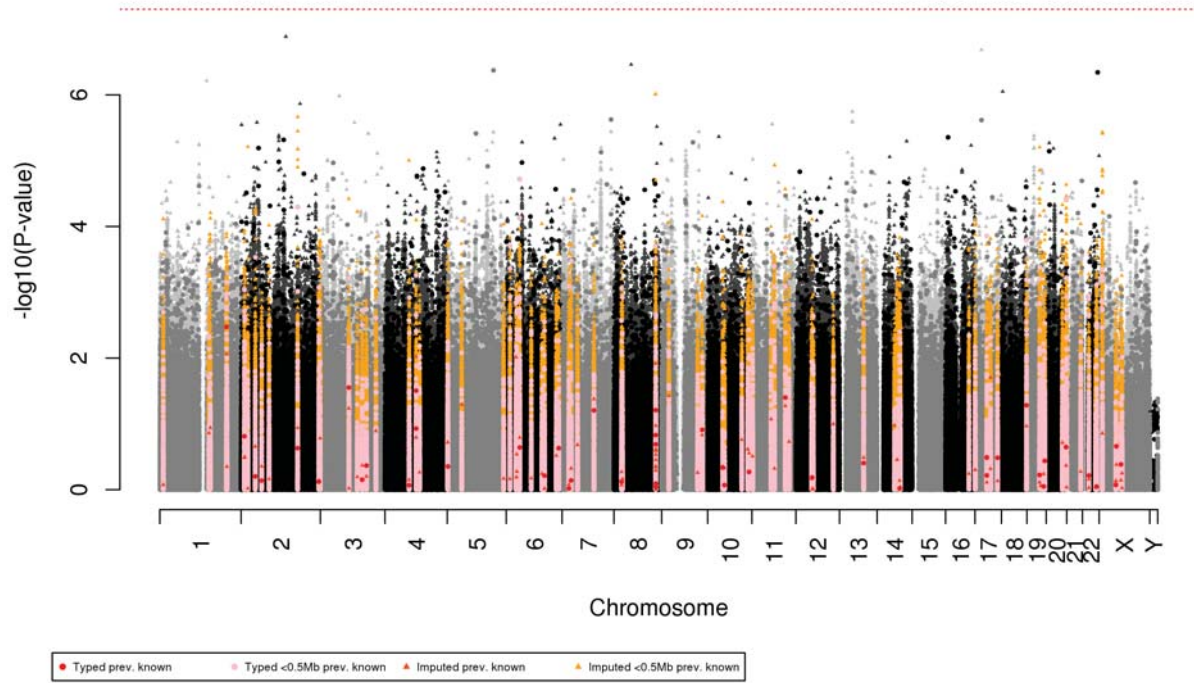
(S1.14) Round 2 of African American race/ethnicity. $\lambda_{\text{typed}} = 1.039$, $\lambda_{\text{imputed}} = 0.999$



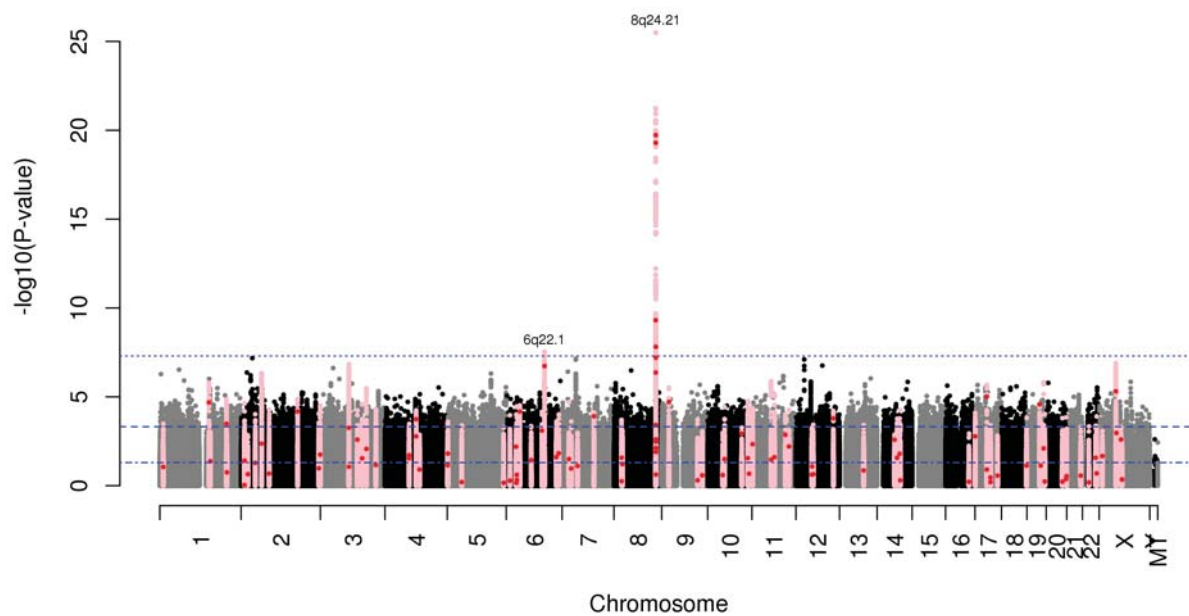
(S1.15) Round 2 of Asian race/ethnicity. $\lambda_{\text{typed}} = 1.025$, $\lambda_{\text{imputed}} = 0.981$



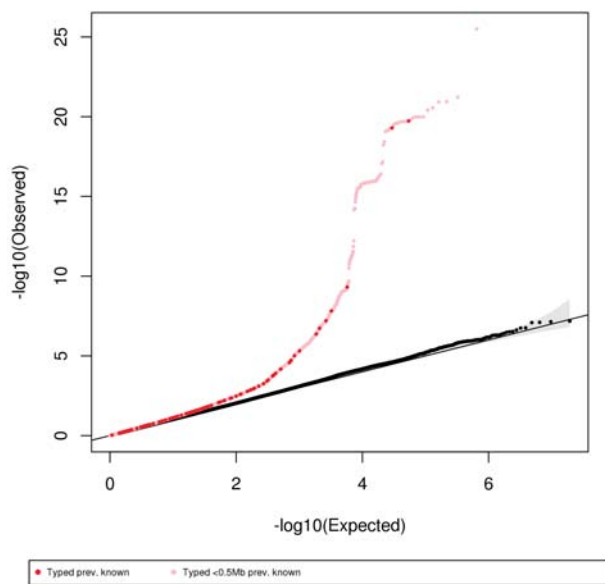
(S1.16) Round 2 of Latino race/ethnicity. $\lambda_{\text{typed}} = 1.030$, $\lambda_{\text{imputed}} = 0.997$



(S1.17) Round 2 of Meta-analysis fixed effects. $\lambda = 1.053$

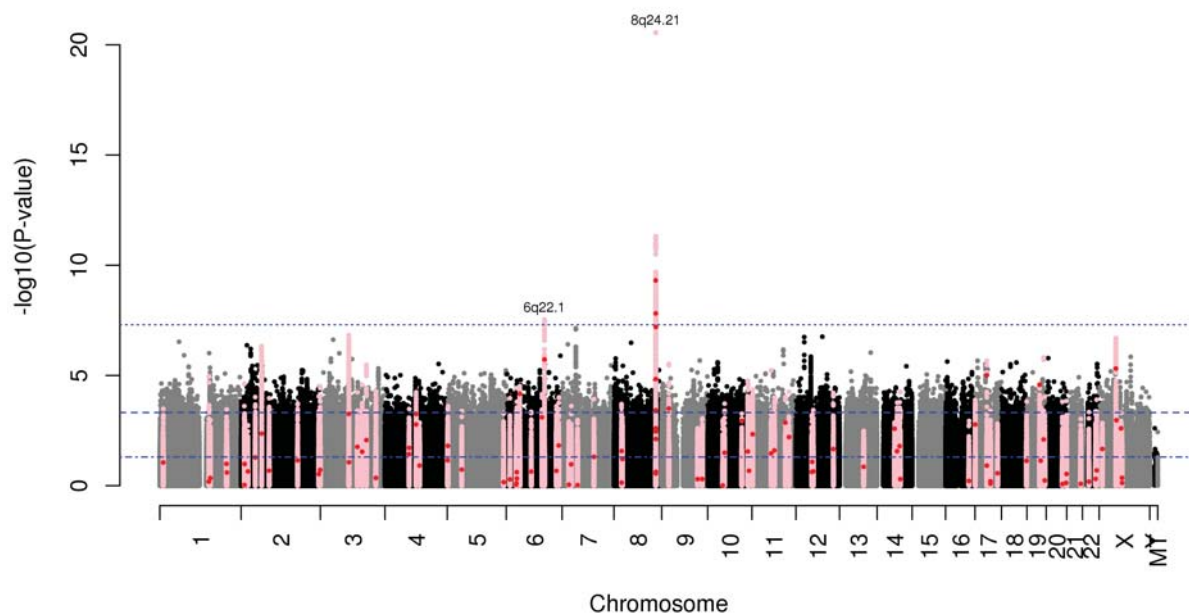


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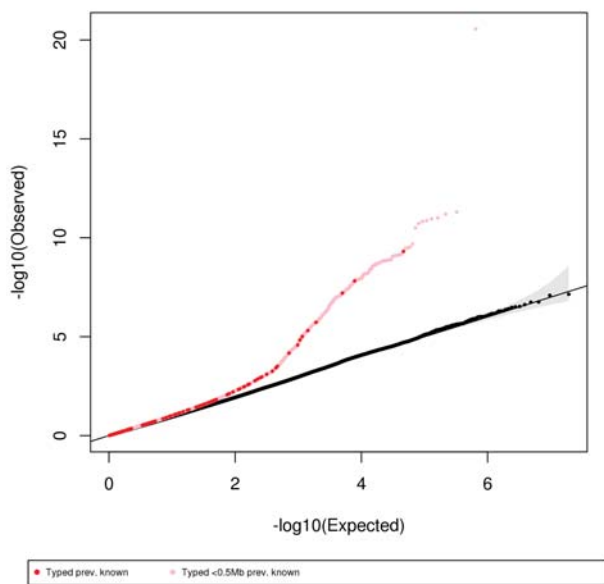


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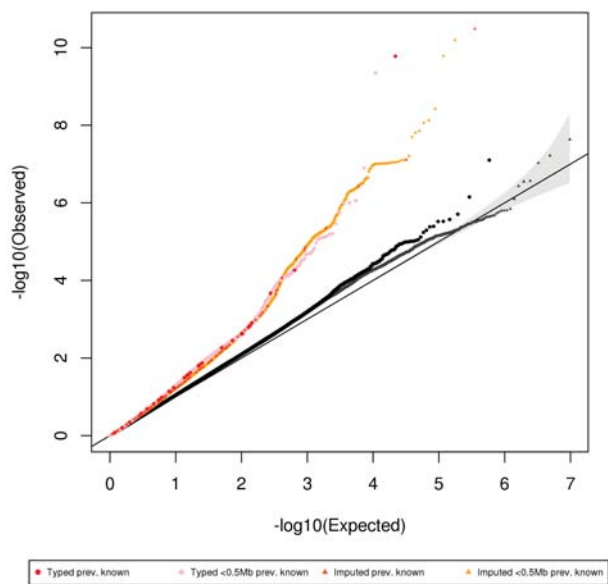
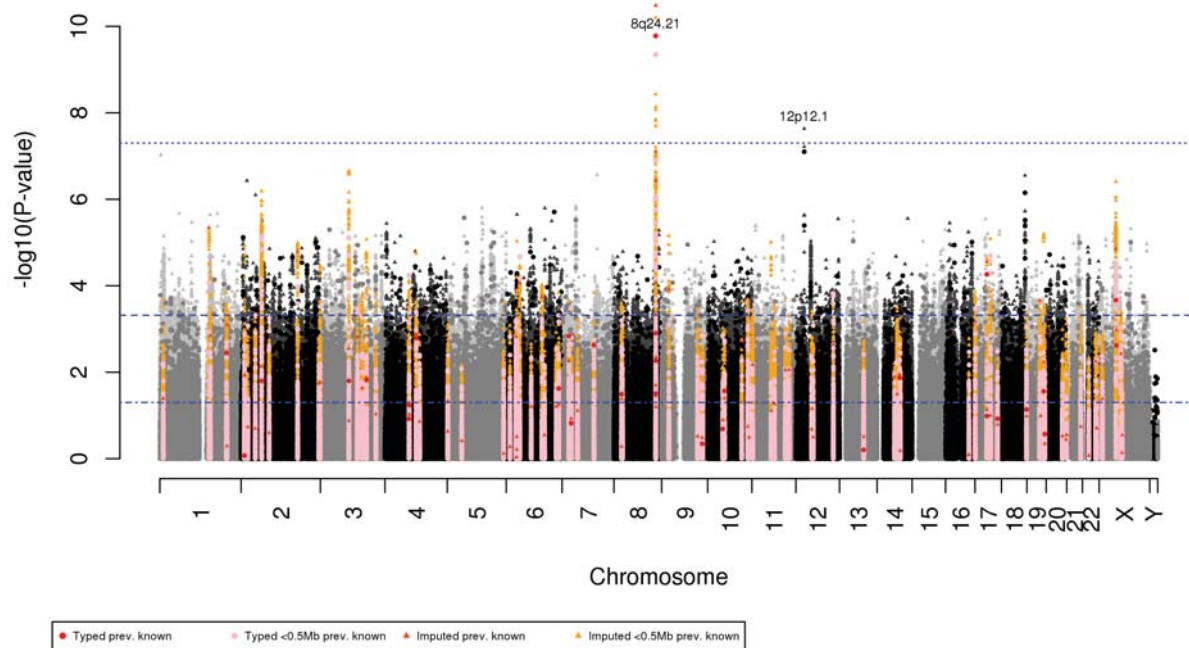
(S1.18) Round 2 of Meta-analysis random effects. $\lambda = 0.872$



