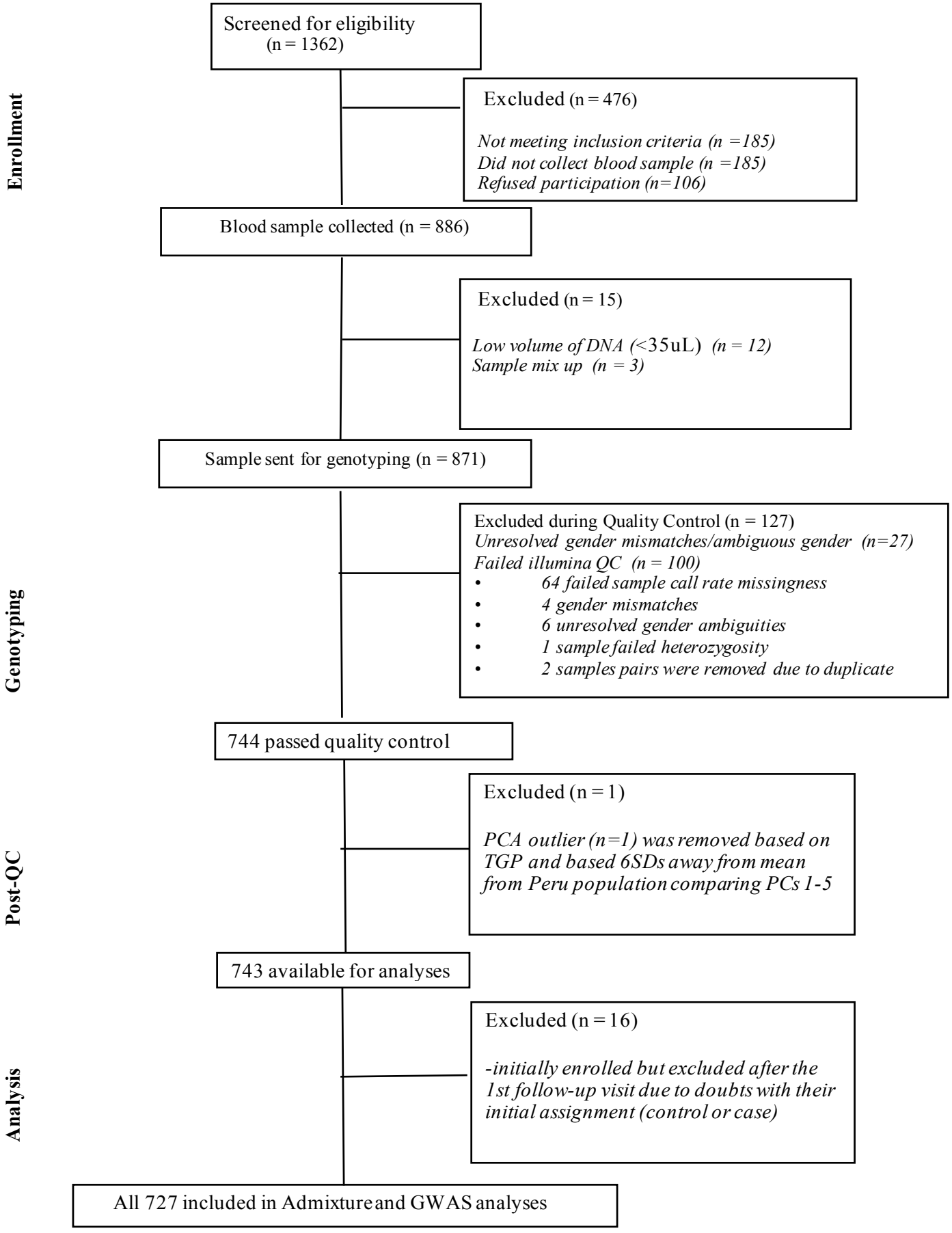
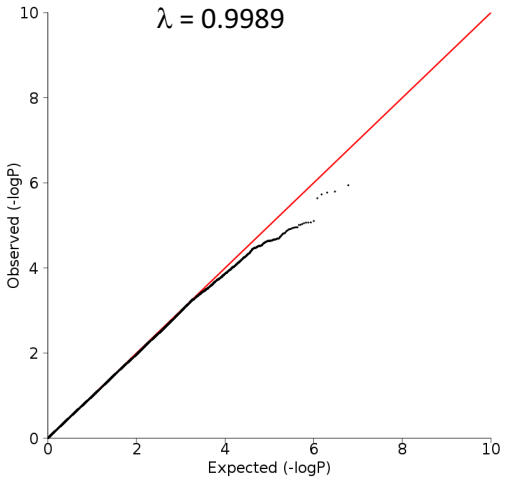
Supplementary Figure 1: Flow diagram of the progress from screening for eligibility to final GWAS analysis sample

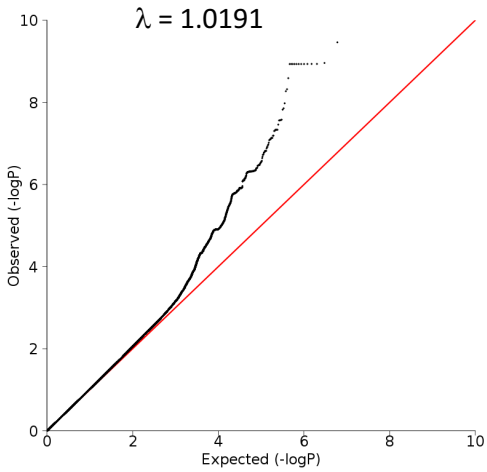


Supplemental Figure 2: Genomewide QQ plot for asthma, Log10[IgE], and lung function. Plots A,B and C are of those variants present in the the Genomewide Manhattan plots illustrated in **Figure 2.** Panel D is for Log10[IgE] excluding the 35,569 variants mapping to the HLA locus in **Figure 3**. The lambda value represents the inflation factor for each phenotype.

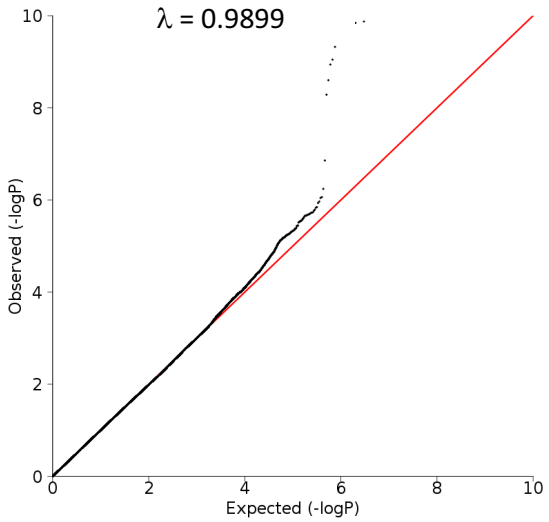
[A] Asthma



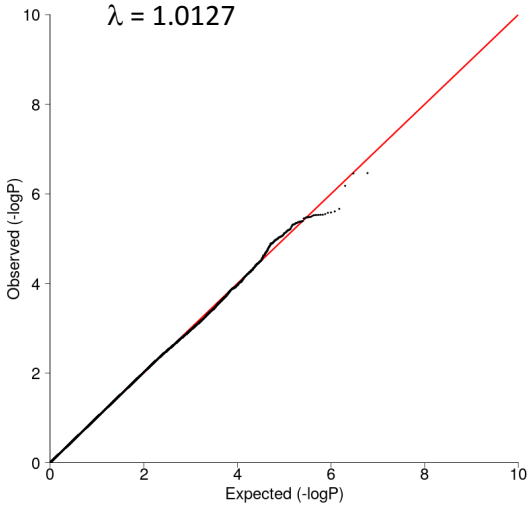
[B] Log10[IgE]



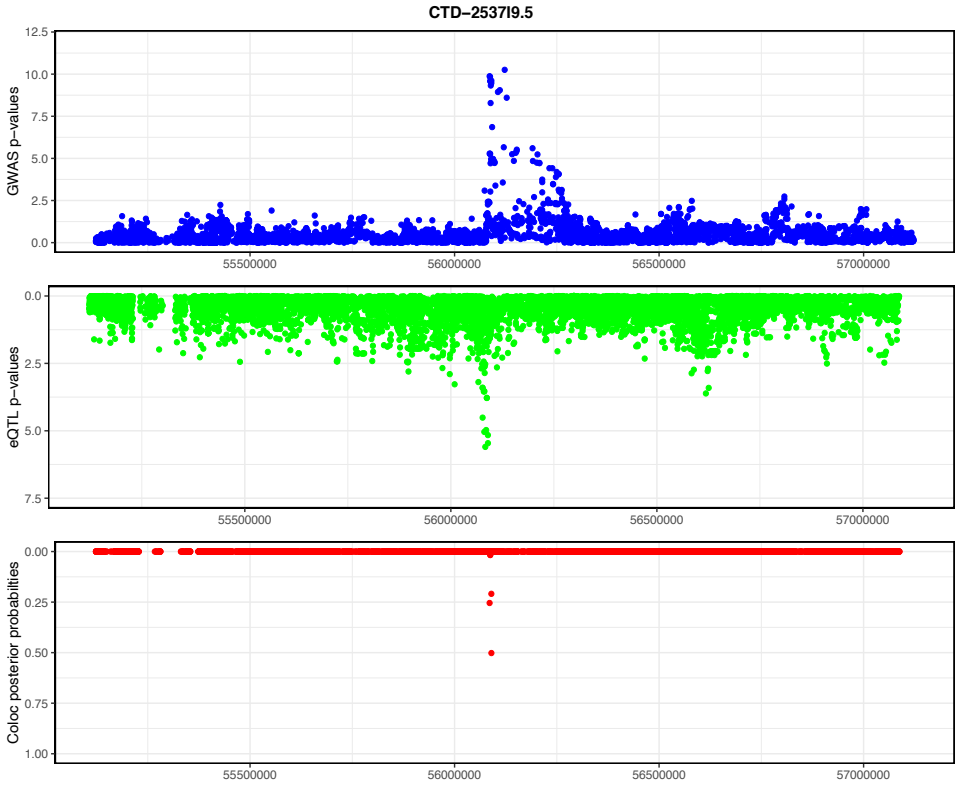
[C] Lung Function



[B] Log10[IgE] excluding HLA locus



Supplementary Figure 3: Colocalization of GWAS SNPs within ±1Mb region of rs4410198 with cis eQTLs of CTD-2537I9.5 LincRNA gene in lung tissue. X-axis of the plots represent the genomic region on chr19. Top panel shows the GWAS association p-values for the SNPs within ±1Mb region of the peak SNP. Middle panel shows the p-values for cis eQTL association with CTD-2537I9.5 gene in lung tissue. Bottom panel shows the posterior probabilities for each variant and cis eQTL pair in the region. P-values are plotted on –log10 scale and posterior probabilities are on original scale. Posterior probabilities for the gene and top colocalizing SNP are given in table.



Gene	CTD-2537I9.5	98%
SNP	rs34164618	50%

Supplementary Table 1: Association between global genetic ancestry and the odds of asthma.

ANCESTRY	BOTH SITES		PAMPAS		VILLA	
	Odds Ratio [Confidence intervals]	*P* value	Odds Ratio [Confidence intervals]	*P* value	Odds Ratio [Confidence intervals]	*P* value
Indigeneous (NAT) ancestry	0.987 [0.972:1.00]	0.12	0.991 [0.969:1.013]	0.43	0.981 [0.958:1.004]	0.11
European (IBS) ancestry	1.013 [0.997:1.029]	0.12	1.009 [0.987:1.032]	0.43	1.019 [0.995:1.044]	0.11

Models included covariate for age, gender, socioeconomic status, and BMI

Site' was included as a covariate in the model combining both sites

Supplementary Table 2: Association between global genetic ancestry and IgE and Lung Function

ANCESTRY		ALL SUBJECTS		ASTHMA CASES		CONTROLS	
		Effect, β (95% CI)	P value	Effect, β (95% CI)	P value	Effect, β (95% CI)	P value
Immunoglobulin E (mg/dl)							
Indigeneous (NAT) ancestry	Log10(IgE)	.010 [.004 : .015]	<0.001	.009 [.003:.015]	0.004	.011 [.002:.020]	0.017
Europeam (IBS) ancestry		-.010 [-.004 : -.015]	<0.001	-.009 [-.003:-.015]	0.004	-.011 [-.002:-.020]	0.017
Forced Expiratory Volume in 1 second, FEV1							
Indigeneous (NAT) ancestry	Percent predicted, %	.192 [.082:.303]	0.001	.111 [-.036:.258]	0.140	.272 [.109:.436]	0.001
	Z-score	.017 [.007 : .026]	0.001	.0095 [-.003 : .022]	0.140	.024 [.010 : .038]	0.001
Europeam (IBS) ancestry	Percent predicted, %	-.192 [-.303 : -.082]	0.001	-.111 [-.258 : .036]	0.140	-.272 [-.436 : -.109]	0.001
	Z-score	-.017 [-.026 : -.007]	0.001	-.0095 [-.022 : .003]	0.140	-.024 [-.038 : -.010]	0.001

IgE was log-transformed using the log10(IgE), and results are presented on the Log10 scale.

IgE model adjusted for age, gender, socioeconomic status, and site; BMI and height (z-score model) were added to the lung function models.

Asthma was included in the model combining both cases and controls.

Both sites were combined as direction of effect similar for both sites.

Supplementary Table 3: SNPs passing the suggestive threshold (p < e-05) for any of the three phenotypes of asthma, IgE and lung function.