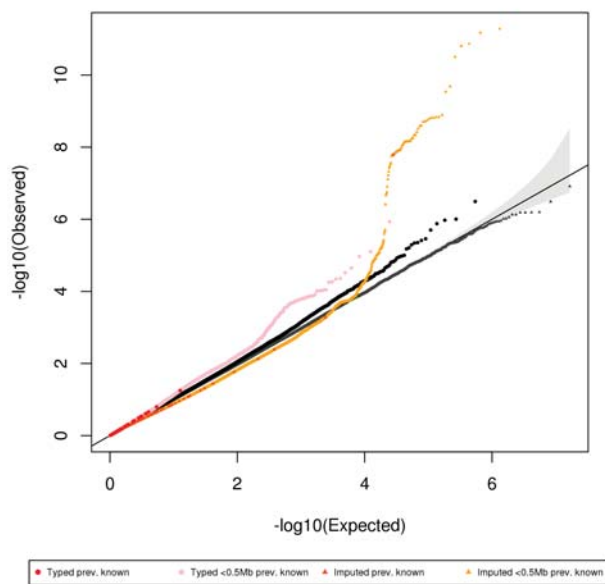
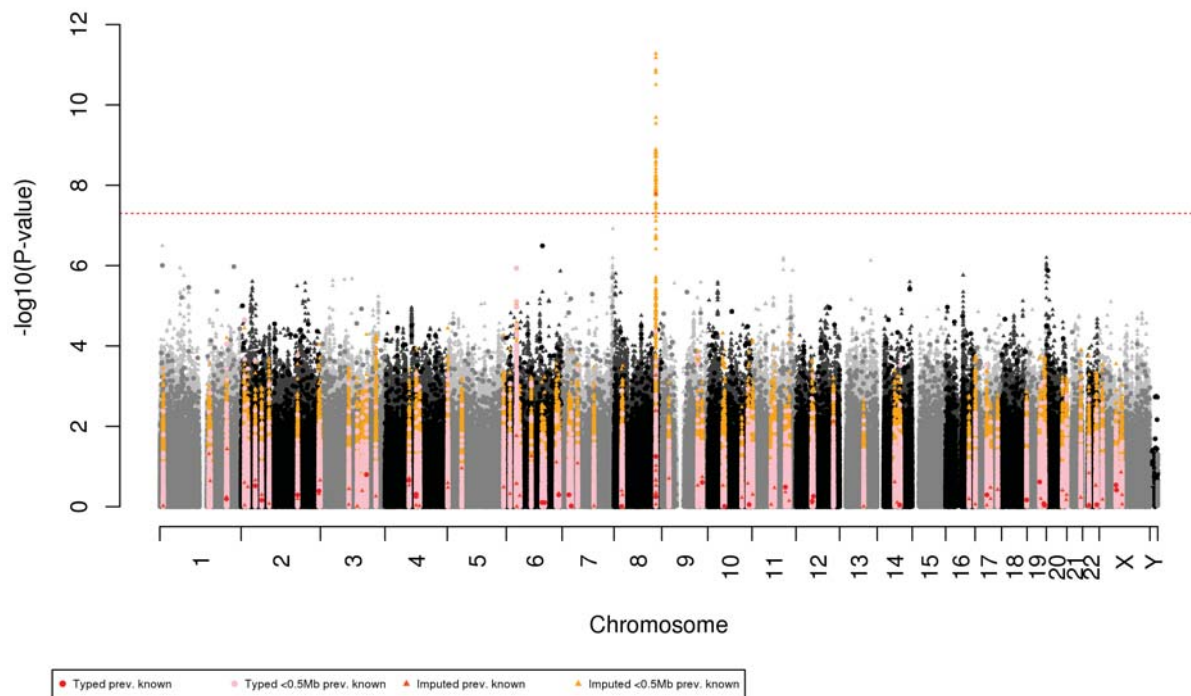
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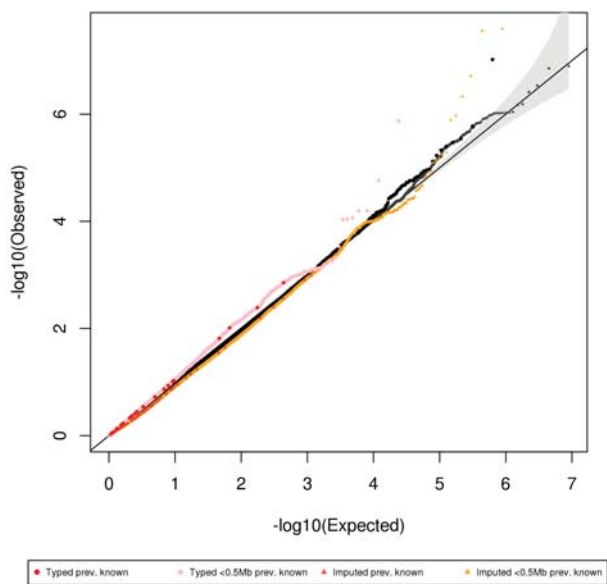
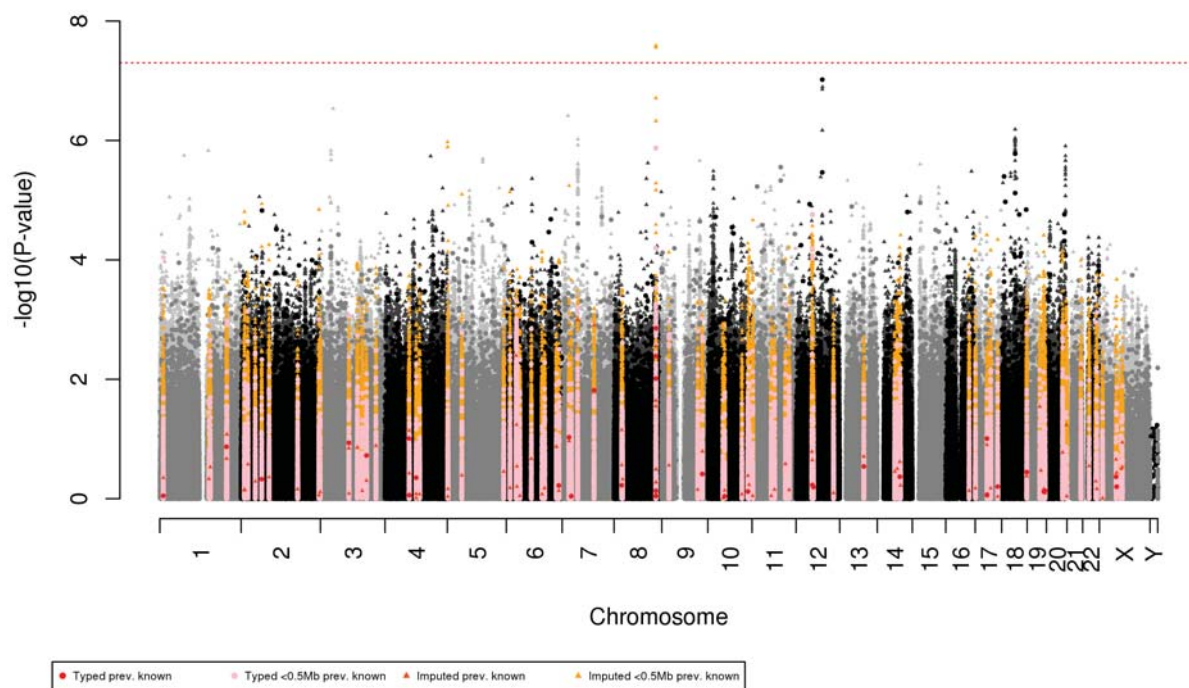
(S1.19) Round 3 of non-Hispanic white race/ethnicity. $\lambda_{\text{typed}} = 1.065$, $\lambda_{\text{imputed}} = 1.046$



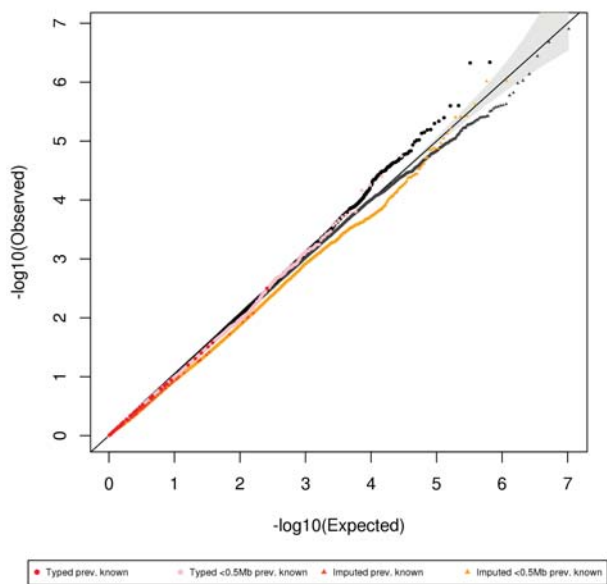
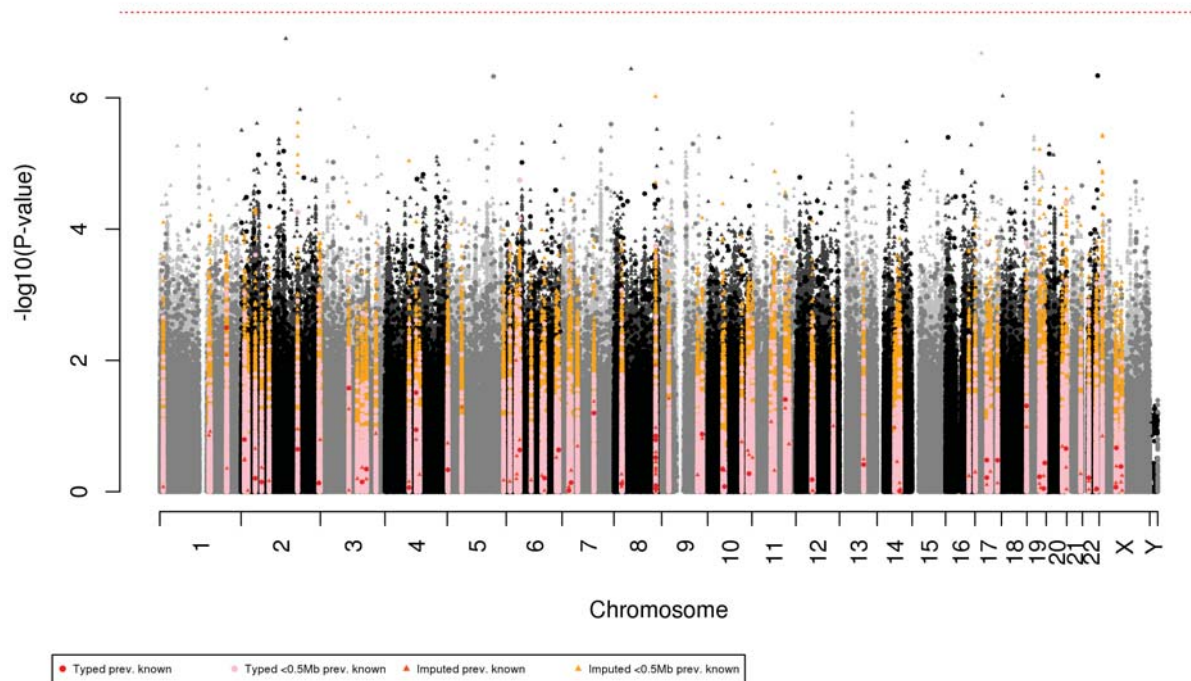
(S1.20) Round 3 of African American race/ethnicity. $\lambda_{\text{typed}} = 1.038$, $\lambda_{\text{imputed}} = 1.000$



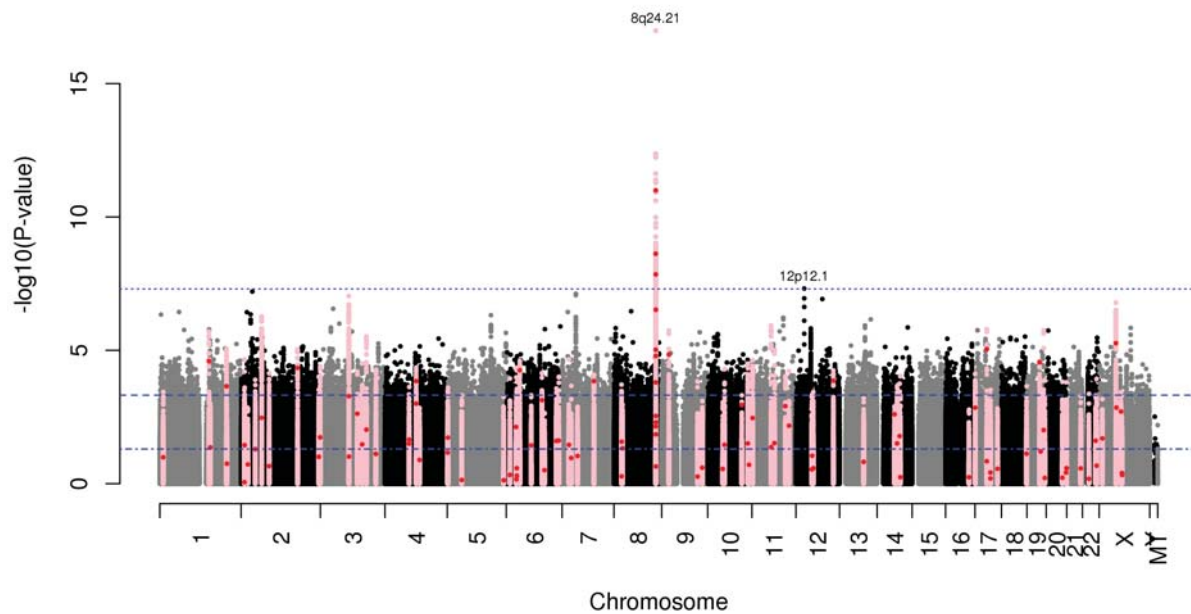
(S1.21) Round 3 of Asian race/ethnicity. $\lambda_{\text{typed}} = 1.029$, $\lambda_{\text{imputed}} = 0.983$