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs1294042	1	9366485	C/T	0.587	SPSB1	0.88958519	0.3306	-0.171	4.86E-06	0.177	0.8278
	1	9366981	CTT/C	0.512		0.83110428	0.149	-0.203	3.44E-07	0.276	0.7504
	1	9366987	TTC/T	0.512		0.83110428	0.1498	-0.203	3.50E-07	0.278	0.7487
rs9308445	1	9385040	A/T	0.720	SPSB1	1.00803209	0.9501	0.19	4.19E-06	-0.046	0.959
rs9725969	1	9386384	G/A	0.662	SPSB1	0.9540874	0.7021	0.179	2.16E-06	-0.472	0.5673
rs1569422	1	9387444	C/T	0.662	SPSB1	0.95886978	0.7301	0.175	3.32E-06	-0.427	0.602
	1	9390616	TG/T	0.659		0.94270677	0.6177	0.166	6.26E-06	-0.384	0.631
rs478103	1	9402403	T/C	0.579	SPSB1	0.85555919	0.1633	0.155	9.31E-06	0.055	0.9422
rs644728	1	9403303	A/G	0.578	SPSB1	0.85214379	0.1522	0.155	8.91E-06	0.054	0.9429
rs544264	1	9405017	A/G	0.572	SPSB1	0.87459006	0.233	0.16	4.46E-06	-0.114	0.8804
rs12044405	1	15311594	T/G	0.073	KAZN	0.62625352	0.1241	0.443	2.65E-06	0.688	0.7373
rs4912145	1	20023833	C/T	0.427	TMCO4	0.60896164	8.86E-06	-0.064	0.07213	0.533	0.4846
rs10218471	1	48565408	T/A	0.052		1.65698552	0.05495	-0.02	0.8096	7.62	9.84E-06
	1	163230460	GAAAAAAA/GAAAAAA	0.250		1.92129608	2.30E-06	-0.023	0.5991	-1.167	0.2191
rs2254220	1	232683525	G/T	0.798	SIPA1L2	0.91759423	0.5397	-0.195	6.99E-06	1.402	0.1366
rs61995744	2	133542574	C/T	0.265	NCKAP5	0.86156911	0.2244	-0.168	9.83E-06	0.165	0.842
rs1367392	2	133548150	T/C	0.265	NCKAP5	0.86329398	0.232	-0.17	8.55E-06	0.147	0.8589
	2	133549610	C/CTGTTTTGTTT	0.264		0.8641577	0.2344	-0.171	7.83E-06	0.11	0.8945
rs77294363	2	133551939	C/T	0.265	NCKAP5	0.86329398	0.2317	-0.171	7.53E-06	0.159	0.8477
rs140591884	2	133551987	A/C	0.265	NCKAP5	0.86329398	0.2318	-0.171	7.52E-06	0.159	0.8479
rs139877707	2	133553260	C/T	0.265	NCKAP5	0.86329398	0.2319	-0.172	7.35E-06	0.167	0.8409
rs78230170	2	133553307	A/G	0.265	NCKAP5	0.86329398	0.2315	-0.172	7.21E-06	0.166	0.8412
rs72847221	2	133553436	C/G	0.265	NCKAP5	0.86329398	0.2331	-0.172	7.04E-06	0.168	0.8399
rs4143563	2	133554475	C/T	0.264	NCKAP5	0.86070798	0.223	-0.175	4.86E-06	0.152	0.8551
rs4143564	2	133554670	C/A	0.264	NCKAP5	0.86070798	0.2233	-0.175	4.76E-06	0.154	0.8526
rs72847224	2	133554892	G/A	0.264	NCKAP5	0.86070798	0.2231	-0.175	4.77E-06	0.155	0.8517
rs7591491	2	133555827	T/C	0.264	NCKAP5	0.86070798	0.2231	-0.175	4.67E-06	0.159	0.8481
rs76778571	2	133556082	C/G	0.265	NCKAP5	0.86329398	0.2325	-0.173	6.65E-06	0.179	0.8294
rs72847226	2	133556485	A/G	0.265	NCKAP5	0.86329398	0.2327	-0.173	6.57E-06	0.181	0.828
rs1447558	2	133556541	G/C	0.265	NCKAP5	0.86329398	0.2323	-0.173	6.55E-06	0.181	0.8279
rs72847229	2	133557618	T/C	0.265	NCKAP5	0.86329398	0.2329	-0.173	6.37E-06	0.185	0.8237
rs72847230	2	133557666	A/G	0.265	NCKAP5	0.86329398	0.2329	-0.173	6.35E-06	0.186	0.823
rs12613421	2	133558909	T/C	0.266	NCKAP5	0.85641518	0.2087	-0.176	4.34E-06	0.132	0.8735
rs12614121	2	133559197	T/G	0.266	NCKAP5	0.85641518	0.209	-0.176	4.28E-06	0.134	0.8721
rs12614193	2	133559450	T/C	0.266	NCKAP5	0.85641518	0.2093	-0.176	4.26E-06	0.135	0.8709
rs10460263	2	133569446	A/T	0.265	NCKAP5	0.85898828	0.2193	-0.178	3.43E-06	0.248	0.7665
rs2100130	2	133569752	C/T	0.267	NCKAP5	0.85812972	0.2163	-0.179	2.93E-06	0.306	0.7136
rs72847242	2	133570153	A/G	0.270	NCKAP5	0.85470406	0.2041	-0.18	2.97E-06	0.305	0.7159
rs12618525	2	133572214	G/C	0.268	NCKAP5	0.85727202	0.213	-0.176	4.49E-06	0.282	0.7351
rs72847244	2	133573219	T/C	0.268	NCKAP5	0.85555919	0.2069	-0.178	3.35E-06	0.268	0.747
rs12621316	2	133575460	G/C	0.268	NCKAP5	0.85641518	0.2083	-0.178	3.28E-06	0.282	0.7346
rs72847246	2	133575991	G/A	0.268	NCKAP5	0.85898828	0.217	-0.178	3.10E-06	0.276	0.7391
rs72847247	2	133576495	T/G	0.268	NCKAP5	0.85898828	0.2153	-0.176	4.17E-06	0.298	0.7191
	2	133577808	G/GT	0.268		0.84874202	0.1846	-0.175	4.90E-06	0.326	0.6953
rs11692657	2	133584061	T/C	0.266	NCKAP5	0.85129207	0.1854	-0.178	2.60E-06	0.258	0.753
rs1374740	2	133584471	G/A	0.266	NCKAP5	0.85470406	0.1958	-0.178	2.47E-06	0.25	0.7608
rs1374739	2	133584722	G/C	0.265	NCKAP5	0.86156911	0.221	-0.176	3.52E-06	0.243	0.7677
rs72847250	2	133588001	C/T	0.265	NCKAP5	0.85470406	0.2001	-0.177	2.95E-06	0.203	0.8054
rs16842050	2	133588278	G/T	0.265	NCKAP5	0.85384978	0.1954	-0.177	3.01E-06	0.217	0.7924
rs72847253	2	133595764	G/A	0.265	NCKAP5	0.83694242	0.1455	-0.174	4.49E-06	0.175	0.832
rs72847255	2	133598337	C/T	0.265	NCKAP5	0.83443536	0.14	-0.175	4.06E-06	0.163	0.8438
	2	133599210	G/GT	0.265		0.83443536	0.1397	-0.175	4.12E-06	0.161	0.8453
rs72847259	2	133606478	T/A	0.265	NCKAP5	0.83360134	0.1386	-0.172	6.25E-06	0.15	0.856
rs72847260	2	133606628	A/G	0.265	NCKAP5	0.83276816	0.1372	-0.173	5.97E-06	0.146	0.8604
rs16842561	2	133612527	A/G	0.261	NCKAP5	0.82036985	0.1085	-0.17	9.16E-06	-0.019	0.9814
rs1155819	2	133614059	T/A	0.261	NCKAP5	0.81791243	0.1035	-0.17	9.12E-06	-0.03	0.9714
rs2044566	2	133631505	G/C	0.263	NCKAP5	0.8057353	0.08038	-0.17	9.38E-06	-0.112	0.8929
rs72850141	2	133634550	A/C	0.260	NCKAP5	0.81058425	0.09007	-0.171	9.24E-06	-0.173	0.8359
rs74617496	3	48768680	C/T	0.144		0.49907445	9.76E-06	-0.004	0.9289	2.31	0.03087

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs39697	3	134711547	C/G	0.290	EPHB1	1.88702214	1.87E-06	0.008	0.8566	-0.024	0.9789
	5	71258619	TA/T	0.489		1.01714532	0.8906	-0.013	0.7482	-3.844	3.08E-06
rs7736434	5	141423997	T/A	0.252		1.05022035	0.7294	0.068	0.1235	-4.205	7.37E-06
rs11747857	5	141426179	C/T	0.252		1.04602786	0.7457	0.067	0.1244	-4.148	8.05E-06
rs192232327	5	141444488	C/T	0.134		0.98412732	0.9245	0.072	0.1908	-5.616	1.43E-06
rs252152	5	141445774	A/G	0.401		0.87197023	0.2335	0.065	0.07235	-3.4	8.97E-06
rs17208656	5	141446511	G/C	0.235		1.04707441	0.7254	0.085	0.03909	-3.917	7.91E-06
	5	141447229	CT/C	0.256		1.06289891	0.6492	0.087	0.04185	-4.021	8.40E-06
rs56372641	5	141448359	G/C	0.237		1.04602786	0.7315	0.085	0.03921	-3.928	7.48E-06
	5	141459200	AT/A	0.234		1.059715	0.6624	0.081	0.055	-4.085	4.48E-06
rs6580219	5	141463510	G/A	0.727		0.95122942	0.6921	-0.093	0.01938	3.953	2.83E-06
rs891984	5	141465403	T/A	0.679		0.99401796	0.9625	-0.127	0.00172	4.008	2.96E-06
rs17287162	5	141465680	A/G	0.225		1.11071061	0.4459	0.069	0.1144	-4.256	3.59E-06
rs12655443	5	141467856	C/A	0.275		1.01816298	0.8895	0.109	0.007126	-4.163	1.16E-06
rs1821263	5	141468254	T/C	0.724		1.02020134	0.8771	-0.124	0.002027	3.875	5.80E-06
rs9324864	5	141469000	C/T	0.414		0.89852567	0.3546	0.082	0.02351	-3.412	8.75E-06
rs28372841	5	141487979	T/C	0.217		1.12749685	0.3779	0.05	0.2438	-4.107	6.61E-06
rs3761759	5	141488364	G/C	0.217	NDFIP1	1.12749685	0.3777	0.05	0.2437	-4.108	6.61E-06
rs55865281	5	141488807	G/A	0.217	NDFIP1	1.12749685	0.3777	0.05	0.2433	-4.109	6.60E-06
rs72799903	5	141492061	G/A	0.217	NDFIP1	1.11293425	0.4356	0.049	0.2591	-4.099	7.15E-06
rs185431275	5	141521867	A/G	0.128	NDFIP1	1.06183655	0.7373	0.043	0.4501	-5.338	7.61E-06
rs381084	5	145250340	T/G	0.771	GRXCR2	1.06929548	0.6246	-0.191	8.27E-06	0.657	0.4801
rs4960182	6	6276429	C/T	0.583	F13A1	1.7559324	1.14E-06	-0.052	0.164	-0.713	0.3699
rs4959376	6	6276609	A/G	0.586	F13A1	1.74019991	1.69E-06	-0.046	0.2159	-0.776	0.3288
	6	25755788	CA/C	0.243		1.05654061	0.6822	0.184	9.78E-06	-0.687	0.4472
rs9295669	6	25758212	C/T	0.728	SLC17A4	1.03977048	0.7651	-0.201	6.63E-07	1.475	0.0932
rs9368714	6	32297341	G/A	0.464	C6orf10	0.91210515	0.4121	-0.187	7.31E-08	1.378	0.06963
rs9268301	6	32319637	G/A	0.464	C6orf10	0.91210515	0.4121	-0.187	7.31E-08	1.378	0.06963
rs3763313	6	32376471	A/C	0.243		1.05442965	0.682	0.179	9.89E-06	-0.74	0.3991
rs9268505	6	32377408	T/C	0.268		0.97921896	0.8685	0.211	6.44E-08	-0.869	0.3081
rs9268505	6	32377408	T/C	0.268		0.97921896	0.8685	0.211	6.44E-08	-0.869	0.3081
rs28732205	6	32377712	C/T	0.231		1.00702456	0.9603	0.187	6.14E-06	-0.962	0.2831
	6	32378746	T/TTG	0.265		0.98019867	0.8751	0.211	8.34E-08	-0.846	0.3253
rs3129962	6	32379383	G/C	0.231		1.002002	0.9903	0.186	7.34E-06	-0.897	0.3174
rs17208902	6	32379547	C/T	0.231		1.002002	0.9903	0.186	7.34E-06	-0.897	0.3174
rs9469108	6	32380892	C/T	0.228		1.02634095	0.8471	0.189	5.29E-06	-0.999	0.2659
	6	32382272	A/AAAAGAAGG	0.421		0.82036985	0.09283	0.187	3.03E-07	-0.935	0.2399
rs9268528	6	32383108	A/G	0.550		1.09965886	0.4052	-0.187	1.32E-07	0.898	0.2448
rs9268542	6	32384721	A/G	0.550		1.10627664	0.3778	-0.186	1.52E-07	0.86	0.2648
rs9268544	6	32385453	G/A	0.550		1.10627664	0.3778	-0.186	1.52E-07	0.86	0.2648
rs9268545	6	32385750	T/C	0.550		1.10627664	0.3778	-0.186	1.52E-07	0.86	0.2648
rs9268556	6	32386964	T/C	0.550		1.10627664	0.3778	-0.186	1.52E-07	0.86	0.2648
rs9268557	6	32389305	T/C	0.571		1.05865581	0.6192	-0.166	2.58E-06	0.995	0.1954
rs6912382	6	32389375	C/T	0.229		1.18530485	0.1903	0.19	2.75E-06	-1.22	0.1643
rs9268568	6	32390904	G/A	0.562		1.10960045	0.3583	-0.178	4.68E-07	1.179	0.1252
rs2157332	6	32392661	C/T	0.564		1.09855975	0.4082	-0.174	8.14E-07	1.238	0.1069
rs9968904	6	32392710	C/A	0.189		1.13314845	0.3685	0.195	7.94E-06	-1.173	0.2145
rs2187818	6	32395568	G/T	0.564		1.09526901	0.421	-0.174	7.92E-07	1.254	0.102
rs9268578	6	32396057	A/G	0.564		1.09526901	0.421	-0.174	7.92E-07	1.254	0.102
rs9268579	6	32396450	G/A	0.564		1.09526901	0.421	-0.174	7.92E-07	1.254	0.102
	6	32396681	CATTTACTG/C	0.564		1.09526901	0.421	-0.174	7.92E-07	1.254	0.102
rs9268580	6	32396905	G/C	0.564		1.09526901	0.422	-0.174	7.94E-07	1.255	0.1019
rs9268582	6	32396964	C/T	0.563		1.10738347	0.3698	-0.169	1.67E-06	1.294	0.09191
rs9268583	6	32397266	T/G	0.564		1.09526901	0.421	-0.174	7.92E-07	1.254	0.102
rs9268585	6	32397403	T/G	0.564		1.09526901	0.421	-0.174	7.92E-07	1.254	0.102
rs9268588	6	32397794	C/G	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs9268589	6	32398202	G/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs7774047	6	32398563	C/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs7756262	6	32398675	T/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
	6	32398790	GAGTTA/G	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
	6	32398948	T/TA	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs4348358	6	32399092	G/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277

						Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	Nearby gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs4321864	6	32399187	C/A	0.495		1.04498235	0.7004	-0.176	7.90E-07	1.486	0.05482
rs9268605	6	32399833	G/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs9268606	6	32400070	G/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs9268607	6	32400538	A/G	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
	6	32400833	AT/A	0.568		1.11404775	0.3389	-0.171	1.16E-06	1.165	0.1277
rs9268608	6	32400865	C/T	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs9268609	6	32401261	G/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs9268610	6	32401263	T/C	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs1987305	6	32401996	G/T	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
	6	32402116	T/TG	0.564		1.09526901	0.4209	-0.174	7.88E-07	1.255	0.102
rs960736	6	32402225	T/C	0.568		1.11404775	0.3388	-0.171	1.21E-06	1.164	0.1277
rs7753264	6	32402440	A/G	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs7773756	6	32402464	T/C	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs9268613	6	32402692	C/T	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs9268615	6	32402889	G/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs4612206	6	32404093	C/T	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
	6	32405692	GA/G	0.568		1.11404775	0.3387	-0.171	1.21E-06	1.164	0.1277
rs9268634	6	32406530	G/A	0.568		1.11404775	0.3389	-0.171	1.21E-06	1.164	0.1277
rs3763322	6	32406807	G/A	0.584		1.11627807	0.337	-0.16	8.24E-06	1.382	0.07452
rs14004	6	32407709	C/A	0.583	HLA-DRA	1.11293425	0.3489	-0.16	7.82E-06	1.385	0.074
rs9268645	6	32408527	C/G	0.566	HLA-DRA	1.13088442	0.2773	-0.171	1.19E-06	1.025	0.1807
rs3129880	6	32408917	T/C	0.778	HLA-DRA	0.88603396	0.3495	-0.194	1.68E-06	1.17	0.1819
rs9268652	6	32409056	A/G	0.770	HLA-DRA	0.85129207	0.208	-0.2	5.05E-07	1.138	0.1878
rs9268657	6	32409656	G/A	0.562	HLA-DRA	1.11182188	0.3493	-0.174	8.23E-07	1.072	0.1632
rs3129883	6	32410137	T/C	0.766	HLA-DRA	0.86070798	0.2371	-0.2	3.90E-07	0.929	0.2787
rs3129886	6	32410576	T/C	0.766	HLA-DRA	0.86070798	0.2371	-0.2	3.90E-07	0.929	0.2787
rs3129888	6	32411726	G/A	0.781	HLA-DRA	0.8361059	0.168	-0.2	8.42E-07	1.293	0.1427
rs2239802	6	32411846	C/G	0.773	HLA-DRA	0.83360134	0.1552	-0.203	3.32E-07	1.091	0.2078
rs3135390	6	32412395	C/A	0.781	HLA-DRA	0.8361059	0.168	-0.2	8.42E-07	1.293	0.1427
rs7196	6	32412571	A/T	0.773	HLA-DRA	0.83360134	0.1552	-0.203	3.32E-07	1.091	0.2078
rs7197	6	32412580	T/C	0.784	HLA-DRA	0.86156911	0.2528	-0.196	1.58E-06	1.315	0.1379
rs2395182	6	32413317	G/T	0.773		0.83360134	0.1552	-0.203	3.32E-07	1.091	0.2078
rs9268671	6	32414290	A/G	0.758		0.8976276	0.394	-0.198	4.55E-07	1.385	0.1038
rs7382085	6	32414420	G/A	0.771		0.84619961	0.1919	-0.2	5.01E-07	1.037	0.2315
rs7382354	6	32414639	G/A	0.771		0.84619961	0.1919	-0.2	5.01E-07	1.037	0.2315
rs3135387	6	32415109	T/G	0.779		0.84874202	0.2078	-0.197	1.29E-06	1.235	0.1613
rs3135385	6	32416366	A/G	0.770		0.84619961	0.1922	-0.2	5.02E-07	1.037	0.2314
rs199661956	6	32416739	T/C	0.196		1.14453678	0.3297	0.208	1.72E-06	-1.523	0.1061
	6	32417020	A/AGAAAG	0.227		1.05865581	0.667	0.199	1.31E-06	-1.441	0.1065
rs9461747	6	32417937	C/T	0.197		1.14453678	0.3301	0.208	1.72E-06	-1.526	0.1052
rs9469114	6	32418188	G/T	0.197		1.14453678	0.3301	0.208	1.72E-06	-1.526	0.1052
rs6938382	6	32418227	G/A	0.205		1.1491241	0.3064	0.21	7.19E-07	-1.281	0.1641
rs9461748	6	32418948	T/C	0.202		1.14797555	0.3156	0.207	1.41E-06	-1.44	0.1212
rs12528026	6	32419116	A/G	0.197		1.14453678	0.3301	0.208	1.72E-06	-1.526	0.1053
rs12524661	6	32419204	G/A	0.197		1.14453678	0.3301	0.208	1.72E-06	-1.526	0.1053
rs9469116	6	32419994	G/A	0.197		1.14453678	0.3302	0.208	1.72E-06	-1.526	0.1052
	6	32420303	CAGA/C	0.193		1.10186037	0.4867	0.201	4.62E-06	-1.593	0.09341
rs7760260	6	32421071	G/A	0.205		1.1491241	0.3064	0.21	7.19E-07	-1.28	0.1642
rs7760600	6	32421345	G/A	0.196		1.14453678	0.3302	0.208	1.72E-06	-1.527	0.105
rs7764351	6	32421631	A/G	0.205		1.1491241	0.3064	0.21	7.18E-07	-1.28	0.1642
rs6457590	6	32421798	G/T	0.205		1.1491241	0.3064	0.21	7.18E-07	-1.28	0.1642
rs12526155	6	32422247	G/A	0.177		1.07573054	0.6136	0.202	9.25E-06	-1.613	0.1014
rs113928914	6	32423195	G/A	0.196		1.14339282	0.3348	0.208	1.66E-06	-1.541	0.1021
rs57723712	6	32423409	A/C	0.205		1.1491241	0.3067	0.21	7.20E-07	-1.282	0.1635
rs59281193	6	32423601	C/T	0.205		1.1491241	0.3066	0.21	7.19E-07	-1.282	0.1635
rs12530431	6	32423986	A/G	0.177		1.07680681	0.6125	0.202	9.06E-06	-1.618	0.1006
rs7776297	6	32424108	C/T	0.205		1.1491241	0.3068	0.21	7.16E-07	-1.283	0.1633
rs117429202	6	32426100	T/C	0.204		1.14682815	0.3139	0.211	6.77E-07	-1.361	0.1403
rs144549083	6	32426355	G/A	0.196		1.14110832	0.3446	0.209	1.66E-06	-1.633	0.08409
rs145590657	6	32426634	G/C	0.176		1.07036531	0.6416	0.202	9.52E-06	-1.742	0.07752
rs4632888	6	32426873	T/C	0.196		1.13996778	0.3499	0.209	1.66E-06	-1.669	0.07776
rs9469118	6	32427154	T/G	0.215		1.10075906	0.4816	0.209	7.86E-07	-1.375	0.1352
rs9469119	6	32427155	C/A	0.215		1.10075906	0.4814	0.209	7.94E-07	-1.377	0.1347
rs58302219	6	32430368	C/A	0.198		1.15719619	0.2891	0.201	2.93E-06	-1.266	0.1744
rs9469131	6	32445790	G/C	0.200		1.14682815	0.3183	0.194	5.77E-06	-1.207	0.1933

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs28528859	6	32451395	G/A	0.390		1.08545581	0.5286	-0.204	5.09E-07	1.631	0.06416
rs28599891	6	32452470	C/G	0.690		0.7945336	0.05949	-0.169	9.45E-06	0.855	0.2994
rs57689942	6	32543079	G/A	0.369		1.13882838	0.5341	-0.291	8.19E-06	1.578	0.2638
rs9270461	6	32558911	C/T	0.693		0.79612426	0.1084	-0.202	5.44E-06	0.578	0.5475
rs28366283	6	32560288	A/C	0.521		0.93239382	0.5878	-0.193	1.53E-06	1.151	0.1865
rs9270664	6	32566149	G/A	0.679		0.85129207	0.1717	-0.168	4.85E-06	0.789	0.3227
rs141890408	6	32567296	G/C	0.678		0.8504412	0.1692	-0.169	4.72E-06	0.79	0.3227
rs182983566	6	32569297	A/G	0.678		0.8504412	0.169	-0.169	4.87E-06	0.786	0.3253
	6	32571607	C/CA	0.254		0.94176453	0.7206	0.281	8.08E-08	-1.354	0.2351
rs9270910	6	32572180	G/C	0.665		0.81791243	0.08534	-0.166	5.97E-06	0.585	0.4607
rs9270911	6	32572202	C/T	0.665		0.81791243	0.08531	-0.166	6.00E-06	0.585	0.4611
rs9271365	6	32586794	T/G	0.618		0.87022803	0.2209	-0.18	3.48E-07	0.848	0.2694
rs9271367	6	32586908	G/A	0.750		0.9012253	0.4147	-0.2	4.53E-07	0.42	0.6261
rs557011	6	32587013	C/T	0.509		1.14453678	0.2264	-0.169	1.21E-06	0.806	0.2869
rs9271382	6	32587375	G/A	0.674		0.86588775	0.2245	-0.173	2.82E-06	0.974	0.2235
rs9271383	6	32587391	C/T	0.660		0.83110428	0.1158	-0.17	3.63E-06	0.769	0.3338
rs9271386	6	32587416	T/G	0.674		0.86675407	0.2264	-0.173	2.80E-06	0.975	0.2228
rs9271386	6	32587416	T/G	0.674		0.86675407	0.2264	-0.173	2.80E-06	0.975	0.2228
rs9271387	6	32587424	C/T	0.657		0.8319358	0.119	-0.171	3.50E-06	0.779	0.3304
rs9271388	6	32587426	A/C	0.658		0.83027359	0.1153	-0.172	3.19E-06	0.78	0.3289
rs9271389	6	32587431	T/C	0.671		0.86675407	0.2307	-0.174	2.74E-06	0.985	0.221
rs9271390	6	32587440	A/G	0.683		0.84535383	0.1629	-0.18	1.55E-06	1.026	0.2069
rs9271391	6	32587442	G/A	0.683		0.84535383	0.1629	-0.18	1.55E-06	1.026	0.2069
rs9271393	6	32587457	G/C	0.683		0.84619961	0.1631	-0.18	1.51E-06	1.022	0.2082
rs80285039	6	32587510	C/T	0.673		0.86588775	0.223	-0.173	2.92E-06	0.97	0.2259
rs9271414	6	32587782	C/T	0.685		0.8445089	0.1577	-0.178	1.67E-06	1.02	0.207
rs9271415	6	32587786	C/T	0.685		0.8445089	0.1577	-0.178	1.67E-06	1.02	0.207
rs9271418	6	32587832	A/G	0.707		0.8402969	0.152	-0.172	6.08E-06	0.549	0.5049
rs9271420	6	32587852	A/G	0.671		0.81139524	0.0771	-0.174	2.35E-06	0.803	0.3163
rs9271436	6	32588110	C/A	0.686		0.8445089	0.1575	-0.178	1.61E-06	1.01	0.2105
rs9271440	6	32588240	C/T	0.684		0.84535383	0.1596	-0.179	1.66E-06	1.02	0.2073
rs9271441	6	32588245	T/C	0.671		0.81220704	0.07892	-0.175	2.25E-06	0.808	0.3143
rs9271444	6	32588281	A/G	0.684		0.84535383	0.1596	-0.179	1.67E-06	1.019	0.2081
rs9271446	6	32588344	A/G	0.683		0.84282157	0.154	-0.179	1.60E-06	0.993	0.2212
rs9271453	6	32588416	A/T	0.704		0.8445089	0.166	-0.174	5.23E-06	0.582	0.4817
rs9271457	6	32588446	C/T	0.682		0.84874202	0.1734	-0.181	1.37E-06	1.048	0.197
rs9271463	6	32588535	A/T	0.684		0.84959119	0.1727	-0.18	1.35E-06	1.049	0.195
rs9271467	6	32588613	T/C	0.686		0.84535383	0.1592	-0.178	1.60E-06	1.01	0.2106
rs9271468	6	32588616	G/A	0.686		0.84535383	0.1592	-0.178	1.60E-06	1.01	0.2106
rs9271475	6	32588808	A/T	0.686		0.84535383	0.1596	-0.179	1.58E-06	1.01	0.2107
rs9271476	6	32588809	T/G	0.686		0.84535383	0.1595	-0.178	1.58E-06	1.011	0.2101
rs9271477	6	32588815	C/T	0.686		0.84535383	0.1596	-0.179	1.58E-06	1.01	0.2107
rs9271478	6	32588821	A/G	0.686		0.84535383	0.1596	-0.179	1.58E-06	1.01	0.2107
rs9271479	6	32588830	G/A	0.686		0.84535383	0.1596	-0.179	1.57E-06	1.01	0.2107
rs9271482	6	32588880	C/T	0.686		0.84366482	0.1539	-0.177	1.93E-06	1.014	0.2083
rs9271483	6	32588882	G/T	0.686		0.84366482	0.1539	-0.177	1.93E-06	1.014	0.2084
rs9271487	6	32588985	G/T	0.686		0.8445089	0.1571	-0.178	1.71E-06	1.012	0.2098
rs9271490	6	32589060	A/G	0.686		0.84535383	0.159	-0.178	1.60E-06	1.011	0.21
rs9271491	6	32589061	A/G	0.686		0.84535383	0.159	-0.178	1.60E-06	1.011	0.21
rs9271493	6	32589158	A/G	0.686		0.84535383	0.159	-0.178	1.60E-06	1.011	0.21
rs9271495	6	32589242	C/T	0.686		0.8445089	0.1585	-0.179	1.67E-06	1.009	0.2122
rs9271496	6	32589244	C/T	0.686		0.8445089	0.1585	-0.179	1.67E-06	1.009	0.2122
rs9271505	6	32589375	T/G	0.686		0.84535383	0.1588	-0.178	1.61E-06	1.012	0.2097
rs9271506	6	32589380	C/T	0.686		0.84535383	0.1588	-0.178	1.61E-06	1.012	0.2097
rs9271507	6	32589394	C/A	0.686		0.84535383	0.1588	-0.178	1.61E-06	1.012	0.2097
rs9271509	6	32589415	G/A	0.420		1.05337574	0.6548	-0.182	4.77E-07	1.269	0.106
rs9271512	6	32589510	A/G	0.686		0.84535383	0.1592	-0.178	1.61E-06	1.01	0.2107
rs9271514	6	32589613	A/G	0.685		0.84535383	0.1593	-0.179	1.62E-06	1.006	0.2131
rs9271515	6	32589645	A/G	0.685		0.84535383	0.1593	-0.179	1.62E-06	1.006	0.2131
rs9271518	6	32589745	C/T	0.685		0.84535383	0.1591	-0.179	1.58E-06	1.014	0.2094
rs9271530	6	32589938	A/G	0.685		0.84535383	0.1596	-0.179	1.51E-06	1.017	0.2082
rs9271531	6	32589939	A/C	0.685		0.84535383	0.1596	-0.179	1.51E-06	1.017	0.2082
rs9271534	6	32589953	C/A	0.685		0.84535383	0.1594	-0.179	1.54E-06	1.014	0.2091
rs9271543	6	32590097	A/T	0.686		0.84535383	0.159	-0.178	1.60E-06	1.011	0.21
rs9271548	6	32590234	A/T	0.686		0.84535383	0.1589	-0.178	1.61E-06	1.011	0.21