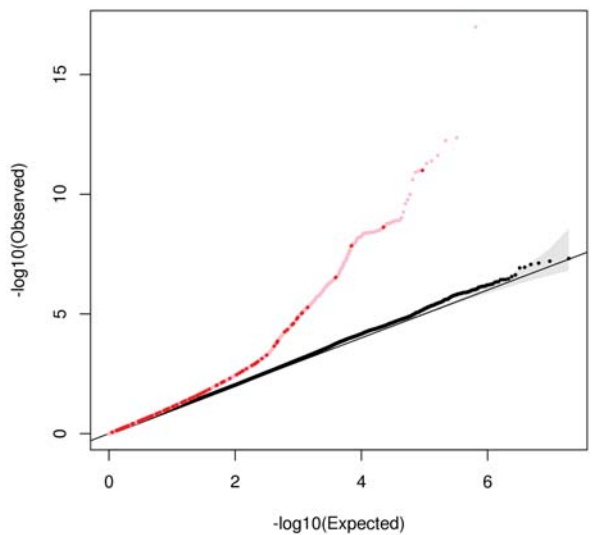
(S1.22) Round 3 of Latino race/ethnicity. $\lambda_{\text{typed}} = 1.030$, $\lambda_{\text{imputed}} = 0.996$



(S1.23) Round 3 of Meta-analysis fixed effects. $\lambda = 1.053$

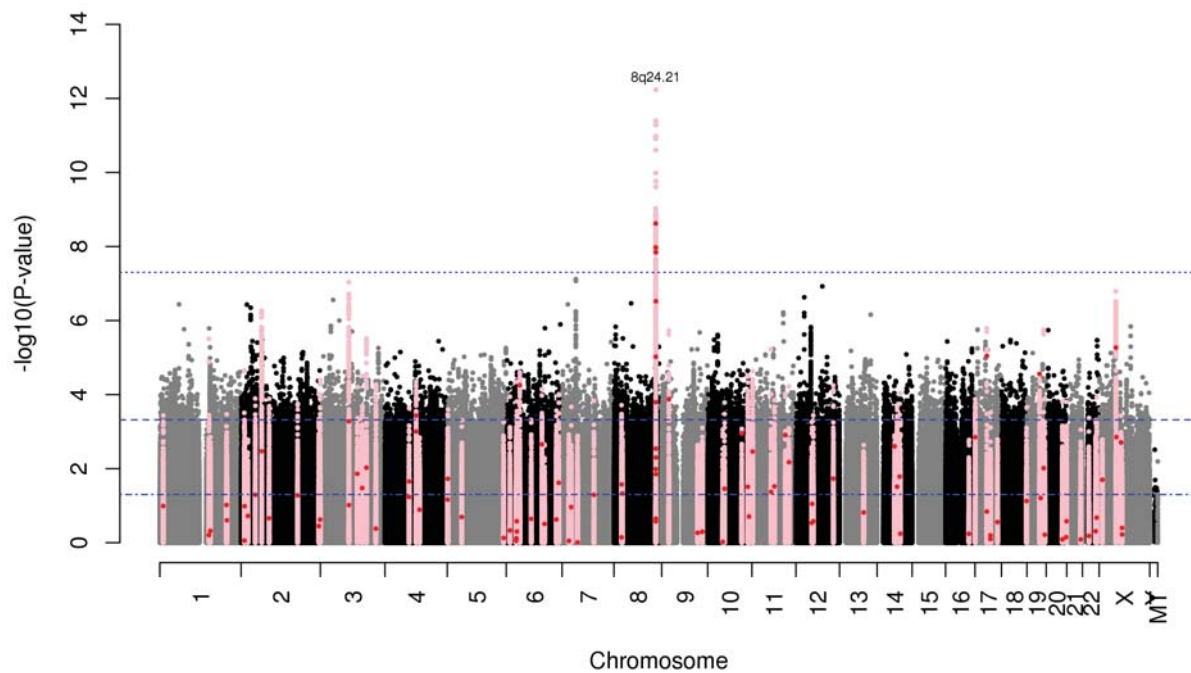


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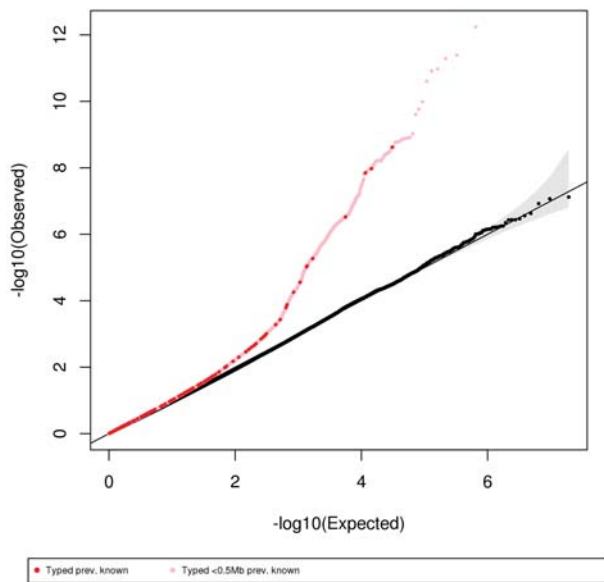


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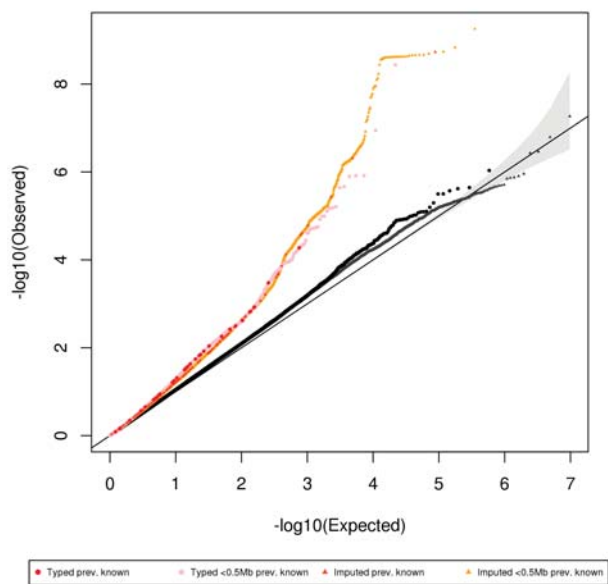
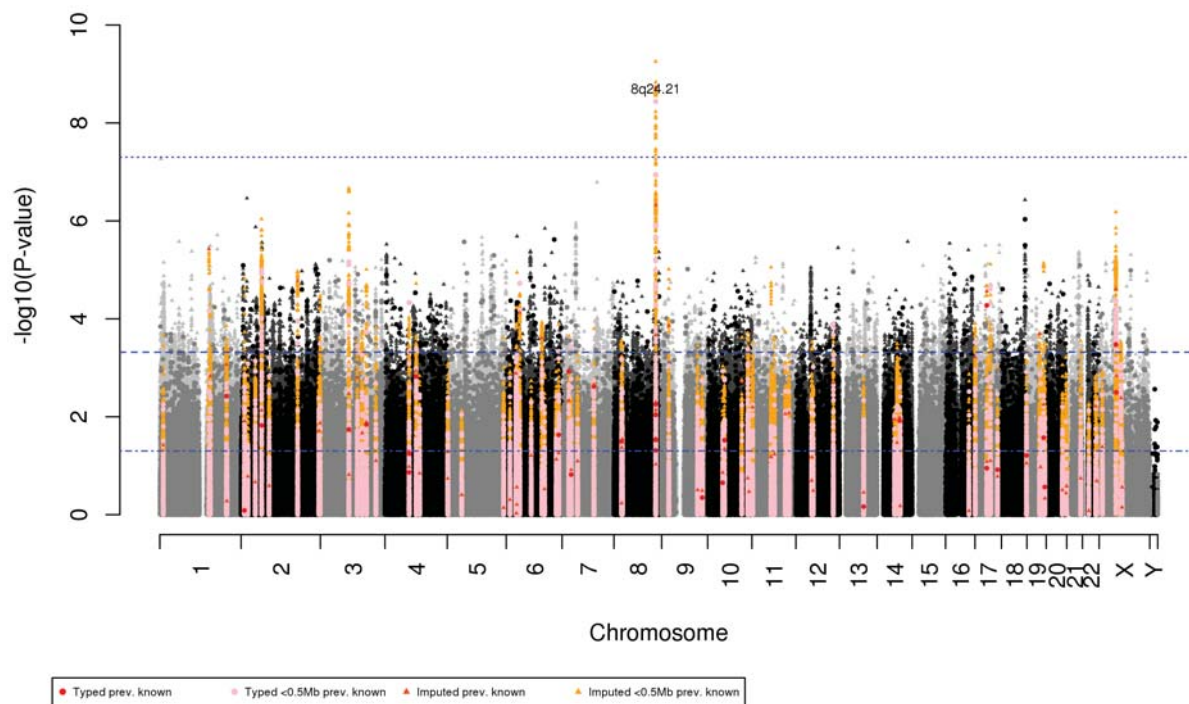
(S1.24) Round 3 of Meta-analysis random effects. $\lambda = 0.872$



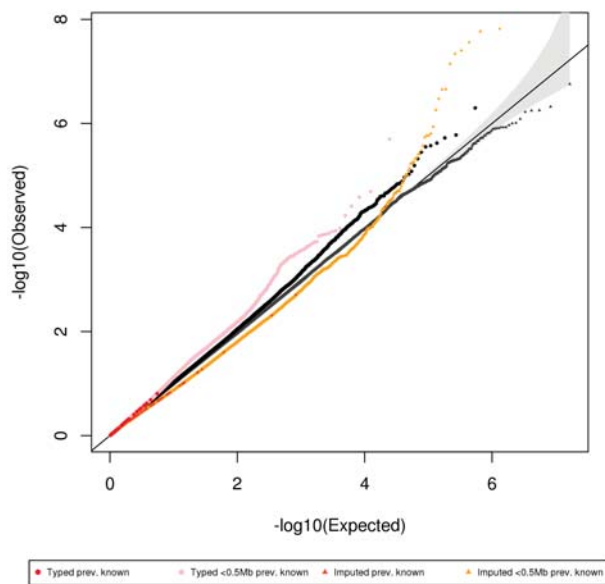
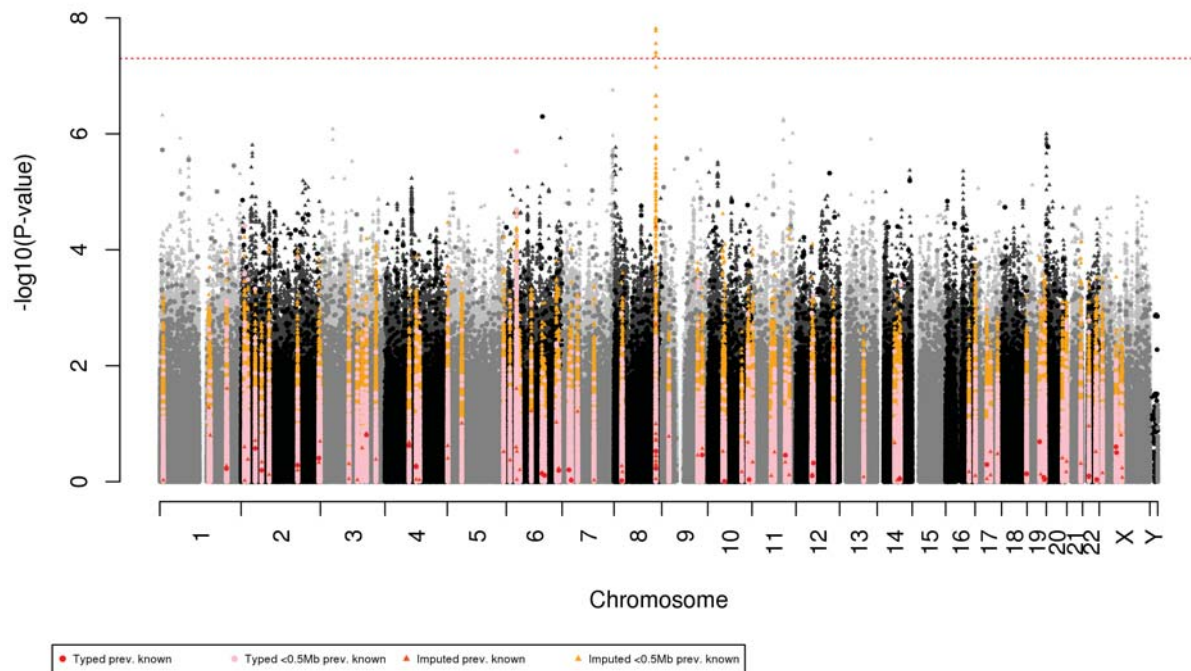
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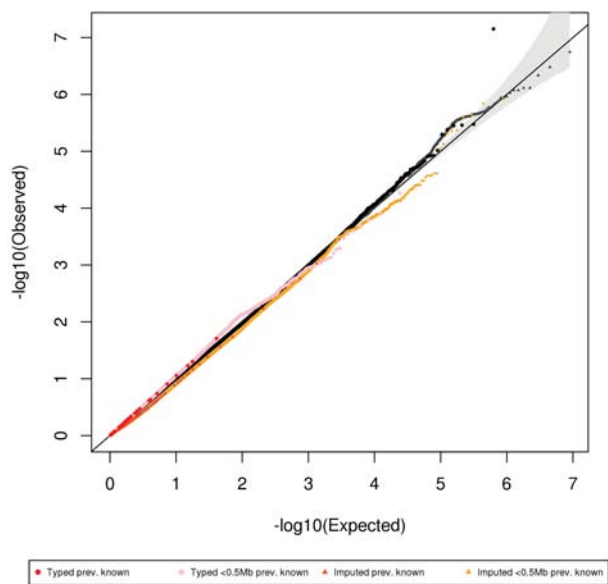
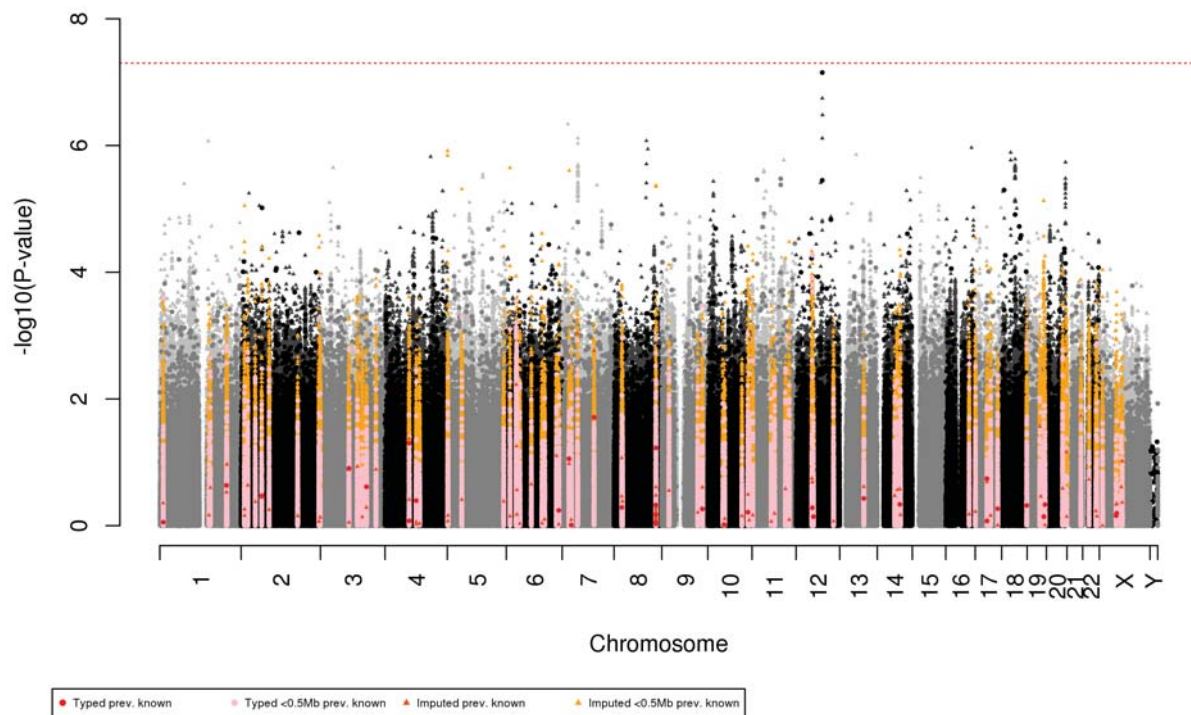
(S1.25) Round 4 of non-Hispanic white race/ethnicity. $\lambda_{\text{typed}} = 1.065$, $\lambda_{\text{imputed}} = 1.046$