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs9271551	6	32590298	A/G	0.681		0.84282157	0.1544	-0.179	1.79E-06	1.015	0.2116
rs9271553	6	32590299	T/C	0.655		0.89404426	0.3635	-0.183	2.12E-06	1.128	0.1771
rs9271555	6	32590319	T/G	0.684		0.84366482	0.1563	-0.179	1.68E-06	1.015	0.2098
rs9271556	6	32590324	T/G	0.684		0.84366482	0.1562	-0.179	1.68E-06	1.016	0.2091
rs9271557	6	32590331	T/C	0.684		0.8445089	0.1565	-0.178	1.69E-06	1.016	0.2091
rs9271579	6	32590637	T/A	0.419		1.05337574	0.6536	-0.182	4.83E-07	1.265	0.1078
rs9271580	6	32590641	T/G	0.419		1.05337574	0.6536	-0.182	4.83E-07	1.265	0.1078
	6	32590784	T/TACAGAC	0.419		1.05337574	0.6542	-0.182	4.78E-07	1.268	0.1066
rs2097431	6	32590833	A/G	0.727		0.89852567	0.3868	-0.192	5.05E-07	1.218	0.1432
rs2097431	6	32590833	A/G	0.727		0.89852567	0.3868	-0.192	5.05E-07	1.218	0.1432
rs9271638	6	32592142	C/T	0.718		0.87809543	0.2954	-0.197	3.12E-07	1.417	0.09034
	6	32592155	TGAAATTTGGTA/T	0.661		0.88514837	0.3437	-0.216	7.31E-08	1.45	0.09638
rs9271665	6	32592676	G/A	0.723		0.87721777	0.2881	-0.196	2.91E-07	1.412	0.08913
rs9271669	6	32592775	A/T	0.420		1.05337574	0.6551	-0.182	4.79E-07	1.267	0.1061
rs9271669	6	32592775	A/T	0.420		1.05337574	0.6551	-0.182	4.79E-07	1.267	0.1061
rs9271726	6	32593566	T/G	0.420		1.05337574	0.6518	-0.182	4.85E-07	1.275	0.1044
rs9271730	6	32593608	G/A	0.714		0.876341	0.2866	-0.196	4.06E-07	1.393	0.09741
rs28445646	6	32593952	C/G	0.212		1.12636992	0.39	0.195	7.54E-06	-1.354	0.1506
rs9271768	6	32594188	A/T	0.505		1.07896257	0.5086	-0.161	6.77E-06	1.189	0.125
	6	32594850	T/TCC	0.808		0.75881293	0.1724	-0.292	3.33E-06	1.917	0.1588
rs4959111	6	32597720	T/C	0.245		1.10186037	0.4614	0.212	2.10E-07	-1.625	0.06781
rs9272021	6	32598515	A/G	0.421		1.05337574	0.6557	-0.183	4.61E-07	1.276	0.1048
	6	32598754	CTGG/C	0.290		1.10960045	0.4189	0.188	2.85E-06	-1.196	0.1697
rs147857322	6	32599601	G/A	0.265		1.14225	0.2963	0.184	3.27E-06	-1.125	0.1903
rs35585151	6	32600046	G/A	0.263		1.14568189	0.2829	0.184	3.40E-06	-1.09	0.2033
	6	32600116	GT/G	0.420		1.05337574	0.6551	-0.182	4.79E-07	1.267	0.1061
rs35656734	6	32600153	C/T	0.268		1.14225	0.2882	0.181	3.44E-06	-1.084	0.1992
rs3104372	6	32600983	C/T	0.421		1.05232289	0.6591	-0.182	4.51E-07	1.271	0.1056
rs1826962	6	32601083	T/C	0.420		1.05337574	0.6524	-0.182	4.74E-07	1.274	0.1046
rs2002777	6	32601332	G/A	0.543		0.90574271	0.3814	0.161	5.49E-06	-1.341	0.08059
rs115566240	6	32601718	C/T	0.263		1.13541702	0.3172	0.185	3.15E-06	-1.133	0.1871
rs114020256	6	32601797	G/A	0.262		1.136553	0.3164	0.185	3.54E-06	-1.094	0.2048
	6	32602002	A/ACT	0.543		0.90755601	0.4003	0.164	5.24E-06	-1.294	0.09633
rs3104371	6	32602137	C/G	0.420		1.05337574	0.6545	-0.182	4.83E-07	1.267	0.1063
rs9272226	6	32602396	C/T	0.550		0.91393119	0.4299	0.165	3.86E-06	-1.286	0.09577
rs17205191	6	32602556	G/A	0.268		1.14225	0.2883	0.181	3.44E-06	-1.084	0.1993
	6	32602665	C/CT	0.344		1.24607673	0.06736	0.191	3.36E-07	-1.077	0.185
rs9272245	6	32602872	C/G	0.549		0.91393119	0.4287	0.165	3.92E-06	-1.285	0.09609
rs1391372	6	32603668	A/C	0.432		1.03045453	0.7918	-0.179	4.91E-07	1.252	0.1056
rs1391372	6	32603668	A/C	0.432		1.03045453	0.7918	-0.179	4.91E-07	1.252	0.1056
rs9272293	6	32603742	A/G	0.717		0.85641518	0.2108	-0.18	2.96E-06	0.675	0.42
rs1391371	6	32603798	A/T	0.420		1.05232289	0.6569	-0.182	4.64E-07	1.269	0.1059
rs1826961	6	32603866	C/T	0.567		1.02634095	0.8391	-0.191	1.38E-06	1.349	0.1165
rs1826961	6	32603866	C/T	0.567		1.02634095	0.8391	-0.191	1.38E-06	1.349	0.1165
rs9272320	6	32604124	G/A	0.706		0.84113761	0.161	-0.186	1.48E-06	0.955	0.2532
	6	32604332	TG/T	0.671		0.8976276	0.5064	-0.255	4.02E-07	1.536	0.1603
rs9272353	6	32604456	G/C	0.418		1.05442965	0.6517	-0.183	4.77E-07	1.273	0.107
rs9272363	6	32604585	A/T	0.423		1.05654061	0.6422	-0.184	5.47E-07	1.279	0.1092
rs9272381	6	32604742	G/C	0.422		1.05654061	0.6401	-0.185	5.40E-07	1.284	0.1089
rs9272385	6	32604763	T/C	0.423		1.05654061	0.6425	-0.184	5.30E-07	1.277	0.11
rs9272400	6	32604898	G/A	0.689		0.82944374	0.1552	-0.187	5.64E-06	1.295	0.1456
rs9272412	6	32604982	A/G	0.452		1.08980633	0.4806	-0.196	2.80E-07	1.35	0.1031
rs9272412	6	32604982	A/G	0.452		1.08980633	0.4806	-0.196	2.80E-07	1.35	0.1031
	6	32605027	C/CACA	0.698		0.84619961	0.1676	-0.182	1.39E-06	0.934	0.2545
rs9272425	6	32605178	T/C	0.426	HLA-DQA1	1.05865581	0.6321	-0.184	6.57E-07	1.273	0.1125
rs1047989	6	32605257	C/A	0.702	HLA-DQA1	0.84619961	0.1648	-0.181	1.44E-06	0.943	0.2464
rs2213287	6	32605508	G/T	0.513	HLA-DQA1	0.92867169	0.5464	-0.186	1.09E-06	1.183	0.1531
rs9272456	6	32605555	T/A	0.419	HLA-DQA1	1.05442965	0.6501	-0.183	4.87E-07	1.273	0.1077
rs9272460	6	32605583	A/G	0.449	HLA-DQA1	1.02020134	0.8608	-0.166	3.88E-06	1.348	0.08465
rs9272461	6	32605609	G/A	0.418	HLA-DQA1	1.05442965	0.6505	-0.183	4.83E-07	1.272	0.1075
rs9272466	6	32605696	G/T	0.417	HLA-DQA1	1.05442965	0.6515	-0.183	4.77E-07	1.274	0.1073
rs9272479	6	32605789	C/T	0.226	HLA-DQA1	1.10517092	0.4564	0.2	1.69E-06	-1.158	0.2019
rs9272479	6	32605789	C/T	0.226	HLA-DQA1	1.10517092	0.4564	0.2	1.69E-06	-1.158	0.2019
	6	32606018	TTTC/T	0.421		1.05232289	0.6664	-0.185	4.35E-07	1.275	0.109