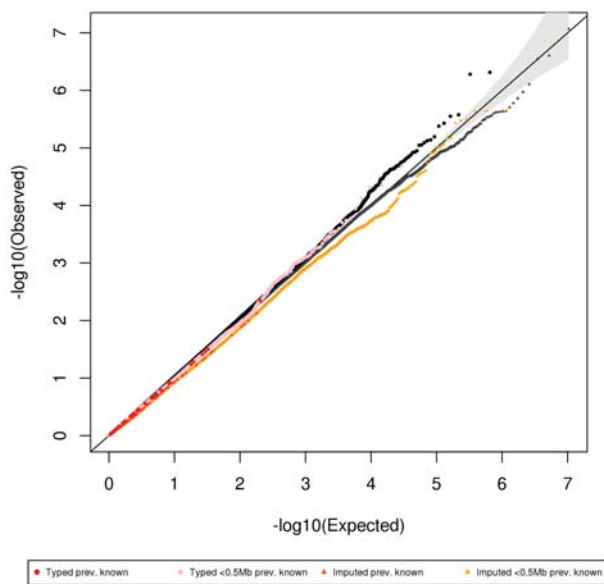
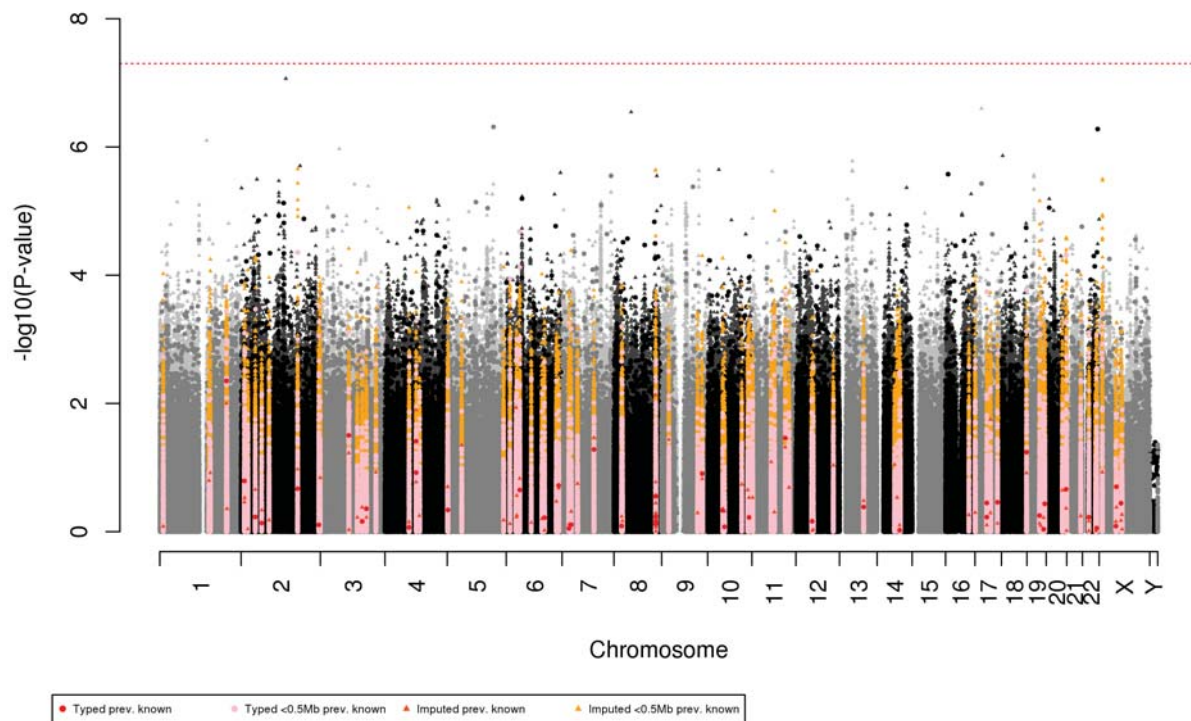
(S1.26) Round 4 of African American race/ethnicity. $\lambda_{\text{typed}} = 1.035$, $\lambda_{\text{imputed}} = 0.999$



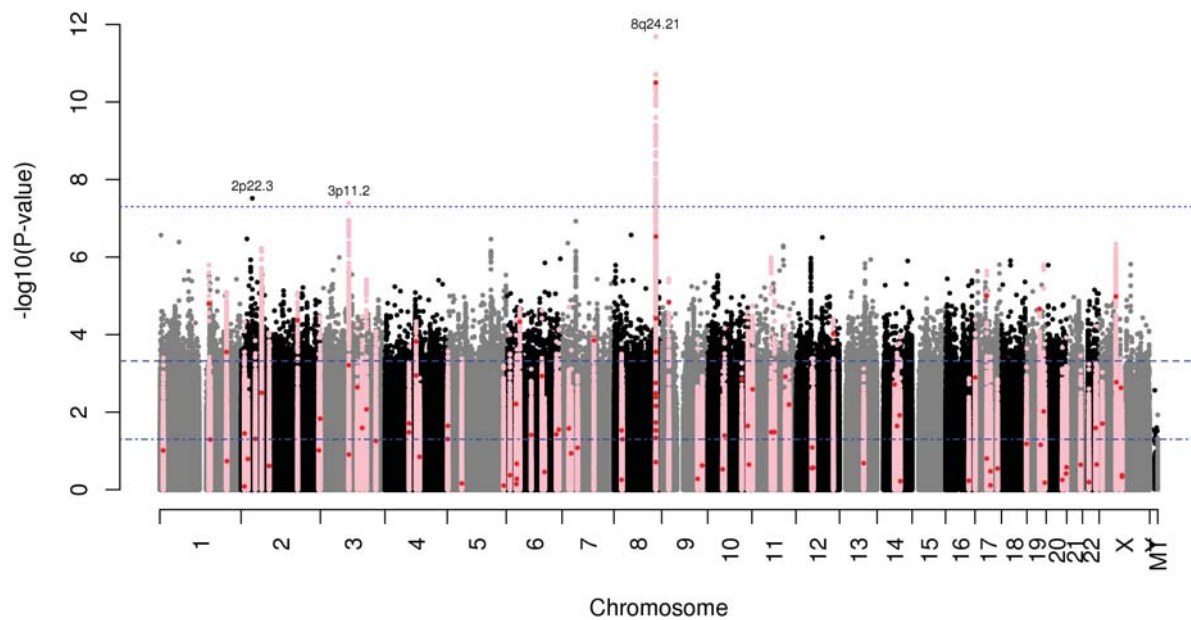
(S1.27) Round 4 of Asian race/ethnicity. $\lambda_{\text{typed}} = 1.032$, $\lambda_{\text{imputed}} = 0.985$



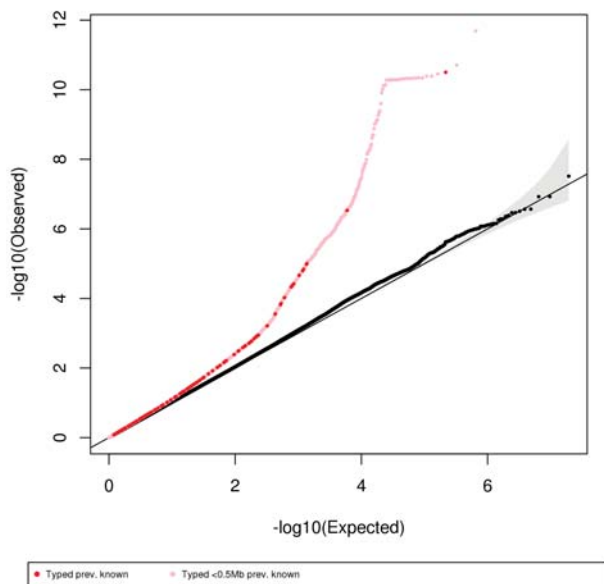
(S1.28) Round 4 of Latino race/ethnicity. $\lambda_{\text{typed}} = 1.028$, $\lambda_{\text{imputed}} = 0.997$



(S1.29) Round 4 of Meta-analysis fixed effects. $\lambda = 1.055$

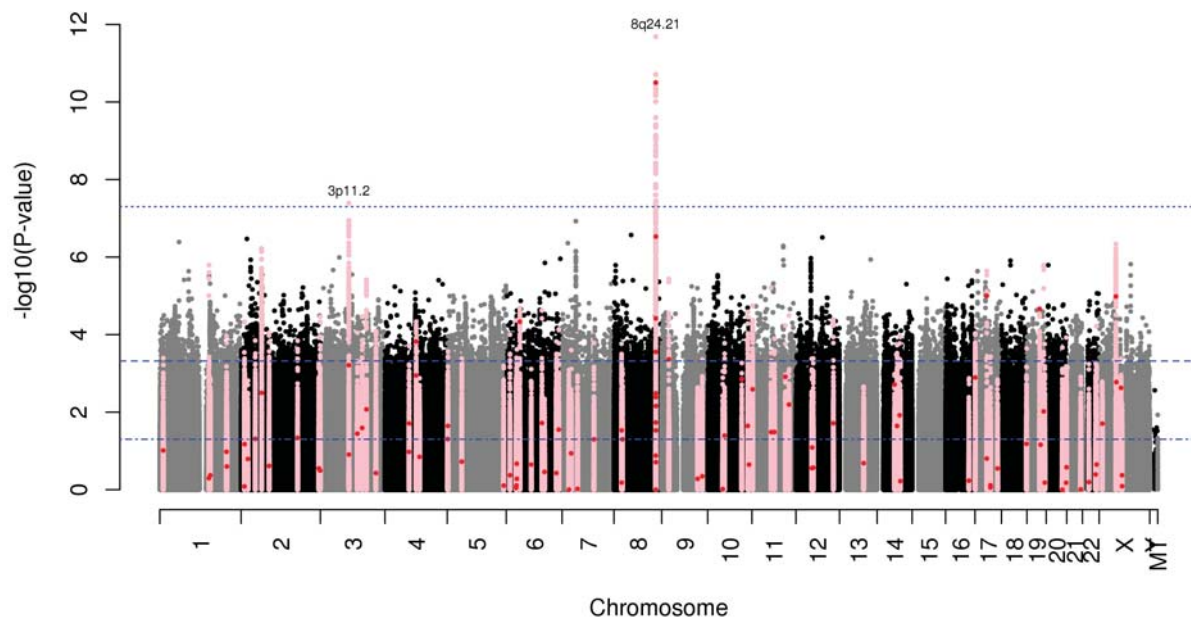


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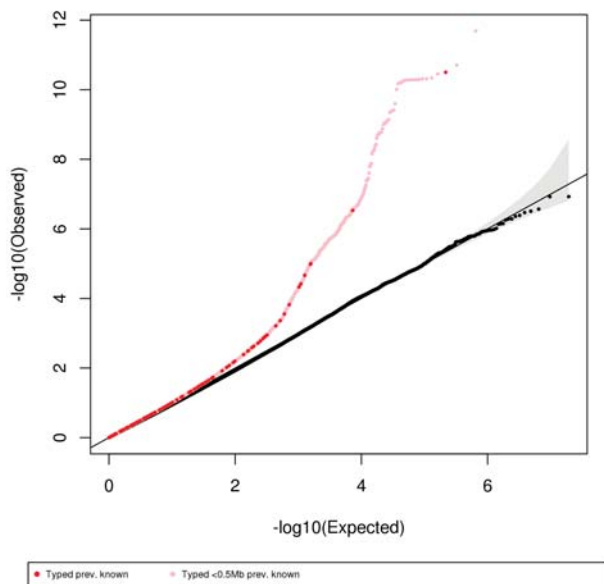