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs9272508	6	32606325	G/A	0.733	HLA-DQA1	0.82448197	0.1581	-0.2	2.54E-06	0.944	0.3061
rs9272521	6	32606479	G/A	0.605	HLA-DQA1	0.88692044	0.4819	-0.252	2.50E-06	1.342	0.2466
rs9272522	6	32606490	G/A	0.604	HLA-DQA1	0.88692044	0.4839	-0.252	2.56E-06	1.329	0.2517
rs41268938	6	32606616	A/T	0.423	HLA-DQA1	1.05442965	0.6536	-0.186	4.81E-07	1.289	0.1075
rs28383359	6	32606794	T/C	0.712	HLA-DQA1	0.8402969	0.2052	-0.216	4.57E-07	1.338	0.1504
rs28383361	6	32606846	G/A	0.483	HLA-DQA1	1.0314855	0.794	-0.167	8.96E-06	1.202	0.1402
rs28383362	6	32606864	T/C	0.480	HLA-DQA1	1.03251751	0.7896	-0.166	9.49E-06	1.199	0.1401
rs28383363	6	32606868	T/C	0.481	HLA-DQA1	1.03251751	0.7894	-0.166	9.48E-06	1.198	0.1403
rs41268940	6	32606987	T/G	0.421	HLA-DQA1	1.05442965	0.6529	-0.185	4.71E-07	1.283	0.1084
rs41268942	6	32607126	A/G	0.422	HLA-DQA1	1.04707441	0.695	-0.188	3.37E-07	1.291	0.1077
rs28383371	6	32607154	C/T	0.478	HLA-DQA1	1.03355054	0.7856	-0.166	1.00E-05	1.189	0.1439
rs28383378	6	32607239	C/A	0.478	HLA-DQA1	1.0314855	0.7927	-0.166	9.75E-06	1.186	0.1432
rs28383379	6	32607242	G/A	0.478	HLA-DQA1	1.0314855	0.793	-0.166	9.77E-06	1.186	0.1433
rs28383380	6	32607253	C/A	0.478	HLA-DQA1	1.0314855	0.7935	-0.165	9.94E-06	1.184	0.1433
rs35248896	6	32607370	C/T	0.409	HLA-DQA1	1.05442965	0.6564	-0.186	5.34E-07	1.262	0.1178
rs41269944	6	32607627	C/T	0.417	HLA-DQA1	1.05337574	0.6544	-0.184	4.94E-07	1.282	0.106
rs9272608	6	32607737	T/A	0.418	HLA-DQA1	1.05442965	0.6493	-0.183	4.74E-07	1.272	0.1074
rs9272608	6	32607737	T/A	0.418	HLA-DQA1	1.05442965	0.6493	-0.183	4.74E-07	1.272	0.1074
rs9272608	6	32607737	T/A	0.418	HLA-DQA1	1.05442965	0.6493	-0.183	4.74E-07	1.272	0.1074
rs41269945	6	32607853	A/T	0.418	HLA-DQA1	1.05337574	0.6522	-0.183	4.77E-07	1.27	0.1074
rs9272617	6	32607926	T/G	0.730	HLA-DQA1	0.87721777	0.3105	-0.193	1.52E-06	1.176	0.1765
rs17426593	6	32608077	T/C	0.418	HLA-DQA1	1.05337574	0.6522	-0.183	4.79E-07	1.271	0.1073
	6	32608178	CA/GA	0.418		1.05442965	0.6503	-0.183	4.72E-07	1.273	0.1071
rs41269955	6	32608269	G/A	0.414	HLA-DQA1	1.05654061	0.6416	-0.185	4.76E-07	1.277	0.1087
rs28383409	6	32608279	T/G	0.689	HLA-DQA1	0.92403992	0.642	-0.256	1.16E-06	1.258	0.2715
	6	32608334	GAAA/G	0.421		1.04917066	0.7127	0.218	6.49E-08	-1.377	0.1163
rs34141382	6	32608478	T/C	0.413	HLA-DQA1	1.05654061	0.6403	-0.185	4.94E-07	1.26	0.1151
rs28383417	6	32608507	A/C	0.418	HLA-DQA1	1.05337574	0.6525	-0.183	4.78E-07	1.271	0.1071
rs36151380	6	32608886	T/C	0.397	HLA-DQA1	1.06289891	0.6186	-0.193	4.89E-07	1.296	0.1199
rs34763586	6	32608998	T/C	0.419	HLA-DQA1	1.05337574	0.6527	-0.183	4.73E-07	1.269	0.1074
rs1129753	6	32609130	C/T	0.248	HLA-DQA1	0.99104038	0.9574	-0.228	6.07E-06	2.966	0.006381
rs12722072	6	32609239	G/A	0.386	HLA-DQA1	1.06715902	0.6057	-0.199	4.55E-07	1.331	0.1198
rs1142335	6	32609278	G/C	0.664	HLA-DQA1	0.8361059	0.1736	-0.191	3.02E-06	0.847	0.3401
rs1142335	6	32609278	G/C	0.664	HLA-DQA1	0.8361059	0.1736	-0.191	3.02E-06	0.847	0.3401
rs9272709	6	32609279	C/T	0.664	HLA-DQA1	0.8361059	0.1736	-0.191	3.02E-06	0.847	0.3402
rs28383454	6	32609370	G/T	0.740	HLA-DQA1	0.81220704	0.245	-0.259	3.25E-06	0.789	0.5136
rs35874654	6	32609479	C/A	0.418	HLA-DQA1	1.05442965	0.6514	-0.183	4.73E-07	1.271	0.1073
rs34965214	6	32609545	C/T	0.418	HLA-DQA1	1.05337574	0.652	-0.183	4.72E-07	1.272	0.1069
	6	32609621	GA/G	0.413		1.05865581	0.6268	-0.187	4.04E-07	1.264	0.1146
	6	32609696	A/AGAAG	0.445		1.04393789	0.7248	-0.199	1.89E-07	1.402	0.09118
	6	32609697	CT/C	0.445		1.04393789	0.7246	-0.199	1.89E-07	1.403	0.09115
rs9272742	6	32609722	C/T	0.420	HLA-DQA1	1.05442965	0.6519	-0.183	4.81E-07	1.273	0.1074
rs114816840	6	32610214	T/C	0.533	HLA-DQA1	1.00400801	0.9764	-0.195	1.79E-06	1.285	0.1456
rs116613962	6	32610220	A/G	0.533	HLA-DQA1	1.00400801	0.9761	-0.195	1.79E-06	1.285	0.1456
rs9272785	6	32610401	G/A	0.418	HLA-DQA1	1.05337574	0.6539	-0.183	4.81E-07	1.271	0.1072
rs9272938	6	32611056	C/T	0.403	HLA-DQA1	1.05865581	0.6397	-0.191	4.96E-07	1.297	0.1163
rs707946	6	32611098	G/T	0.403	HLA-DQA1	1.05865581	0.6383	-0.191	4.97E-07	1.297	0.1164
rs9272951	6	32611125	A/C	0.455	HLA-DQA1	1.02839568	0.8118	-0.166	9.39E-06	1.109	0.1713
rs9272955	6	32611145	T/A	0.457	HLA-DQA1	1.0273678	0.8184	-0.165	9.59E-06	1.107	0.1699
rs9272957	6	32611152	G/A	0.457	HLA-DQA1	1.0273678	0.8187	-0.165	9.52E-06	1.108	0.1698
rs1064993	6	32611181	G/A	0.458	HLA-DQA1	1.0273678	0.819	-0.165	9.69E-06	1.109	0.1692
rs9273031	6	32611849	A/C	0.457	HLA-DQA1	1.02122205	0.8701	-0.175	9.98E-06	1.151	0.1796
rs9273036	6	32611898	A/G	0.458	HLA-DQA1	1.02122205	0.8658	-0.176	9.59E-06	1.147	0.1813
rs9273040	6	32611958	C/G	0.455	HLA-DQA1	1.02224378	0.86	-0.177	9.45E-06	1.142	0.1851
rs9273042	6	32611964	C/T	0.454	HLA-DQA1	1.02326654	0.8585	-0.177	9.42E-06	1.145	0.1848
rs9273044	6	32611971	G/C	0.453	HLA-DQA1	1.02326654	0.8581	-0.177	9.48E-06	1.146	0.1845
rs9273045	6	32611982	A/C	0.453	HLA-DQA1	1.02326654	0.8592	-0.177	9.51E-06	1.146	0.1845
rs9273048	6	32612008	T/C	0.467	HLA-DQA1	1.02531512	0.8477	-0.185	7.35E-06	1.246	0.1634
rs9273052	6	32612041	A/G	0.466	HLA-DQA1	1.02634095	0.8452	-0.186	7.23E-06	1.246	0.164
rs9273057	6	32612104	C/T	0.441	HLA-DQA1	1.03561971	0.7952	-0.187	7.79E-06	1.21	0.1818
rs9273059	6	32612111	G/A	0.440	HLA-DQA1	1.03561971	0.793	-0.188	7.81E-06	1.208	0.1832
rs9273062	6	32612161	C/A	0.442		1.03458461	0.7968	-0.187	7.83E-06	1.217	0.1788
rs9273063	6	32612166	C/T	0.442		1.03458461	0.7965	-0.187	7.83E-06	1.217	0.1791
rs9273070	6	32612241	A/T	0.433		1.03665585	0.7928	-0.189	7.75E-06	1.12	0.2217
rs9273071	6	32612251	T/G	0.432		1.03665585	0.7915	-0.19	7.99E-06	1.116	0.2245

						Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	Nearby gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs9273073	6	32612279	T/C	0.431		1.03665585	0.7904	-0.19	7.93E-06	1.115	0.2252
rs9273079	6	32612326	C/T	0.432		1.03561971	0.7963	-0.189	7.86E-06	1.113	0.2246
rs6926894	6	32612430	T/C	0.651		0.80815614	0.1945	-0.235	4.15E-06	0.754	0.4965
rs6926894	6	32612430	T/C	0.651		0.80815614	0.1945	-0.235	4.15E-06	0.754	0.4965
	6	32612452	A/AATGT	0.504		1.09198812	0.5454	-0.207	5.26E-06	1.232	0.211
rs200930495	6	32612460	G/A	0.420		1.04812201	0.7289	-0.19	9.01E-06	1.123	0.2245
rs9273093	6	32612514	G/A	0.420		1.04917066	0.723	-0.19	8.92E-06	1.132	0.2214
rs9273102	6	32612566	T/C	0.421		1.05022035	0.7236	-0.192	8.43E-06	1.139	0.2225
rs9273103	6	32612576	G/C	0.421		1.05022035	0.7222	-0.192	8.59E-06	1.141	0.2218
rs9273104	6	32612595	C/T	0.421		1.05022035	0.7231	-0.192	8.52E-06	1.142	0.2217
rs9273107	6	32612620	A/G	0.421		1.04917066	0.7255	-0.192	8.68E-06	1.146	0.2202
rs9273108	6	32612626	C/T	0.421		1.04917066	0.7255	-0.192	8.74E-06	1.145	0.2206
rs9273110	6	32612633	G/C	0.422		1.04917066	0.7256	-0.192	8.66E-06	1.144	0.221
rs9273111	6	32612643	G/A	0.422		1.04917066	0.7267	-0.192	8.65E-06	1.144	0.221
	6	32612747	AC/A	0.423		1.04707441	0.7405	-0.194	8.15E-06	1.168	0.2137
rs9273127	6	32612762	C/A	0.424		1.04602786	0.7444	-0.194	7.78E-06	1.168	0.2131
rs9273128	6	32612769	G/C	0.425		1.04498235	0.7495	-0.194	7.79E-06	1.171	0.2125
rs9273129	6	32612774	T/A	0.425		1.04498235	0.7494	-0.194	7.79E-06	1.171	0.2126
rs9273130	6	32612775	G/A	0.425		1.04498235	0.7493	-0.194	7.80E-06	1.171	0.2125
rs9273148	6	32612982	T/A	0.419		1.04812201	0.7343	-0.213	6.89E-07	1.418	0.1286
rs9273149	6	32612987	G/A	0.446		1.04917066	0.7304	-0.198	4.88E-06	1.268	0.1772
rs9273154	6	32613028	G/A	0.443		1.04917066	0.7269	-0.198	4.98E-06	1.269	0.1764
rs9273155	6	32613042	A/C	0.441		1.04917066	0.7267	-0.198	4.97E-06	1.264	0.1776
rs9273157	6	32613052	C/G	0.441		1.04917066	0.7259	-0.198	4.96E-06	1.264	0.1778
rs9273174	6	32613237	A/G	0.464		1.0314855	0.826	-0.203	3.56E-06	1.372	0.1479
	6	32613360	C/CA	0.397		1.07250818	0.6061	-0.218	2.71E-07	1.358	0.1412
rs9273187	6	32613376	C/T	0.451		1.03873123	0.7826	-0.197	4.45E-06	1.299	0.163
rs74656013	6	32614037	C/T	0.463		1.02020134	0.8825	-0.193	3.97E-06	1.221	0.1777
rs114430970	6	32614158	G/A	0.398		1.07465534	0.5889	-0.215	2.66E-07	1.395	0.1247
	6	32614277	T/A	0.454		1.03251751	0.8099	-0.192	4.15E-06	1.186	0.1896
rs17843590	6	32615850	A/G	0.780		0.78348763	0.1308	-0.227	6.38E-06	0.925	0.3965
	6	32615853	G/A	0.364		1.08328707	0.5678	-0.213	1.26E-06	1.262	0.1867
rs77770300	6	32615903	A/G	0.534		0.9970045	0.9834	-0.226	1.19E-06	1.419	0.1605
rs28787299	6	32618811	G/A	0.278		0.93426047	0.6973	0.248	5.54E-06	-2.442	0.03872
rs28575832	6	32619851	T/C	0.702		0.8641577	0.4017	-0.247	6.32E-06	2.025	0.08673
rs28371182	6	32620255	T/C	0.494		1.0030045	0.982	-0.19	1.23E-06	1.329	0.1177
rs28371183	6	32620256	G/C	0.494		1.0030045	0.9824	-0.19	1.23E-06	1.328	0.1178
rs17843604	6	32620283	C/T	0.703		0.84535383	0.164	-0.182	1.37E-06	0.945	0.2482
rs17612774	6	32620286	T/C	0.702		0.84619961	0.1648	-0.181	1.45E-06	0.942	0.2469
rs41269976	6	32620549	C/A	0.420		1.05337574	0.6549	-0.182	4.77E-07	1.267	0.1061
rs41269978	6	32620741	A/C	0.417		1.05865581	0.6288	-0.187	3.97E-07	1.294	0.1072
rs17843654	6	32621378	T/A	0.742		0.81383308	0.1524	-0.212	2.23E-06	0.928	0.3407
rs9273310	6	32622954	G/A	0.280		1.02942459	0.852	0.229	1.70E-06	-1.673	0.1069
rs56435053	6	32623277	C/T	0.418		1.0273678	0.82	-0.191	1.64E-07	1.526	0.05444
rs73732212	6	32623372	A/G	0.659		0.87897397	0.2851	-0.188	5.97E-07	1.171	0.1519
	6	32624327	G/T	0.205		1.01612869	0.9277	0.256	2.01E-06	-1.922	0.09965
rs4308604	6	32624618	C/T	0.817		0.84874202	0.3135	-0.23	6.51E-06	1.218	0.271
rs28479136	6	32625051	G/A	0.206		1.11182188	0.522	0.25	1.19E-06	-2.003	0.0729
rs28629976	6	32625221	T/C	0.163		1.19124622	0.3182	0.254	3.93E-06	-2.265	0.05692
rs149503020	6	32625802	T/G	0.161		1.13541702	0.4892	0.26	6.31E-06	-1.725	0.1666
rs6905775	6	32626021	G/A	0.419		1.0273678	0.8209	-0.191	1.62E-07	1.528	0.05427
rs17205373	6	32626210	C/G	0.240		1.05654061	0.6812	0.201	1.34E-06	-1.478	0.1005
rs9273363	6	32626272	C/A	0.454		1.0030045	0.976	-0.176	6.19E-07	1.138	0.1387
rs9273364	6	32626302	T/G	0.454		1.0030045	0.976	-0.176	6.19E-07	1.138	0.1387
rs9273366	6	32626382	G/T	0.419		1.0273678	0.817	-0.191	1.67E-07	1.527	0.0543
rs9273367	6	32626438	A/T	0.459		1.00400801	0.973	-0.179	4.53E-07	1.169	0.1297
rs9273368	6	32626475	G/A	0.454		1.0030045	0.976	-0.176	6.19E-07	1.138	0.1387
rs9273371	6	32626565	C/T	0.271		1.02122205	0.87	0.187	2.27E-06	-1.737	0.04285
rs9273386	6	32626977	T/C	0.703		0.84704623	0.1711	-0.192	3.45E-07	0.955	0.2447
rs4713573	6	32626984	A/C	0.268		1.04812201	0.7076	0.188	1.56E-06	-1.455	0.08685
rs9273390	6	32627042	G/C	0.434		1.04498235	0.724	-0.187	1.84E-06	1.211	0.1538
rs9273391	6	32627043	A/G	0.426		1.0273678	0.8328	-0.189	1.39E-06	1.431	0.09264
rs9273392	6	32627046	C/A	0.438		1.02634095	0.8337	-0.184	1.65E-06	1.454	0.08009
rs9273393	6	32627050	G/A	0.438		1.02634095	0.8337	-0.184	1.65E-06	1.453	0.08017
rs9273400	6	32627128	C/T	0.700		0.8478937	0.1779	-0.192	4.92E-07	0.946	0.2552