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(S1.30) Round 4 of Meta-analysis random effects. $\lambda = 0.874$

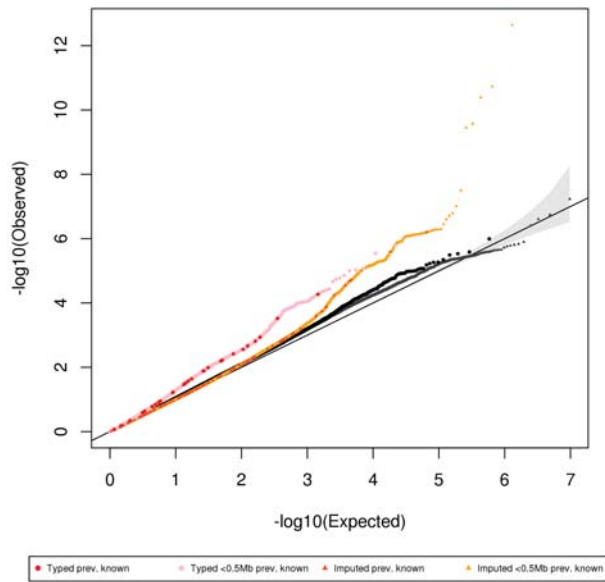
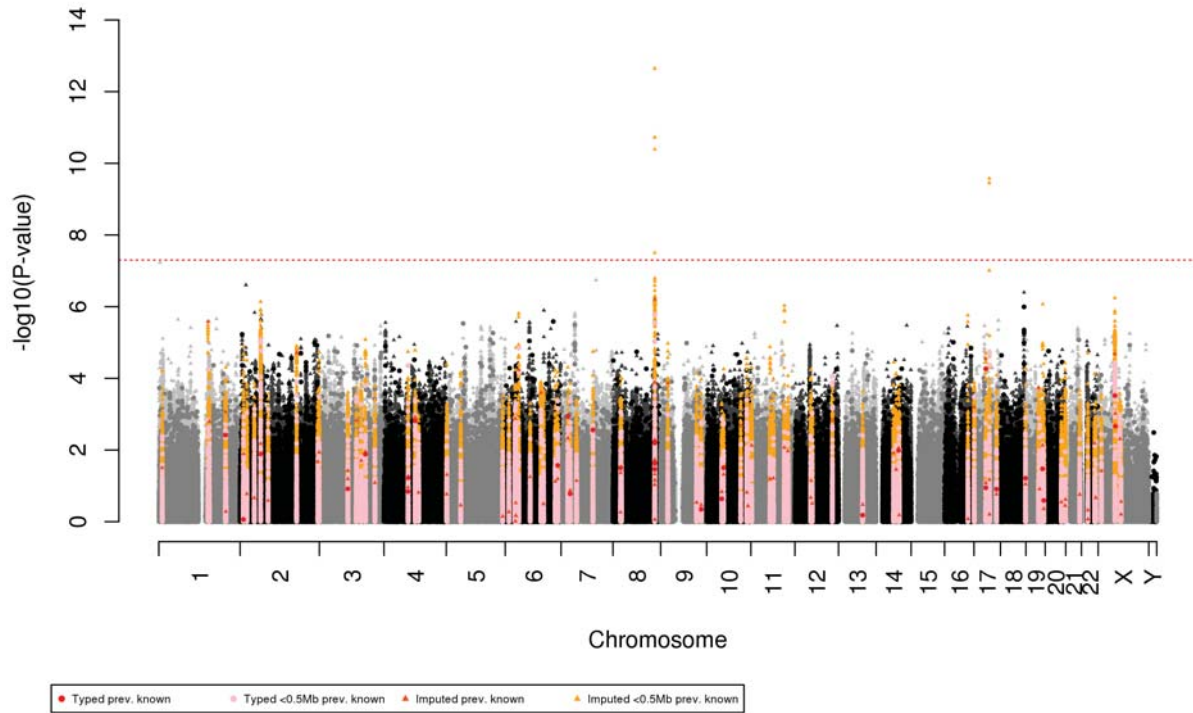


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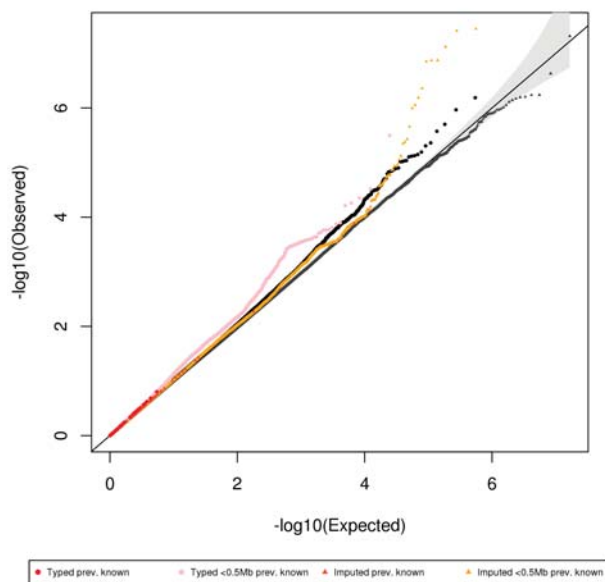
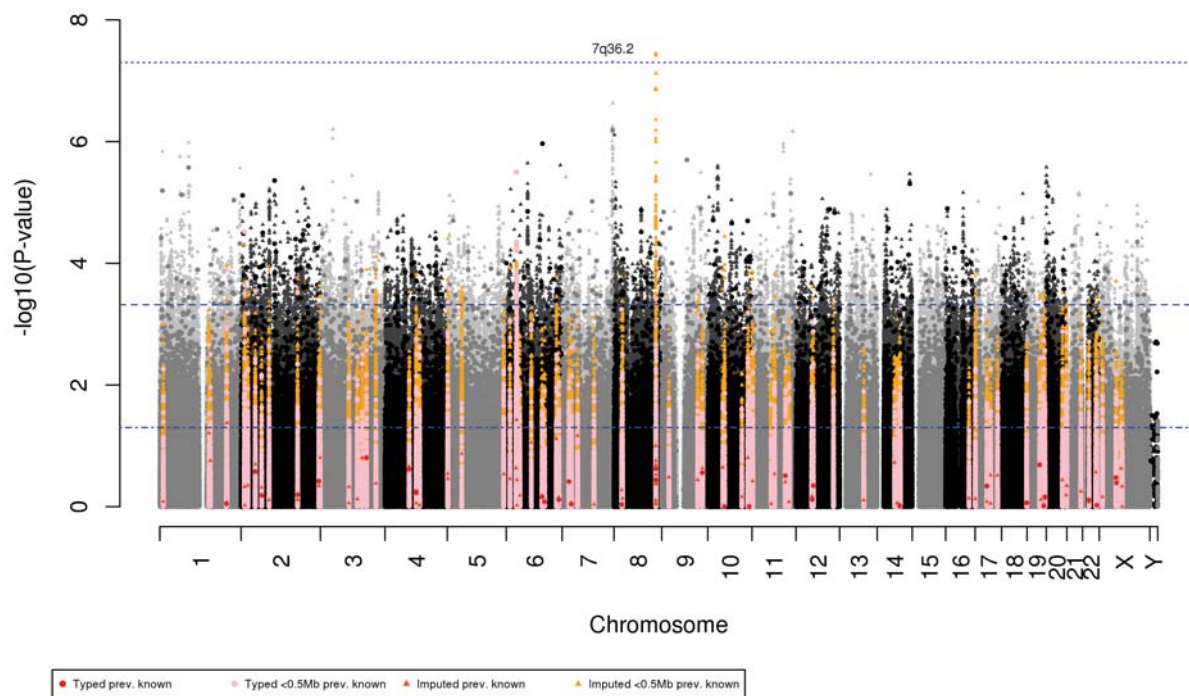


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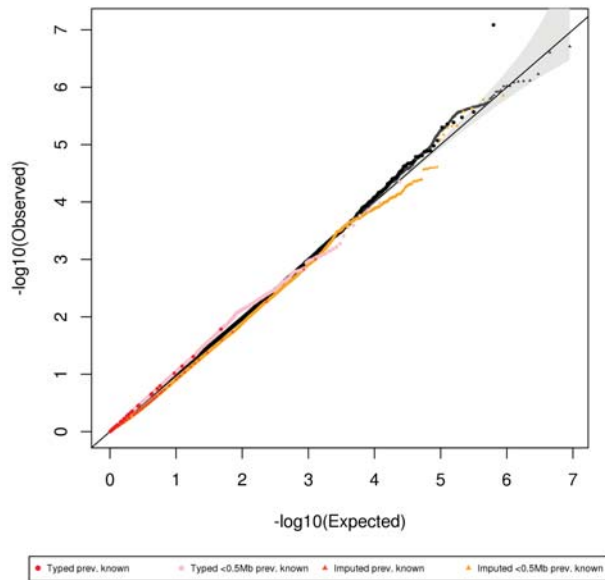
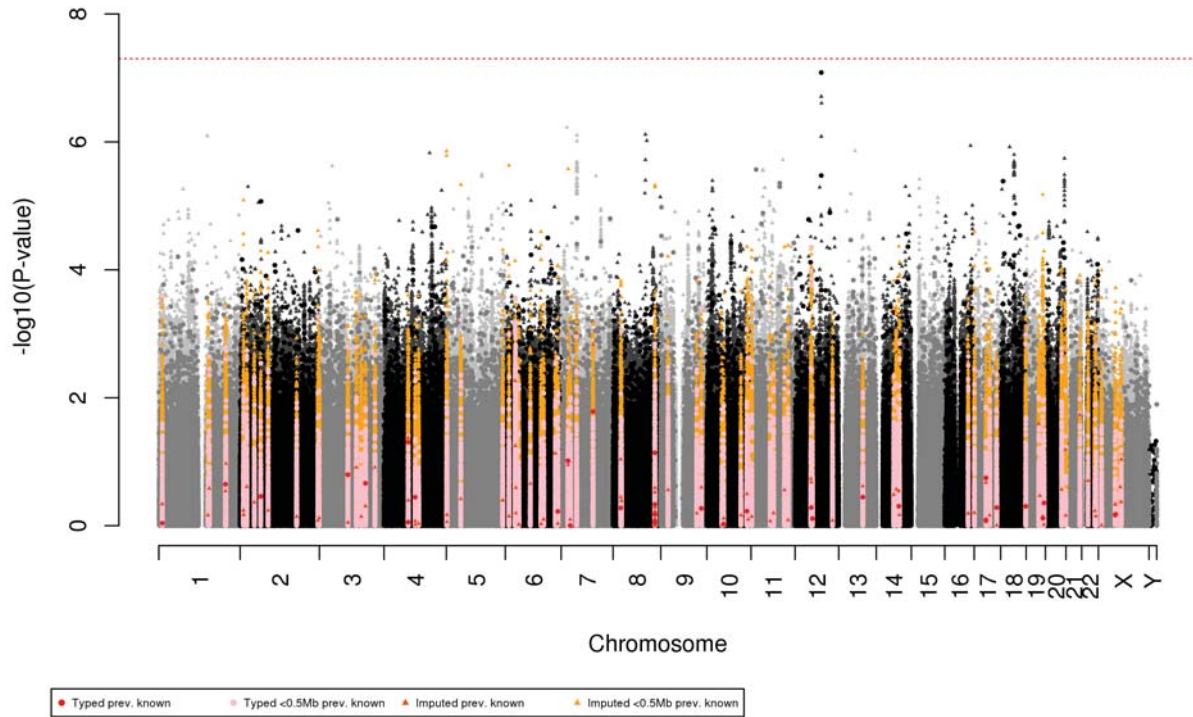
(S1.31) Round 5 of non-Hispanic white race/ethnicity. $\lambda_{\text{typed}} = 1.063$, $\lambda_{\text{imputed}} = 1.045$



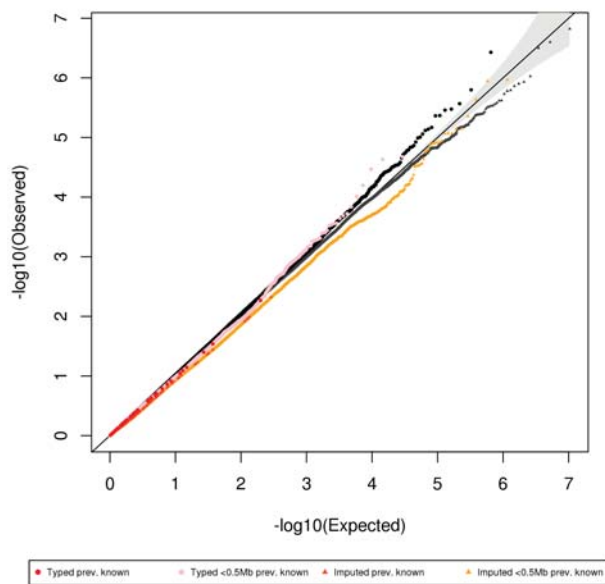
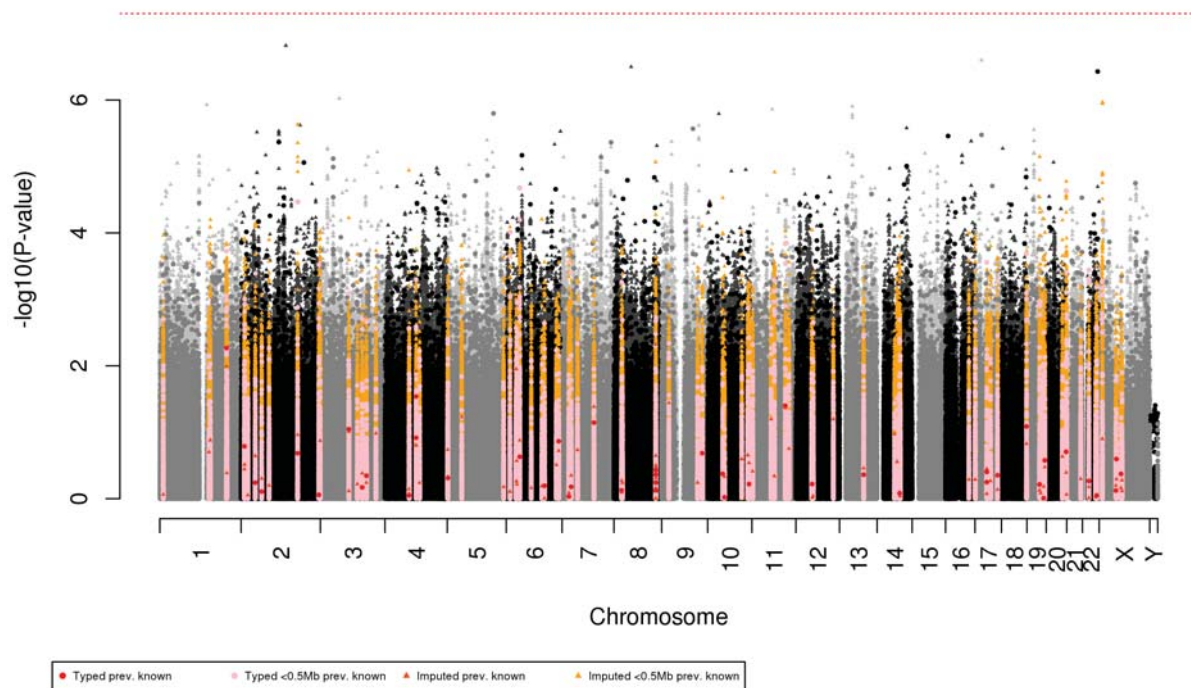
(S1.32) Round 5 of African American race/ethnicity. $\lambda_{\text{typed}} = 1.037$, $\lambda_{\text{imputed}} = 0.999$



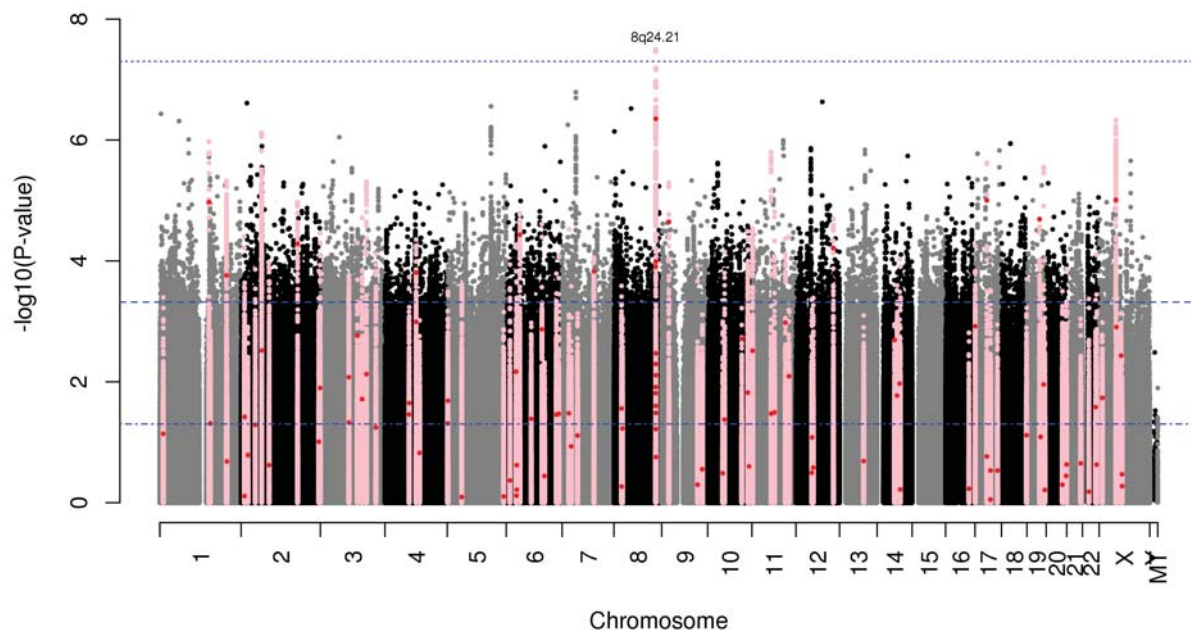
(S1.33) Round 5 of Asian race/ethnicity. $\lambda_{\text{typed}} = 1.032$, $\lambda_{\text{imputed}} = 0.984$



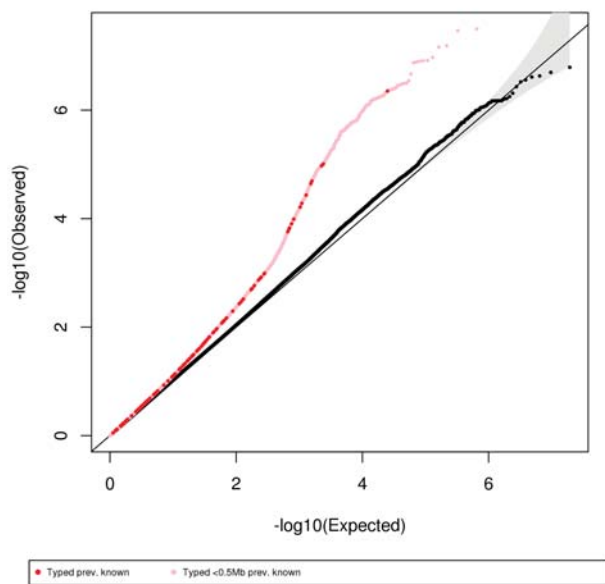
(S1.34) Round 5 of Latino race/ethnicity. $\lambda_{\text{typed}} = 1.024$, $\lambda_{\text{imputed}} = 0.995$



(S1.35) Round 5 of Meta-analysis fixed effects. $\lambda = 1.057$

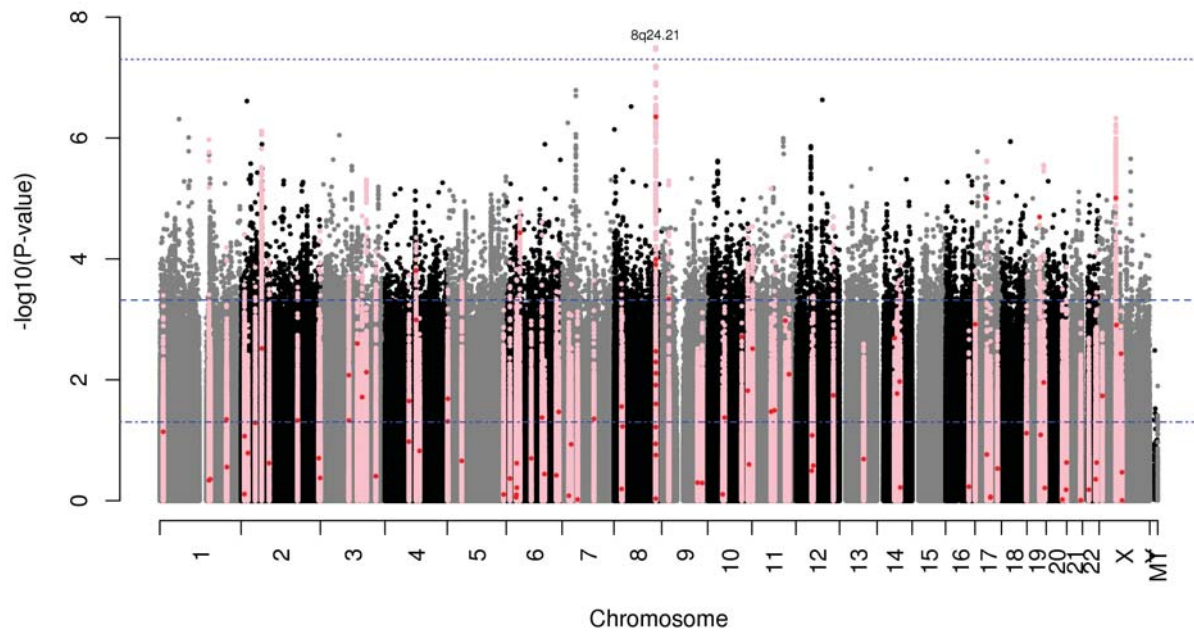


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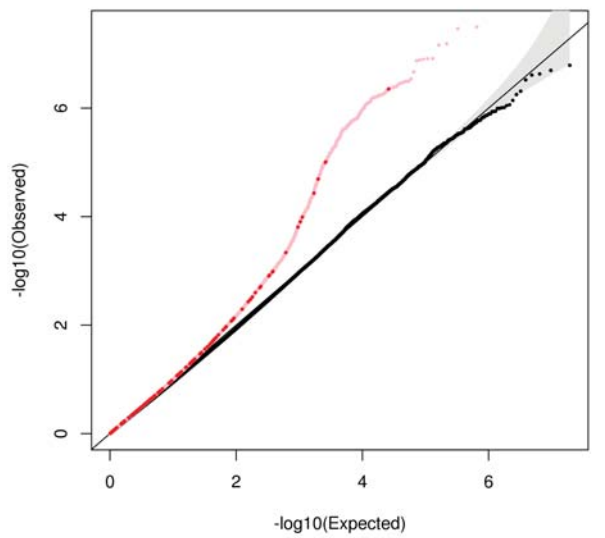


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(S1.36) Round 5 of Meta-analysis random effects. $\lambda = 0.873$



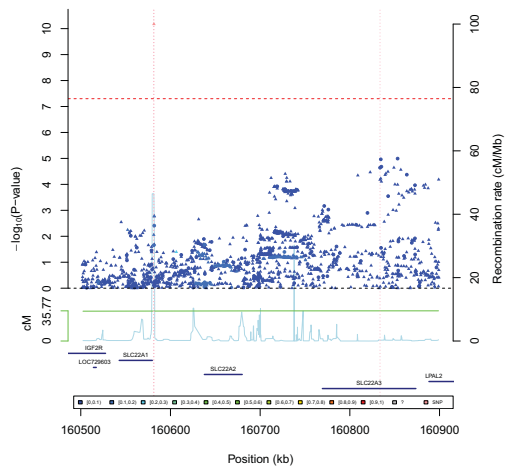
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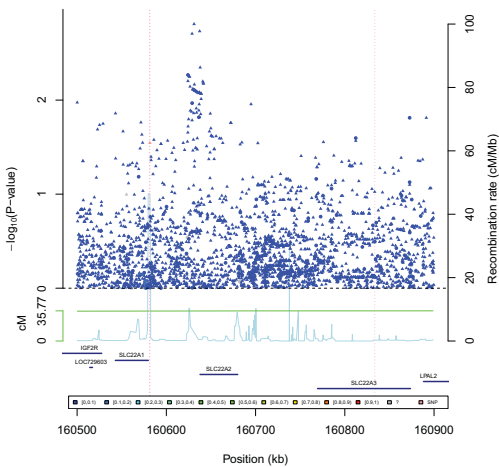
• Typed prev. known • Typed <0.5Mb prev. known

Figure S2: Local plots of the novel replicated hit (rs4646284), and the suggestive locus (rs2659124), in the four Kaiser groups and the meta-analysis of the Kaiser groups. FE, fixed effects; RE, random effects.