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs28724248	6	32629500	C/A	0.355	HLA-DQB1	1.05442965	0.7162	-0.204	8.40E-06	1.286	0.1958
	6	32630684	C/T	0.559	HLA-DQB1	0.82448197	0.2528	-0.251	2.05E-06	0.987	0.3895
	6	32630689	T/C	0.559	HLA-DQB1	0.82201223	0.2476	-0.252	1.83E-06	0.98	0.3934
	6	32630701	C/T	0.559	HLA-DQB1	0.82119063	0.2445	-0.253	1.78E-06	0.981	0.3931
	6	32630720	C/T	0.576	HLA-DQB1	0.82695913	0.2548	-0.242	3.70E-06	1.161	0.3046
rs9274199	6	32630721	A/G	0.559	HLA-DQB1	0.82036985	0.243	-0.252	1.95E-06	0.964	0.4024
	6	32630758	G/A	0.573	HLA-DQB1	0.83276816	0.2598	-0.24	2.21E-06	1.017	0.3563
rs368911972	6	32630784	T/C	0.345	HLA-DQB1	1.10738347	0.5431	0.241	3.83E-06	-1.973	0.08033
	6	32630920	A/C	0.579	HLA-DQB1	0.84282157	0.2983	-0.238	3.52E-06	0.949	0.3937
	6	32630968	A/C	0.574	HLA-DQB1	0.8504412	0.3295	-0.235	5.92E-06	0.914	0.4162
	6	32631372	A/G	0.357	HLA-DQB1	1.04498235	0.7689	-0.221	1.84E-06	1.368	0.1729
	6	32631458	T/C	0.353	HLA-DQB1	1.04707441	0.7602	-0.222	1.87E-06	1.36	0.1785
rs9274384	6	32632635	A/C	0.337	HLA-DQB1	1.11071061	0.4676	0.241	7.87E-08	-1.901	0.05131
rs1130386	6	32632650	C/T	0.703	HLA-DQB1	0.80734839	0.1076	-0.197	1.95E-06	0.889	0.3223
	6	32632659	C/T	0.276	HLA-DQB1	1.04393789	0.7756	0.214	4.26E-06	-1.384	0.1706
rs9274390	6	32632660	T/G	0.280	HLA-DQB1	1.04812201	0.7508	0.207	7.90E-06	-1.33	0.1838
rs1049082	6	32632744	C/T	0.637	HLA-DQB1	0.86675407	0.272	-0.217	7.85E-08	1.114	0.2051
rs1140310	6	32632783	A/C	0.255	HLA-DQB1	1.15257665	0.3039	0.205	1.87E-06	-1.471	0.1152
rs3830060	6	32633971	A/G	0.412	HLA-DQB1	1.04393789	0.7359	-0.194	7.92E-07	1.44	0.09187
rs9274695	6	32636997	C/T	0.613		0.89404426	0.3538	-0.194	2.28E-07	1.287	0.1146
rs1794493	6	32639578	A/G	0.661		0.87284263	0.2747	-0.186	1.60E-06	0.82	0.3297
rs9274901	6	32641213	A/T	0.443		0.76490778	0.0907	-0.257	1.82E-07	1.867	0.08214
rs9274953	6	32641869	G/A	0.562		0.87109869	0.3145	-0.225	1.22E-07	1.061	0.2529
rs9275160	6	32652620	G/A	0.630		0.91851228	0.4628	-0.192	9.56E-08	0.959	0.2212
rs34100078	6	32653792	A/G	0.205		1.1595129	0.2782	0.189	9.90E-06	-1.42	0.1243
rs3129713	6	32657255	C/T	0.237		1.08112266	0.5403	0.186	3.26E-06	-1.203	0.165
rs3129715	6	32657281	G/T	0.237		1.08112266	0.5393	0.186	3.28E-06	-1.203	0.165
rs9275208	6	32657722	G/A	0.668		0.88161485	0.2886	-0.174	2.52E-06	0.828	0.3013
rs9275210	6	32657817	C/T	0.668		0.88161485	0.2886	-0.174	2.52E-06	0.828	0.3013
rs7775228	6	32658079	T/C	0.237		1.08112266	0.5447	0.186	3.27E-06	-1.196	0.1682
rs2157051	6	32658624	G/A	0.711		0.8598477	0.2121	-0.177	2.84E-06	0.841	0.3051
rs9275215	6	32658677	T/C	0.626		0.90302955	0.3792	-0.191	1.06E-07	0.925	0.2369
rs9275216	6	32658748	A/T	0.626		0.90483742	0.3843	-0.191	1.11E-07	0.917	0.2409
rs9275218	6	32658933	C/G	0.626		0.9066489	0.3966	-0.19	1.22E-07	0.9	0.2501
rs2858327	6	32658935	A/G	0.238		1.09089668	0.4961	0.187	3.02E-06	-1.093	0.2072
rs9275222	6	32659516	A/T	0.666		0.9012253	0.3748	-0.163	8.42E-06	1.101	0.1635
rs67838634	6	32662128	A/G	0.666		0.90032452	0.3704	-0.162	8.35E-06	1.11	0.1597
rs17206147	6	32665311	T/C	0.238		1.10849141	0.4279	0.194	1.64E-06	-0.794	0.3654
rs79876547	6	32669137	T/C	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs76901383	6	32669817	T/C	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs35406540	6	32670368	A/G	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3855
rs66709408	6	32670414	C/T	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs35120848	6	32670495	C/T	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs13192471	6	32671103	T/C	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs1794275	6	32671248	G/A	0.246		1.13769012	0.3111	0.204	2.92E-07	-0.991	0.252
rs28451714	6	32671601	G/T	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs77184128	6	32672135	C/T	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs4568494	6	32672361	A/G	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs35030589	6	32672903	G/A	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs115580594	6	32673569	A/G	0.238		1.11293425	0.4083	0.195	1.41E-06	-0.761	0.3856
rs9275511	6	32674329	G/A	0.668		0.89673042	0.3541	-0.169	3.96E-06	1.145	0.149
	6	32677647	C/T	0.674		0.876341	0.2679	-0.173	3.72E-06	1.343	0.09676
rs9275563	6	32677912	C/T	0.666		0.87897397	0.2756	-0.177	1.33E-06	0.73	0.3598
rs2894281	6	32678424	G/A	0.704		0.85299636	0.1943	-0.169	9.16E-06	1.187	0.1509
rs59779702	6	155020519	T/A	0.084		0.92403992	0.7442	-0.339	5.27E-06	0.6	0.7105
rs13224192	7	4259953	G/T	0.211	SDK1	0.96464029	0.7992	0.003	0.9432	-4.157	9.08E-06
rs13224208	7	4259989	G/C	0.228	SDK1	0.93613086	0.6317	0.017	0.6911	-4.069	8.47E-06
rs641930	7	4264446	G/C	0.228	SDK1	0.93239382	0.6107	0.009	0.8426	-4.107	6.22E-06
rs614256	7	4266036	T/C	0.208	SDK1	0.95313379	0.723	0.005	0.916	-4.065	7.43E-06
rs611409	7	4266275	A/G	0.207	SDK1	0.95122942	0.715	0.004	0.9279	-4.075	7.69E-06
rs610962	7	4266379	A/G	0.226	SDK1	0.93332668	0.6057	0.015	0.7289	-4.085	4.50E-06
rs597636	7	4267072	T/A	0.219	SDK1	0.92588985	0.567	0.014	0.7481	-3.969	9.82E-06
rs688884	7	4268439	A/G	0.226	SDK1	0.92681621	0.5718	0.012	0.7683	-4.032	6.16E-06
rs678098	7	4268505	C/T	0.226	SDK1	0.92403992	0.5547	0.013	0.7534	-4.039	6.03E-06
rs662366	7	4270201	T/A	0.225	SDK1	0.91759423	0.5242	0.008	0.8574	-4.021	6.58E-06

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs660109	7	4270239	T/A	0.224	SDK1	0.92035115	0.5361	0.007	0.8666	-4.015	6.69E-06
rs647910	7	4270682	A/G	0.225	SDK1	0.92311635	0.55	0.006	0.8912	-3.99	7.51E-06
rs631530	7	4272488	A/T	0.225	SDK1	0.91210515	0.4955	0.006	0.8891	-4.034	7.31E-06
rs7800508	7	4280525	T/C	0.257	SDK1	0.93894347	0.6412	-0.021	0.6157	-4.401	8.68E-07
rs4723527	7	4287120	G/C	0.261	SDK1	0.92035115	0.5445	-0.025	0.5655	-4.41	1.08E-06
rs13241488	7	4310145	G/C	0.179		1.03251751	0.8292	0.033	0.4749	-4.384	6.49E-06
rs10236881	7	4311029	A/G	0.187		1.03977048	0.786	0.032	0.4783	-4.322	5.86E-06
rs10237163	7	4311316	A/C	0.186		1.02020134	0.8902	0.033	0.4564	-4.355	4.22E-06
rs12701526	7	4312945	G/A	0.180		1.03873123	0.7967	0.042	0.362	-4.324	8.60E-06
rs1542222	7	4313988	G/A	0.183		1.03355054	0.8227	0.033	0.4765	-4.412	5.52E-06
rs13243377	7	4315442	G/A	0.184		1.03355054	0.8212	0.037	0.4219	-4.405	5.60E-06
rs6963196	7	4320942	A/G	0.702		1.1297541	0.3258	-0.016	0.6812	3.792	4.60E-06
rs6963217	7	4320984	A/G	0.703		1.13088442	0.3219	-0.016	0.6761	3.782	4.77E-06
rs9639740	7	4321100	A/G	0.702		1.1297541	0.3268	-0.016	0.6766	3.781	4.69E-06
rs6942784	7	4321177	G/A	0.703		1.1297541	0.3235	-0.017	0.6693	3.768	4.90E-06
rs6963543	7	4321181	A/C	0.703		1.13088442	0.3231	-0.017	0.6664	3.763	4.99E-06
rs4081585	7	4321255	T/C	0.703		1.1297541	0.3234	-0.017	0.6653	3.762	5.00E-06
rs10259929	7	4321571	A/G	0.703		1.1297541	0.323	-0.017	0.6611	3.752	5.14E-06
rs10277408	7	4322395	G/T	0.708		1.15142465	0.262	-0.012	0.7556	3.783	5.88E-06
rs11769632	7	4322910	A/G	0.703		1.14110832	0.2893	-0.022	0.5762	3.739	6.49E-06
rs11766159	7	4323068	C/T	0.700		1.13428217	0.3139	-0.028	0.484	3.812	4.82E-06
rs10268536	7	4323741	A/G	0.689		1.12862491	0.338	-0.024	0.5446	3.876	3.60E-06
rs10268540	7	4323762	A/C	0.689		1.14339282	0.2859	-0.026	0.5043	3.807	5.40E-06
rs10268977	7	4324081	A/G	0.697		1.13769012	0.3022	-0.017	0.6588	3.779	5.80E-06
rs11771523	7	4326782	G/A	0.720		1.08220432	0.5386	-0.053	0.192	3.834	7.28E-06
rs73047621	7	4327070	G/A	0.693		1.15719619	0.2473	-0.016	0.6801	3.859	4.21E-06
rs4720263	7	4423708	T/G	0.301		0.74901221	0.0337	0.014	0.7386	-4.064	8.23E-06
rs3807588	7	5631403	G/T	0.627		1.14110832	0.2523	-0.074	0.0423	3.4	9.43E-06
	7	32605171	C/CA	0.899		0.78348763	0.3365	0.365	3.24E-06	-0.751	0.6597
	8	135247131	C/CT	0.458		0.9012253	0.3709	0.013	0.7222	3.439	8.09E-06
rs1838914	8	135248058	C/T	0.448		0.90032452	0.359	0.009	0.8112	3.424	6.45E-06
rs9650120	8	135249414	C/T	0.449		0.90302955	0.3655	0.008	0.8304	3.391	5.92E-06
rs6996817	8	135249548	T/C	0.458		0.90574271	0.3807	0.011	0.7501	3.5	2.90E-06
rs966818	8	135251360	A/G	0.459		0.91028276	0.4094	0.01	0.779	3.554	2.48E-06
	8	135252054	GAGA/G	0.449		0.8976276	0.3453	0.009	0.7987	3.483	4.01E-06
rs2028939	8	135252366	G/T	0.459		0.90937293	0.4053	0.011	0.7617	3.559	2.72E-06
rs1579880	8	135252474	C/G	0.459		0.90937293	0.4062	0.011	0.7596	3.565	2.67E-06
rs1579882	8	135252730	T/G	0.459		0.9111935	0.4157	0.011	0.7615	3.593	2.19E-06
rs2028940	8	135252796	A/G	0.459		0.9111935	0.415	0.011	0.7627	3.593	2.22E-06
rs2028941	8	135253546	C/A	0.459		0.9111935	0.4179	0.011	0.7549	3.613	2.10E-06
rs2028942	8	135253675	T/C	0.459		0.91210515	0.4227	0.011	0.7507	3.619	2.04E-06
	8	135255086	GT/G	0.459		0.91301771	0.4296	0.013	0.7241	3.67	1.72E-06
rs6985458	8	135256192	G/A	0.448		0.89493875	0.3401	0.012	0.7494	3.647	2.15E-06
rs12542306	8	135256586	C/T	0.442		0.89942465	0.3632	0.007	0.8566	3.607	2.94E-06
rs4897702	8	135256931	A/T	0.456		0.91028276	0.4218	0.014	0.6989	3.683	2.02E-06
	8	135258019	T/TG	0.454		0.91759423	0.4652	0.01	0.7883	3.687	2.09E-06
rs1579876	8	135260420	C/T	0.454		0.92496443	0.5104	0.014	0.7112	3.722	1.95E-06
rs6471206	8	135261117	A/G	0.453		0.92403992	0.5033	0.014	0.7049	3.737	1.88E-06
rs7815222	8	135261158	C/T	0.454		0.92681621	0.52	0.014	0.7014	3.732	1.90E-06
rs4897703	8	135262846	T/C	0.402		1.00601804	0.959	-0.017	0.6513	3.723	1.62E-06
rs4897704	8	135262880	G/A	0.401		1.0030045	0.9784	-0.017	0.6344	3.737	1.47E-06
rs4897705	8	135263799	T/C	0.391		0.99501248	0.9692	-0.015	0.6864	3.605	4.10E-06
rs1596945	8	135264827	T/C	0.389		0.98609754	0.9063	-0.01	0.7822	3.549	5.58E-06
	8	135266631	G/GTCAT	0.389		0.99203191	0.9471	-0.01	0.7881	3.556	5.50E-06
rs1867948	8	135269198	C/T	0.389		1.0030045	0.9783	-0.008	0.8193	3.516	6.96E-06
	8	145579950	GA/AA	0.502		0.50763124	8.54E-06	-0.017	0.7236	0.038	0.9709
rs4993862	8	145579953	T/A	0.502	FBXL6	0.50763124	8.58E-06	-0.017	0.724	0.039	0.9706
rs4993862	8	145579953	T/A	0.502	FBXL6	0.50763124	8.58E-06	-0.017	0.724	0.039	0.9706
rs4993861	8	145579954	G/A	0.502	FBXL6	0.50763124	8.61E-06	-0.017	0.7233	0.04	0.9693
rs1566447	9	8376477	C/T	0.094	PTPRD	2.59607321	1.60E-06	0.045	0.4779	0.369	0.7863
rs142585779	9	140239588	C/T	0.102	EXD3	0.39180148	7.89E-06	-0.017	0.8014	0.271	0.8508
rs2224985	10	44382946	G/A	0.108	LINC00840	0.87985338	0.4757	0.017	0.7576	-5.298	9.01E-06
rs10899938	10	44383053	A/C	0.108	LINC00840	0.88073367	0.476	0.017	0.7572	-5.299	8.96E-06
rs1460540	10	44384897	C/A	0.103	LINC00840	0.87022803	0.4543	0.014	0.8049	-5.466	9.99E-06

					Nearby	Asthma		Log10(IgE)		Lung Function	
rsID	chr	hg19 position	REF/ALT	MAF	gene(s)	OR	P value	Effect Size	P value	Effect Size	P value
rs7097229	10	44385605	T/G	0.107	LINC00840	0.8824969	0.4868	0.019	0.7428	-5.369	7.34E-06
rs1947672	10	44386102	A/G	0.107	LINC00840	0.88337984	0.4898	0.019	0.7391	-5.392	6.84E-06
rs10899940	10	44388083	C/G	0.103	LINC00840	0.85129207	0.3879	0.016	0.7919	-5.57	7.13E-06
rs1325486	10	44388675	C/A	0.107	LINC00840	0.86588775	0.4227	0.02	0.7275	-5.48	5.09E-06
rs10899941	10	44390503	G/C	0.102	LINC00840	0.85470406	0.3998	0.016	0.7853	-5.608	6.43E-06
rs10899942	10	44390863	G/A	0.102	LINC00840	0.85470406	0.4008	0.016	0.7835	-5.613	6.32E-06
rs10899943	10	44391917	A/G	0.106		0.87897397	0.4803	0.013	0.821	-5.47	7.29E-06
	10	44392165	TA/T	0.108		0.86502229	0.4179	0.012	0.831	-5.382	6.62E-06
rs78212924	10	44392826	C/T	0.099		0.87721777	0.4894	0.007	0.9021	-5.734	5.68E-06
rs117384395	12	20774642	T/C	0.272	PDE3A	1.08328707	0.5855	-0.202	8.89E-06	0.335	0.7348
rs4765590	12	125115891	A/G	0.376		1.03977048	0.7306	-0.018	0.621	3.471	4.65E-06
rs10846693	12	125116474	G/A	0.377		1.03458461	0.7612	-0.015	0.6826	3.525	2.81E-06
rs4765591	12	125118479	C/T	0.316		0.94648515	0.6547	-0.005	0.8988	3.595	9.69E-06
rs12369888	12	125120537	C/T	0.383		1.03251751	0.7818	-0.024	0.5025	3.742	9.03E-07
rs12371000	12	125121037	G/T	0.377		1.04812201	0.6796	-0.017	0.6346	3.573	2.32E-06
rs56095799	12	125122377	G/A	0.365		1.059715	0.6161	-0.026	0.4856	3.681	1.85E-06
rs1193394	12	128810511	G/A	0.371	TMEM132C	0.85470406	0.3043	0.213	8.06E-06	-0.128	0.9015
rs61995582	14	21034836	G/A	0.307		0.92311635	0.5247	-0.18	4.12E-06	1.024	0.2264
rs7141747	14	21050921	T/C	0.370		1	0.9996	-0.167	6.48E-06	-0.164	0.8383
rs1364089	16	66154187	G/A	0.085		0.93426047	0.737	-0.297	2.83E-06	0.315	0.8193
rs9926258	16	66154429	A/C	0.094		0.94270677	0.7531	-0.275	2.96E-06	0.711	0.578
rs9926420	16	66154575	A/T	0.095		0.9540874	0.8016	-0.271	3.53E-06	0.743	0.5584
rs9926714	16	66154700	G/T	0.095		0.95599748	0.8102	-0.271	3.34E-06	0.745	0.5567
rs28547342	16	66155010	G/A	0.094		0.96850658	0.8637	-0.268	5.38E-06	0.663	0.6039
rs8060523	16	66155081	T/C	0.094		0.96464029	0.8496	-0.267	5.78E-06	0.831	0.5153
	16	66155168	TGAGAGAGA/TGAGA	0.093		0.97726248	0.9021	-0.264	9.20E-06	0.734	0.5696
rs11657565	17	1848100	A/C	0.097	RTN4RL1	0.96947557	0.8686	0.261	8.63E-06	1.242	0.329
rs115135057	17	1850269	G/C	0.097	RTN4RL1	0.96850658	0.867	0.262	8.81E-06	1.237	0.332
	17	1850271	A/ATG	0.097		0.96850658	0.8666	0.262	8.81E-06	1.237	0.3321
	17	1850329	T/G	0.096	RTN4RL1	0.95791139	0.8236	0.263	8.48E-06	1.235	0.335
rs10438728	17	1859515	C/G	0.103	RTN4RL1	0.91301771	0.6148	0.248	9.90E-06	0.658	0.5889
rs10438742	17	1859530	T/C	0.103	RTN4RL1	0.91210515	0.613	0.248	9.85E-06	0.656	0.5901
	17	1860032	CTTTT/C	0.161		0.97530991	0.8821	0.246	2.92E-06	0.536	0.6396
	18	45894340	G/GA	0.178		0.5020779	9.69E-06	-0.046	0.358	-0.344	0.7473
rs148980742	18	45912924	A/G	0.069	ZBTB7C	0.3756866	9.32E-06	-0.125	0.07786	-1.277	0.4009
rs34196188	18	57456258	T/A	0.260		1.0512711	0.7325	-0.201	9.36E-06	1.794	0.06735
rs35456671	18	57456271	A/G	0.257		1.09198812	0.5439	-0.2	9.62E-06	1.741	0.0758
rs57018922	18	57456346	G/C	0.256		1.09308066	0.5421	-0.201	8.93E-06	1.737	0.0767
rs4798975	18	76431563	G/A	0.695		1.00803209	0.9511	0.186	7.24E-06	-1.059	0.2394
	19	4160737	C/CT	0.451		0.88337984	0.4919	-0.033	0.5591	-5.995	5.74E-07
rs168423	19	4170468	G/A	0.474	CREB3L3	0.94932887	0.6777	-0.003	0.9403	-3.833	3.67E-06
	19	4170920	A/AAATG	0.478		0.9665715	0.7824	0.001	0.9821	-3.79	4.24E-06
	19	56085686	C/CA	0.454		1.03873123	0.7517	-0.021	0.5865	3.67	5.17E-06
rs12151142	19	56086584	T/C	0.458		1.06715902	0.5793	-0.03	0.4119	3.551	5.50E-06
rs28373821	19	56087079	G/A	0.458		1.06822672	0.5712	-0.03	0.417	3.551	5.32E-06
rs77509162	19	56091899	G/A	0.249	ZNF579	1.08328707	0.5573	-0.02	0.6399	4.757	1.39E-07
rs58751607	19	56120284	T/C	0.258	ZNF865	1.04917066	0.7289	0.008	0.8585	4.405	2.19E-06
rs10411244	19	56140677	A/C	0.356		1.06822672	0.6046	0.004	0.914	3.857	5.64E-06
rs186981222	19	56149601	G/C	0.297	ZNF580	1.02326654	0.8563	0.015	0.7093	3.836	4.65E-06
rs75498600	19	56151704	G/A	0.295	ZNF580	1.01816298	0.8887	0.014	0.7267	3.883	3.64E-06
rs3760701	19	56152115	G/A	0.306	ZNF580	1.05022035	0.6965	0.012	0.7694	3.893	3.03E-06
rs34834404	19	56190645	G/A	0.314	EPN1	1.05759768	0.6632	0.02	0.6202	4.059	2.50E-06
rs12985023	19	56202754	C/T	0.325	EPN1	0.96367614	0.7807	0.004	0.9158	3.984	5.81E-06
rs73622659	20	44838624	G/C	0.317	CDH22	0.96560542	0.7856	-0.022	0.5855	-3.856	8.56E-06
	20	60495165	T/TTGTG	0.407		1.1040663	0.6242	-0.28	7.60E-06	2.456	0.07062

Supplementary Table 4: Look up of non-European GWAS for asthma; three variants were rare or not available within GASP.

Published Study						GASP							
								Asthma		Log10(IgE)		Lung function	
Study	chr	rsID	REF/ALT	OR	P-value	REF/ALT	MAF	OR	p-value	Beta	p-value	Beta	p-value
EVE African	1	rs1102000	T/C	1.34	3.60E-07	G/A	<0.05	NA	NA	NA	NA	NA	NA
EVE Latino	5	rs10064618	G/A	1.25	5.70E-07	G/A	0.34	0.82	0.104	-0.05	0.180	-0.12	0.879
EVE African	11	rs11214966	C/T	1.35	3.50E-07	T/C	0.25	0.81	0.089	0.01	0.749	0.86	0.319
EVE Latino	19	rs335016	A/C	1.25	2.60E-07	C/A	0.33	1.41	0.003	-0.03	0.395	-0.60	0.447
CAAPA	8	rs13277810	C/T	1.26	3.20E-08	C/T	<0.05	NA	NA	NA	NA	NA	NA
CAAPA	8	rs114647118	C/T	0.48	2.70E-07	NA	NA	NA	NA	NA	NA	NA	NA

Supplementary Table 5: GTEx significant transcripts (q ≤ 0.05) within 1Mb region of peak GWAS SNPs associated with lung function and tIgE in Lung and Whole blood tissues. The PP3 and PP4 from the colocalization for each gene in included in brackets after the gene name.