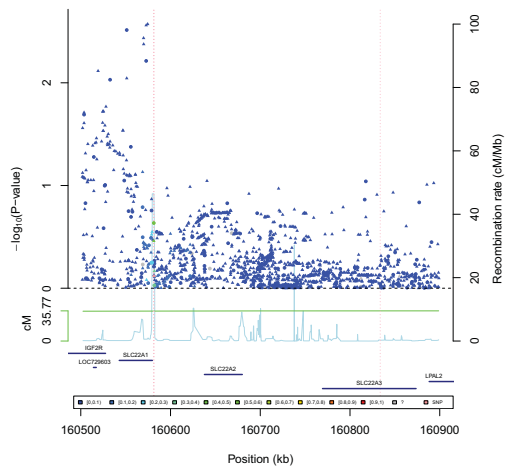
(S2.1) rs4646284 (Unconditional) - KP NH white



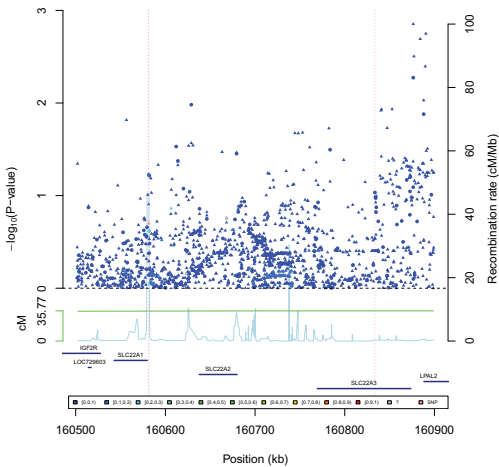
(S2.2) rs4646284 (Unconditional) - KP Af-Amer



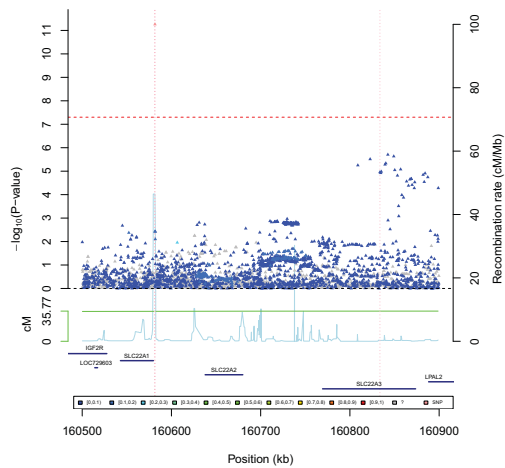
(S2.3) rs4646284 (Unconditional) - KP Asian



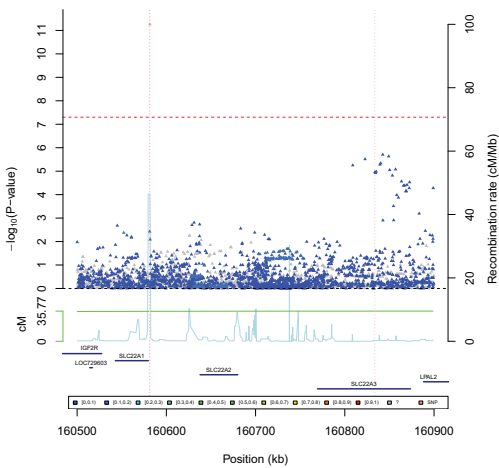
(S2.4) rs4646284 (Unconditional) - KP Latino



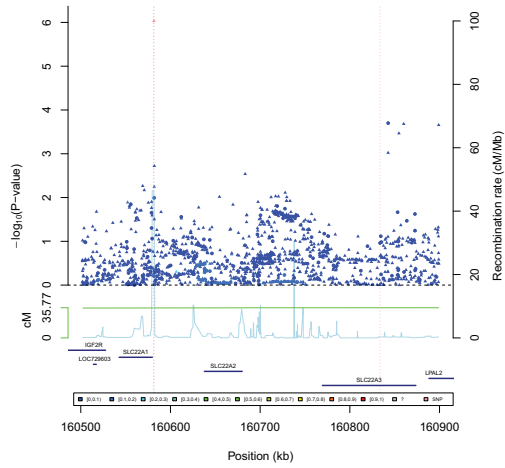
(S2.5) rs4646284 (Unconditional) - KP Meta FE (LD pattern EUR)



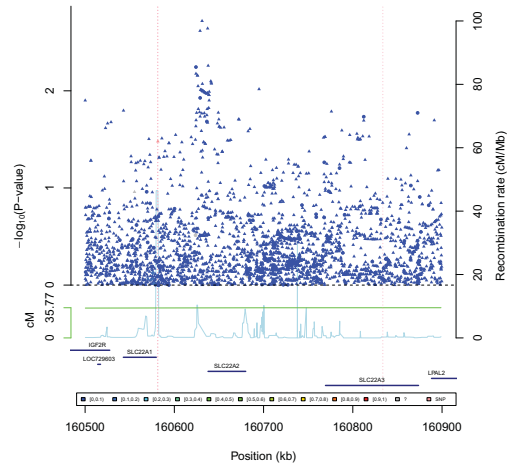
(S2.6) rs4646284 (Unconditional) - KP Meta RE (LD pattern EUR)



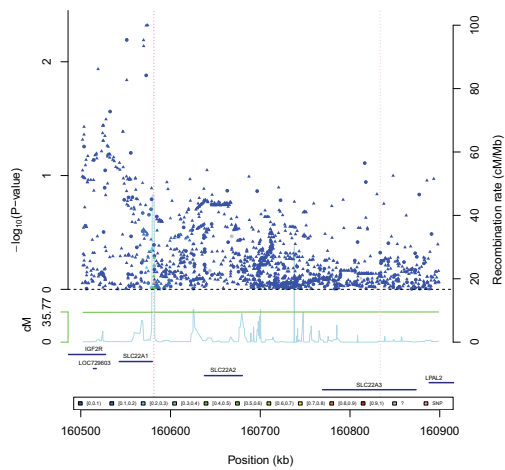
(S2.7) rs4646284 (Condition on rs9364554 and rs651164) - KP NH white



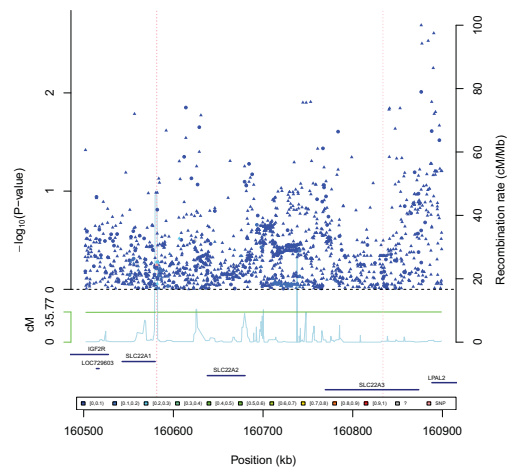
(S2.8) rs4646284 (Condition on rs9364554 and rs651164) - KP Af-Amer



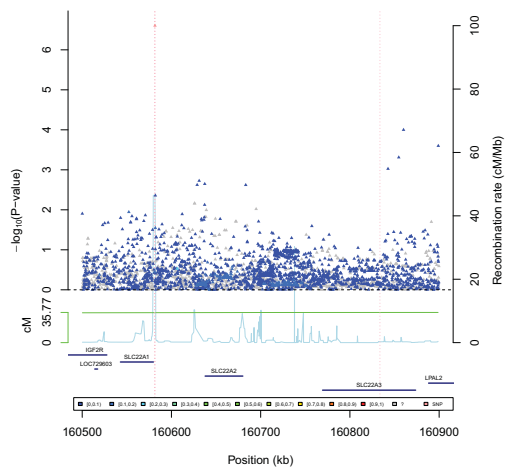
(S2.9) rs4646284 (Condition on rs9364554 and rs651164) - KP Asian



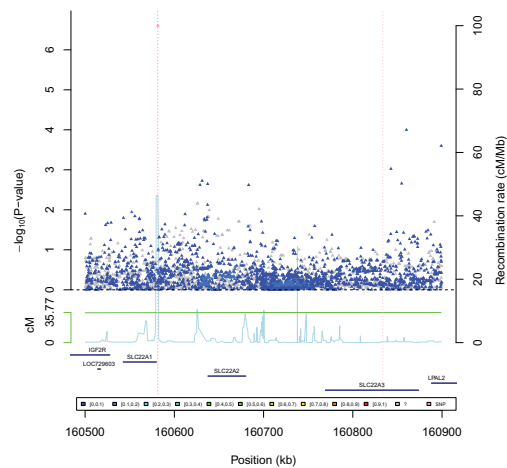
(S2.10) rs4646284 (Condition on rs9364554 and rs651164) - KP Latino



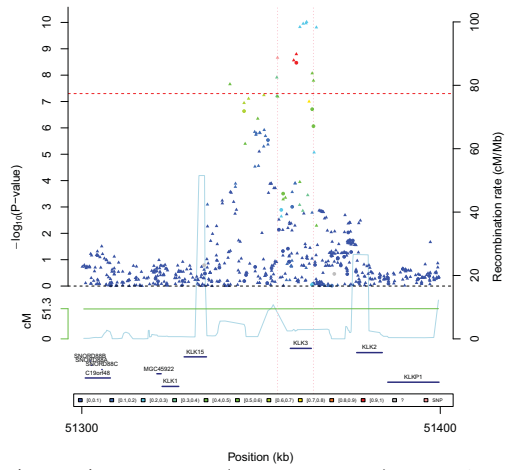
(S2.11) rs4646284 (Condition on rs9364554 and rs651164) - KP Meta FE (LD pattern EUR)



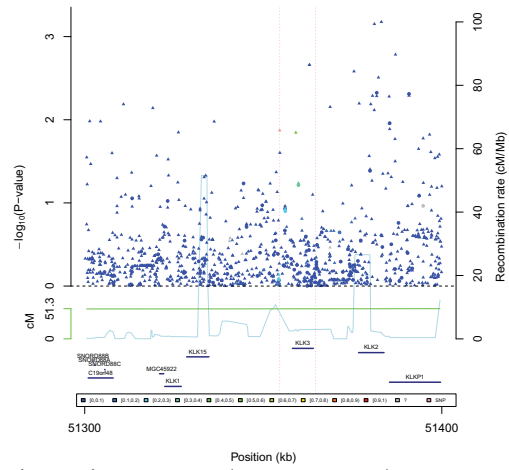
(S2.12) rs4646284 (Condition on rs9364554 and rs651164) - KP Meta RE (LD pattern EUR)



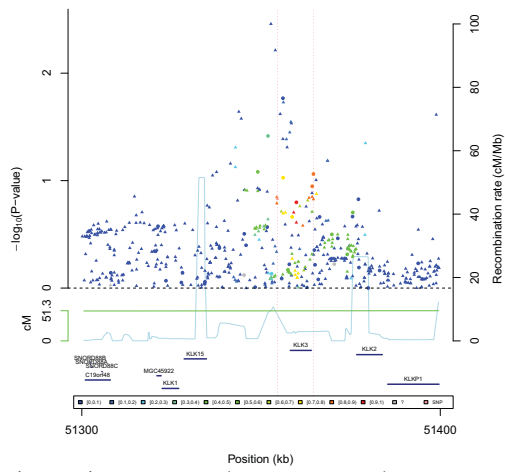
(S2.13) rs2659124 (Unconditional) - KP NH white



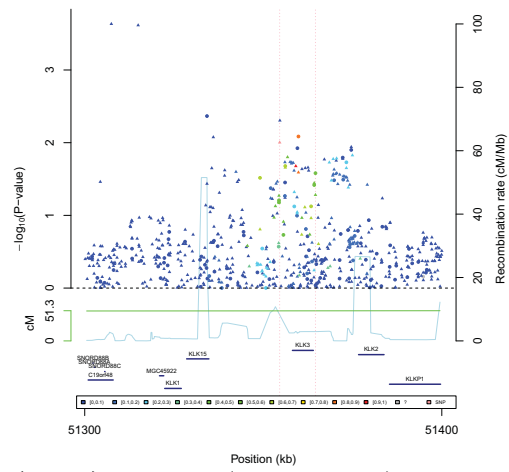
(S2.14) rs2659124 (Unconditional) - KP Af-Amer



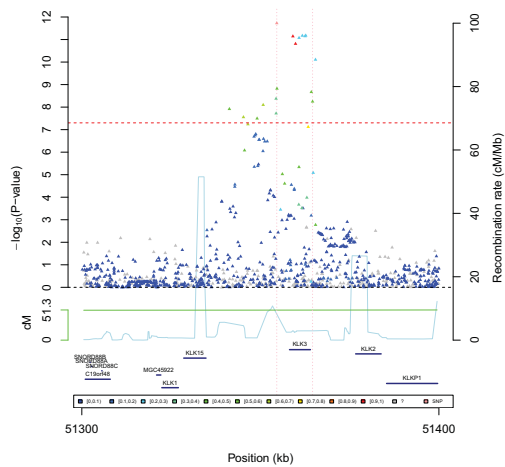
(S2.15) rs2659124 (Unconditional) - KP Asian



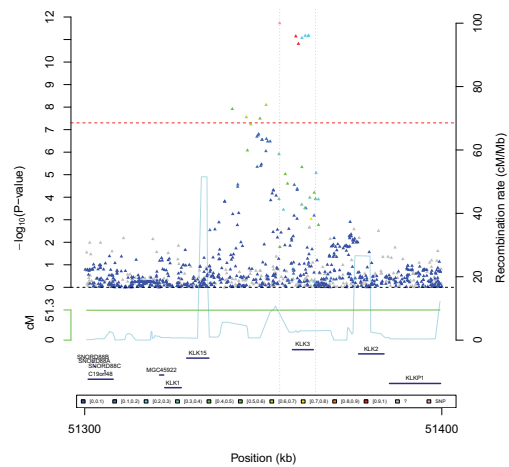
(S2.16) rs2659124 (Unconditional) - KP Latino