Phenotype	SNP	Region (Chr:Start-End)	Lung Tissue		Whole Blood	
Lung function	rs4410198	19:55122538-57122538	n=37	*KIR3DL1(1/0), KIR2DS4(1/0), KIR3DL2(1/0), NLRP2(1/0), CTC-550B14.7(1/0), RDH13(1/0), EPS8L1(1/0), SUV420H2(1/0), TMEM190(1/0), RPL28(1/0), SSC5D(1/0), ZNF582-AS1(1/0), ZNF667(1/0), ZNF667-AS1(1/0), ZFP28(1/0), AC007228.11(1/0), ZNF470(1/0), ZNF580(1/0), KIR2DL1(1/0), ZNF71(1/0), TMEM86B(0.96/0), LILRB1(0.95/0), LILRB4(0.83/0.01), NAT14(0.77/0.01), COX6B2(0.71/0.04), ISOC2(0.7/0.01), IL11(0.67/0.01), DNAAF3(0.52/0.03), ZNF542(0.51/0.2), TNNT1(0.44/0.02), CTD-2537I9.12(0.42/0.02), KIR2DL3(0.32/0.05), CTD-2105E13.13(0.32/0.08), FCAR(0.31/0.03), EPN1(0.25/0.13), ZNF579(0.21/0.53),* ***CTD-2537I9.5(0.02/0.98)***	n=30	*KIR3DL1(1/0), KIR2DP1(1/0), KIR2DL1(1/0), KIR2DS4(1/0), KIR3DL2(1/0), NCR1(1/0), NLRP2(1/0), CTC-550B14.7(1/0), RDH13(1/0), TNNT1(1/0), COX6B2(1/0), RPL28(1/0), ZNF582-AS1(1/0), ZFP28(1/0), KIR2DL3(0.99/0), CTB-61M7.2(0.99/0), AC007228.11(0.99/0), SSC5D(0.96/0), ZNF470(0.95/0), EPS8L1(0.77/0.01), TMEM86B(0.76/0.01), FCAR(0.71/0.02), TMEM150B(0.58/0.02), AC010327.2(0.58/0.02), ZNF835(0.52/0.03), ZNF71(0.38/0.33), EPN1(0.26/0.04), CTC-550B14.8(0.25/0.04), AC011515.2(0.14/0.05), LAIR1(0.05/0.03)*
IgE	rs3135348	6:31394098-33394098	n=57	*MICB(1/0), ATP6V1G2(1/0), LY6G5B(1/0), LY6G5C(1/0), C6orf48(1/0), SKIV2L(1/0), C4A(1/0), CYP21A1P(1/0), TNXA(1/0), STK19P(1/0), ATF6B(1/0), RNF5(1/0), NOTCH4(1/0), HCG23(1/0), HLA-DRB5(1/0), HLA-DQB1(1/0), HLA-DQB1-AS1(1/0), XXbac-BPG254F23.6(1/0), HLA-DQA2(1/0), HLA-DQB2(1/0), HLA-DOB(1/0), TAP2(1/0), PSMB9(1/0), HLA-DPA1(1/0), HSD17B8(1/0), DAXX(1/0), PRRC2A(1/0), BAG6(1/0), RPL32P1(1/0), HLA-DPB2(1/0), HLA-DOA(1/0), TAPBP(1/0), C4B(1/0), HLA-DRB6(0.99/0.01), RPS18(0.99/0), DDAH2(0.99/0), COL11A2(0.98/0), CYP21A2(0.98/0.01), HLA-DRB1(0.98/0.02), ZBTB22(0.98/0), NELFE(0.97/0), HLA-DPB1(0.97/0), AIF1(0.96/0.01), CSNK2B(0.95/0), ABHD16A(0.93/0.01), HLA-DRB9(0.9/0.1), HLA-DQA1(0.77/0.23), DXO(0.73/0.03), XXbac-BPG154L12.4(0.71/0.25), RING1(0.67/0.01), ZBTB12(0.6/0.02), PPP1R2P1(0.58/0.02), DDX39B(0.53/0.02), AGER(0.52/0.05), STK19(0.47/0.02), PSMB8(0.47/0.02), B3GALT4(0.44/0.03)*	n=51	*MICB(1/0), DDX39B(1/0), PRRC2A(1/0), LY6G5B(1/0), LY6G5C(1/0), C6orf48(1/0), SKIV2L(1/0), C4A(1/0), CYP21A1P(1/0), C4B(1/0), PBX2(1/0), HLA-DRB5(1/0), HLA-DQB1(1/0), HLA-DQB1-AS1(1/0), HLA-DQB2(1/0), HLA-DOB(1/0), TAP2(1/0), PSMB9(1/0), RPS18(1/0), AIF1(1/0), CYP21A2(1/0), HLA-DQA1(1/0), HLA-DPB2(1/0), ATP6V1G2(1/0), DAXX(1/0), HLA-DOA(0.99/0), HLA-DRB1(0.99/0.01), C2(0.99/0), HLA-DRB6(0.99/0.01), TAP1(0.99/0), HLA-DRB9(0.98/0.02), HLA-DQA2(0.98/0.02), HSD17B8(0.98/0), RPL32P1(0.97/0), CSNK2B(0.85/0.02), PSMB8(0.84/0.01), AGER(0.84/0.01), FKBPL(0.8/0.1), BAG6(0.78/0.1), DDAH2(0.78/0.02), NCR3(0.78/0.03), HLA-DPB1(0.77/0.01), STK19(0.66/0.03), CLIC1(0.63/0.02), SLC44A4(0.62/0.02), HLA-DMA(0.59/0.02), HLA-DRA(0.55/0.03), HLA-DPA1(0.53/0.03), TAPSAR1(0.52/0.03), COL11A2(0.48/0.02), RNF5(0.44/0.03)*

Supplementary Table 6: MHC Class I and II Genes and HLA that were imputed in these data. 14 alleles with a frequency >=5% were tested individually for the three primary phenotypes .

Gene/Haplotype	Allele/Haplotype	Frequency
HLA-C	HLA-C*04:01	27.52%
	HLA-C*01:02	16.87%
	HLA-C*07:02	12.66%
	HLA-C*03:04	10.58%
	HLA-C*15:02	6.50%
	HLA-C*08:01	4.36%
	HLA-C*07:01	4.22%
	HLA-C*08:02	3.18%
	HLA-C*08:03	2.70%
	HLA-C*06:02	2.49%
	HLA-C*05:01	1.87%
	HLA-C*16:01	1.87%
	HLA-C*03:03	1.24%
	HLA-C*12:03	0.97%
	HLA-C*17:01	0.76%
	HLA-C*02:02	0.62%
	HLA-C*15:05	0.55%
	HLA-C*12:02	0.35%
	HLA-C*14:02	0.28%
	HLA-C*16:02	0.21%
	HLA-C*03:02	0.14%
	HLA-C*16:04	0.07%
HLA-DQA1	HLA-DQA1*03:01	20.30%
	HLA-DQA1*03:02	19.62%
	HLA-DQA1*04:01	19.34%
	HLA-DQA1*05:03	12.69%
	HLA-DQA1*05:05	7.48%
	HLA-DQA1*02:01	4.39%
	HLA-DQA1*01:02	3.98%
	HLA-DQA1*05:01	3.64%
	HLA-DQA1*01:01	3.29%
	HLA-DQA1*03:03	2.06%
	HLA-DQA1*01:03	1.65%
	HLA-DQA1*01:05	0.75%
	HLA-DQA1*01:04	0.62%
	HLA-DQA1*06:01	0.21%
	HLA-DQB1*03:02	21.38%
	HLA-DQB1*03:01	20.64%
	HLA-DQB1*03:03	19.82%
	HLA-DQB1*04:02	19.69%

Gene/Haplotype	Allele/Haplotype	Frequency
HLA-DQB1	HLA-DQB1*05:01	4.19%
	HLA-DQB1*02:02	3.99%
	HLA-DQB1*02:01	3.65%
	HLA-DQB1*06:02	2.37%
	HLA-DQB1*06:03	1.35%
	HLA-DQB1*05:03	0.81%
	HLA-DQB1*06:04	0.54%
	HLA-DQB1*06:09	0.47%
	HLA-DQB1*05:02	0.41%
	HLA-DQB1*03:19	0.34%
	HLA-DQB1*06:01	0.27%
	HLA-DQB1*04:01	0.07%
DQA1~DQB1	03.01~03.02	20.32%
	03.02~03.03	19.34%
	04.01~04.02	19.06%
	05.03~03.01	12.80%
	05.05~03.01	7.03%
	02.01~02.02	3.66%
	05.01~02.01	3.66%
	01.01~05.01	3.31%
	01.02~06.02	2.32%
	01.03~06.03	1.41%
	01.05~05.01	0.77%
	03.03~04.02	0.77%
	01.04~05.03	0.63%
	03.03~03.01	0.63%
	02.01~03.03	0.56%
	01.02~06.04	0.49%
	01.02~06.09	0.49%
	01.02~05.02	0.42%
	03.02~03.02	0.42%
	05.05~03.19	0.35%
	01.03~06.01	0.28%
	03.03~02.02	0.28%
	03.03~03.02	0.28%
	06.01~03.01	0.21%
	04.01~03.02	0.14%
	01.02~05.01	0.07%
	02.01~02.01	0.07%
	03.03~03.03	0.07%
	03.03~04.01	0.07%
	05.03~03.02	0.07%

Supplementary Table 7: Results of the 14 HLA alleles tested individually for the three primary phenotypes: Asthma, IgE, and lung function.

		Asthma (HIBAG)		Log10(IgE)		Lung function		Log10(IgE) cases		Log10(IgE) controls		Lung function cases		Lung function controls	
HLA Gene*Allele	**Frequency**	**OR**	**P value**	**Beta**	**P value**	**Beta**	**P value**	**Beta**	**P value**	**Beta**	**P value**	**Beta**	**P value**	**Beta**	**P value**
HLA-C*04:01	24%	0.8	0.1155	-0.110	0.0055	1.012	0.2337	-0.120	0.0193	-0.099	0.1136	1.369	0.2617	0.413	0.7262
HLAC*01:02	16%	1.1	0.4817	-0.067	0.1640	0.355	0.7306	-0.094	0.0989	-0.019	0.8230	1.273	0.3449	-0.898	0.5816
HLA-C*03:04	10%	1.3	0.1473	-0.021	0.7058	0.552	0.6485	0.041	0.5426	-0.110	0.2855	0.148	0.9251	1.594	0.4123
HLA-C*07:02	12%	1.0	0.8604	0.123	0.0194	-1.014	0.3712	0.107	0.0903	0.145	0.1131	-1.560	0.3031	-0.155	0.9287
HLA-C*15:02	6%	0.9	0.7993	0.002	0.9776	0.264	0.8679	-0.067	0.4508	0.121	0.3415	0.089	0.9669	0.182	0.9395
HLA-DQA1*03:01	18%	1.0	0.9095	-0.142	0.0012	2.760	0.0035	-0.129	0.0145	-0.170	0.0273	3.876	0.0019	0.942	0.5218
HLA-DQA1*03:02	18%	1.1	0.7074	-0.105	0.0213	-1.283	0.1897	-0.101	0.0642	-0.094	0.2404	-2.819	0.0298	1.380	0.3613
HLA-DQA1*04:01	**17%**	**1.1**	**0.4380**	**0.180**	**4.47E-05**	**-1.528**	**0.1090**	**0.142**	**0.0082**	**0.209**	**0.0063**	**-1.384**	**0.2783**	**-2.026**	**0.1643**
HLA-DQA1*05:03	12%	0.6	0.0021	-0.073	0.1658	0.284	0.8033	-0.139	0.0495	-0.010	0.8969	2.054	0.2226	-1.346	0.3790
HLA-DQA1*05:05	7%	1.4	0.1464	0.085	0.1994	-0.380	0.7908	0.069	0.3785	0.159	0.1860	-2.015	0.2794	2.392	0.2978
HLA-DQB1*03:02	**19%**	**1.0**	**0.7044**	**-0.158**	**2.13E-04**	**2.366**	**0.0100**	**-0.130**	**0.0123**	**-0.205**	**0.0054**	**3.625**	**0.0032**	**0.431**	**0.7594**
HLA-DQB1*03:01	19%	0.8	0.1309	-0.029	0.4956	-0.246	0.7911	-0.075	0.1706	0.043	0.5410	-0.230	0.8595	-0.299	0.8219
HLA-DQB1*03:03	18%	1.1	0.4899	-0.097	0.0332	-0.909	0.3519	-0.094	0.0874	-0.090	0.2568	-2.475	0.0577	1.698	0.2562
HLA-DQB1*04:02	**18%**	**1.1**	**0.3255**	**0.178**	**4.34E-05**	**-1.176**	**0.2097**	**0.121**	**0.0201**	**0.239**	**0.0017**	**-1.092**	**0.3792**	**-1.592**	**0.2745**
HLA DQA1~DQB1 Haplotype															
03.01~03.02	20%	1.0	0.9712	-0.140	0.0016	2.769	0.0037	-0.123	0.0209	-0.172	0.0273	3.935	0.0019	0.875	0.5568
03.02~03.03	19%	1.1	0.5144	-0.099	0.0328	-1.265	0.2067	-0.089	0.1115	-0.099	0.2279	-2.884	0.0301	1.487	0.3385
04.01~04.02	**19%**	**1.1**	**0.3749**	**0.193**	**1.55E-05**	**-1.465**	**0.1295**	**0.140**	**0.0100**	**0.247**	**0.0015**	**-1.207**	**0.3498**	**-2.178**	**0.1417**
05.03~03.01	13%	0.6	0.0012	-0.079	0.1432	0.155	0.8936	-0.149	0.0383	-0.010	0.8998	1.808	0.2934	-1.329	0.3914
05.05~03.01	7%	1.5	0.0712	0.083	0.2417	-0.564	0.7110	0.074	0.3566	0.139	0.3067	-2.186	0.2533	2.658	0.3062
Conditional Model*															
rs3135348 conditioned on 04:01~04:02				-0.240	1.40E-05										

* The test for association for rs3135348 was conducted including the haplotype in the model as a covariate to test specifically for resdual effect at rs3135348 once the haplotype was accounted for.

Supplementary Table 8: Replication of the Chr 19 association for lung function in ProAR, SCAALA, COMPASS and Shrine et al.

SNP Info		REF/ ALT	GASP		ProAR N=1065		SCAALA N=947		COMPASS N=571		Shirine (PMID:30804560) N~350K	
hg19	rsID		Beta	P	Beta	P	Beta	P	Beta	P	Beta	P
56085656	rs4335869	T/A	5.489	1.33E-10	7.594	0.2402	1.083	0.0996	-0.452	0.6227	NA	NA
56086758		GA/ GAA	5.433	1.43E-10	NA	NA	**1.347**	**0.0179**	NA	NA	NA	NA
56087272	rs28699417	T/C	5.279	2.54E-10	8.721	0.1341	**1.363**	**0.0163**	0.940	0.2563	0.420	0.0945
56087281	rs28379489	T/A	5.276	2.65E-10	8.721	0.1341	**1.363**	**0.0163**	0.940	0.2563	0.420	0.0951
56088110		C/CA	6.372	5.19E-09	NA	NA	0.874	0.1418	NA	NA	NA	NA
56088487	rs12972695	A/G	5.144	4.73E-10	1.109	0.8419	1.029	0.0595	1.056	0.2009	0.390	0.1210
56089947	rs10403008	C/G	5.211	3.39E-10	6.24	0.3195	**1.642**	**0.0086**	-0.481	0.5926	0.020	0.9570
56090076	rs34164618	G/T	5.271	2.44E-10	7.934	0.2172	**1.317**	**0.0429**	-0.649	0.4751	0.040	0.8863
56105932	rs12609355	G/A	5.195	1.14E-09	3.595	0.6281	**2.028**	**0.0055**	-1.187	0.2401	NA	NA
56110700	rs3803890	G/A	5.369	8.98E-10	-6.634	0.5513	**2.442**	**0.0124**	-1.294	0.2219	-0.200	0.5570
56122538	rs4410198	G/A	5.83	5.54E-11	-5.444	0.6089	0.230	0.8058	NA	NA	-0.310	0.3600
56127441	rs146619376	C/G	5.351	2.51E-09	-38.43	0.0633	-0.296	0.8584	-1.275	0.3386	0.090	0.8975