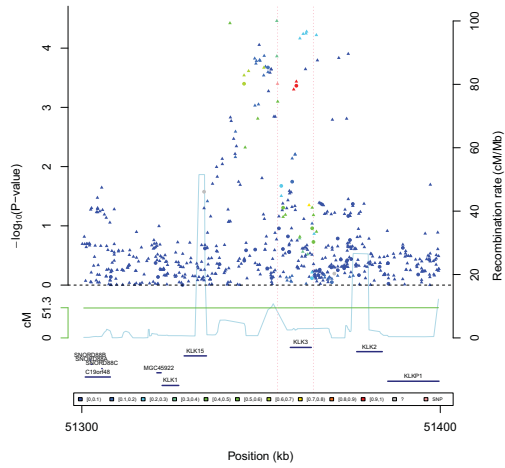
(S2.17) rs2659124 (Unconditional) - KP Meta FE (LD pattern EUR)



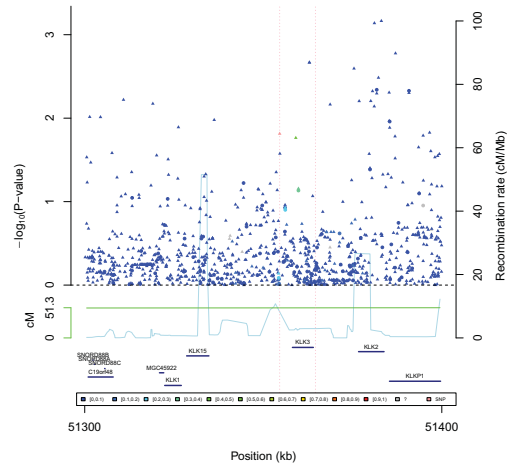
(S2.18) rs2659124 (Unconditional) - KP Meta RE (LD pattern EUR)



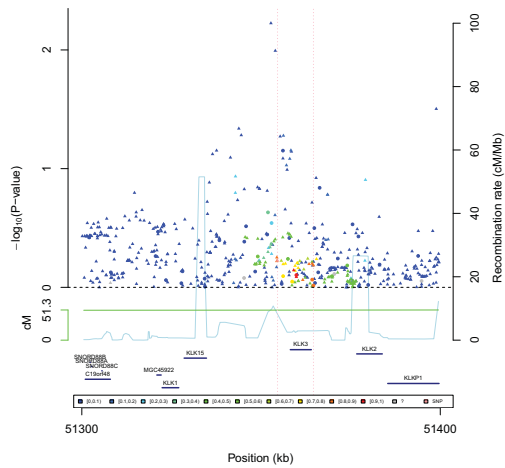
(S2.19) rs2659124 (Condition on rs2735839) - KP NH white



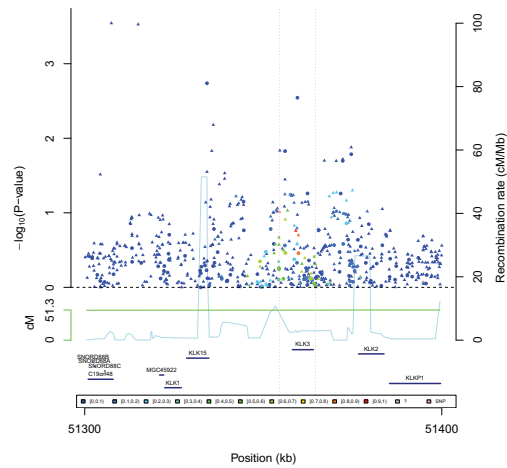
(S2.20) rs2659124 (Condition on rs2735839) - KP Af-Amer



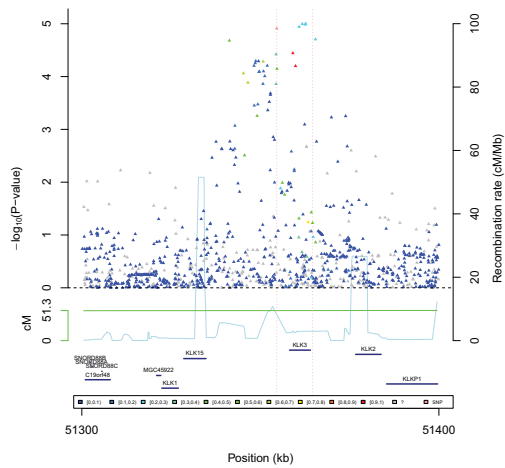
(S2.21) rs2659124 (Condition on rs2735839) - KP Asian



(S2.22) rs2659124 (Condition on rs2735839) - KP Latino



(S2.23) rs2659124 (Condition on rs2735839) - KP Meta FE (LD pattern EUR)



(S2.24) rs2659124 (Condition on rs2735839) - KP Meta RE (LD pattern EUR)

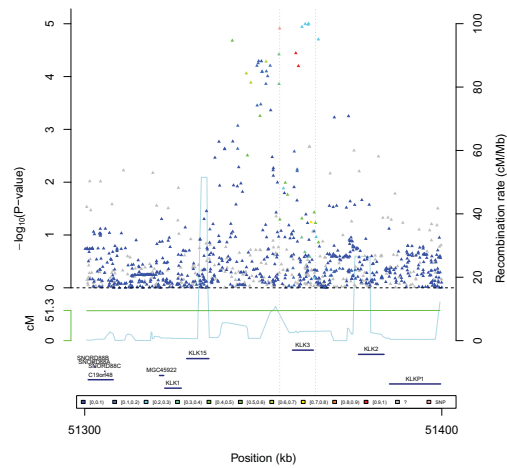


Figure S3: cis-eQTL for the two most significant genes (SLC22A1 and SLC22A3) surrounding the rs4646284 locus in the Mayo clinic dataset. The rs4646284 is the most significant locus at both genes, and is denoted in the figure by its b37 chromosome position chr6:160581543:I.

(S3.1) Cis-eQTL of SLC22A1

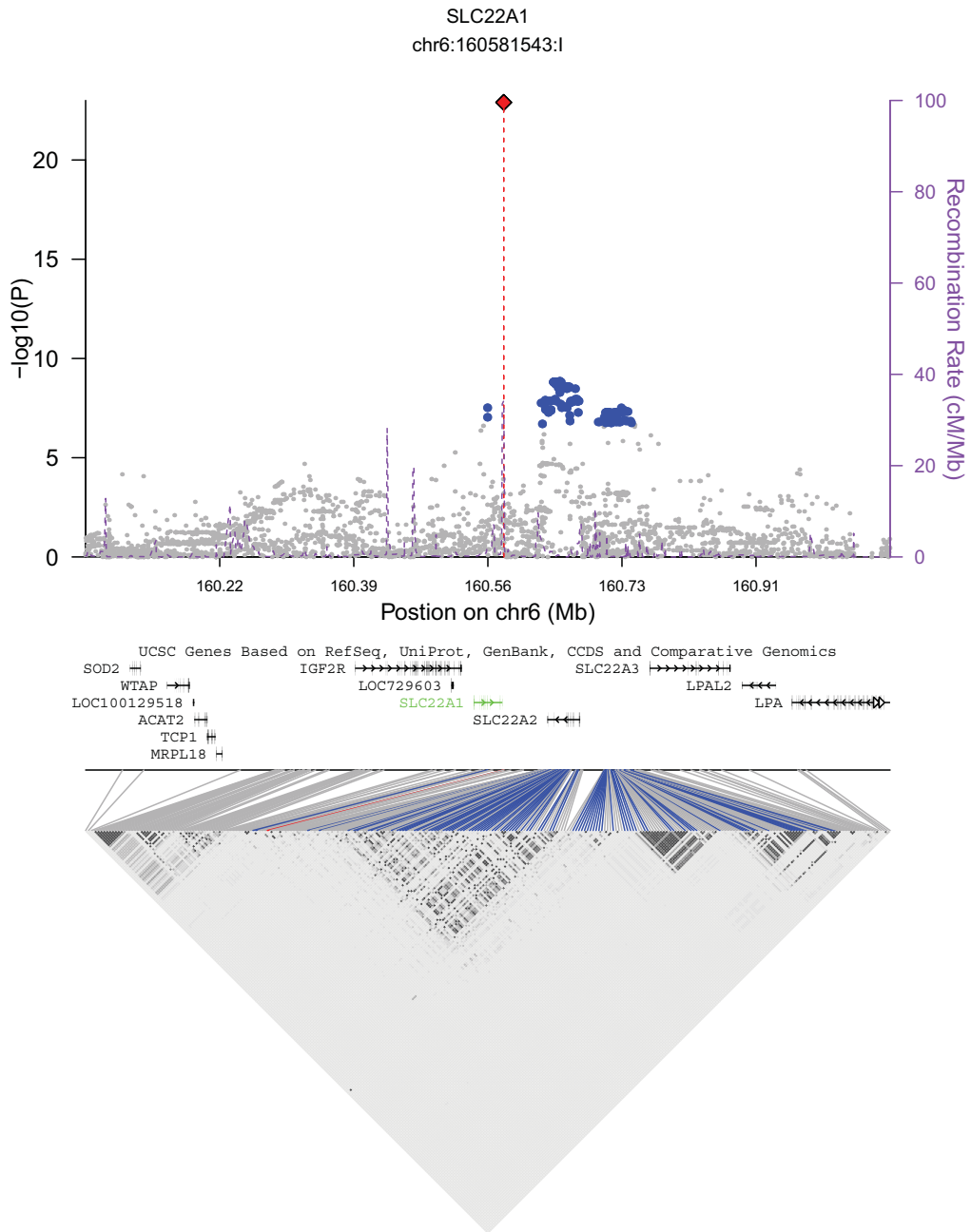


Figure S4: Comparison of variant associations from previous reports and results from each of the four major Kaiser race/ethnicity groups. Plotted values are the log odds ratios from pervious and current studies. Lines denote the 95% confidence intervals for the respective studies. The blue line is the $y=x$ line, and the red line is the regression line (with no intercept).

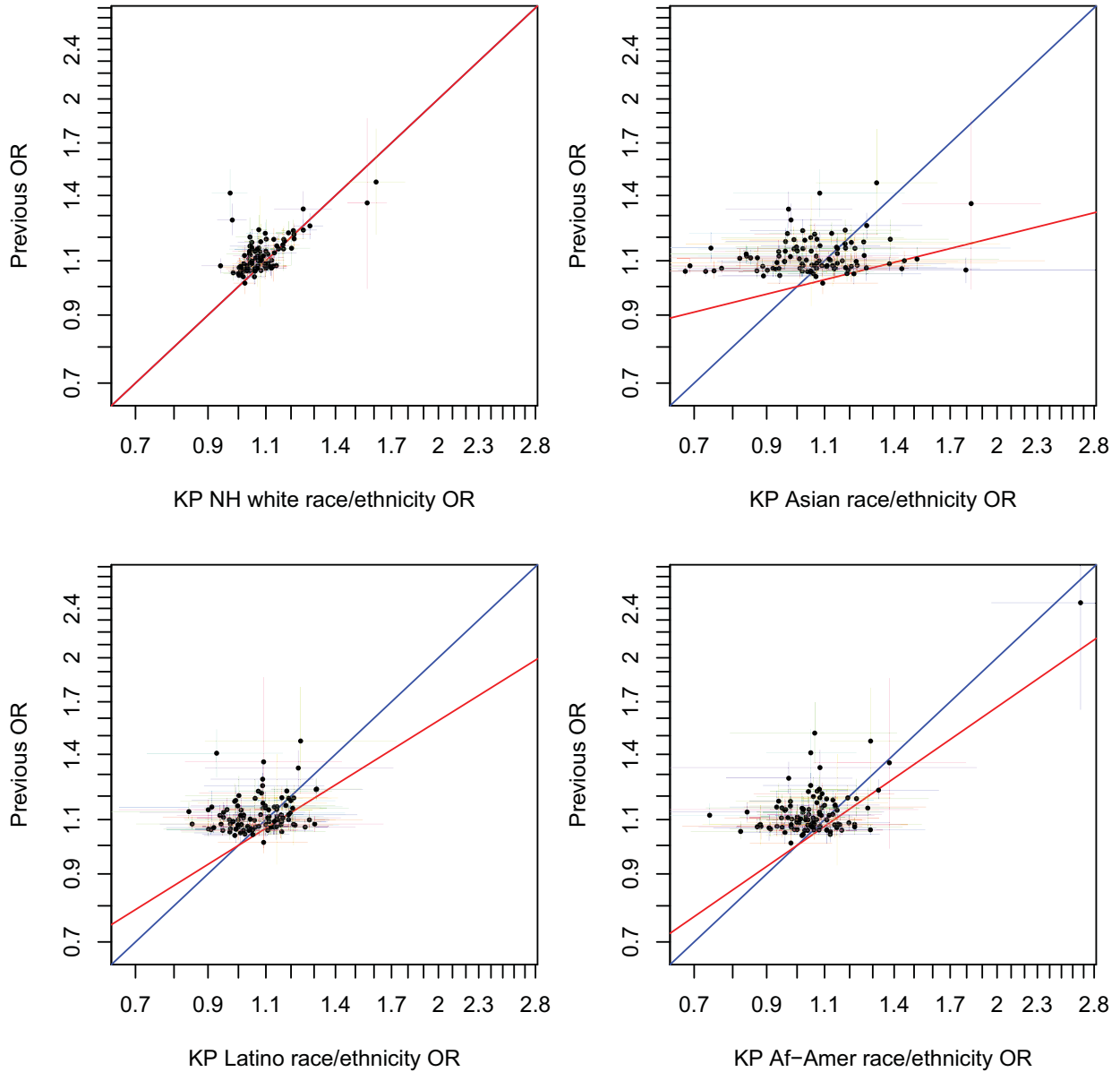


Figure S5: Prostate cancer AUC estimates for different combinations of covariates and the genetic risk score in the KP groups.

