

Additional table 1: Association before correction with asthma related phenotypes

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value					
								Asthma	Atopy	Atopic asthma			
Group 1: Immune signalling molecules													
<i>CD19</i>	28	0.0025	4788114	T	7.3	55	-2.155	0.0312					
				C	92.7		2.155						
			9937676	G	37.7	110	-2.635		0.0084				
				A	62.3		2.635						
			111506775	A	34.6	117	-1.920	0.0190					
				G	65.4		1.920						
			3922668	A	37.6	111	-2.697		0.0070				
				G	62.4		2.697						
			8045276	T	26.5	89	1.974		0.0483				
				A	73.5		-1.974						
			Group 2: Extracellular proteins										
			<i>COL11A1</i>	53	0.0011	1676486	A	20.6	107	2.192	0.0283		
G	79.4	-2.192											
	A	20.6				87	2.091		0.0365				
	G	79.4					-2.091						
1241163	A	23.1				116	1.985	0.0471					
	C	76.9					-1.985						
1085	A	23				115	2.059	0.0395					
	C	77					-2.059						
1463039	T	6.8				44	2.712	0.0067					
	C	93.2					-2.712						
		T				6.8	43	-2.462		0.0138			
		C				93.2		2.462					
1415363	A	20.7				110	2.360	0.0183					
	G	79.3					-2.360						
		A				20.7	85	2.172		0.0299			
		G				79.3		-2.172					
7544816	A	5.3				35	-1.964	0.0495					
	C	94.7					1.964						
10493986	C	27				121	2.031	0.0422					
	T	73					-2.031						
		C	27	97	2.127		0.0334						
		T	73		-2.127								
4338381	G	30.8	124	2.050	0.0404								
	A	69.2		-2.050									
7543626	G	17.4	103	-2.376	0.0175								
	A	82.6		2.376									
		G	17.4	92	-1.960		0.0500						
		A	82.6		1.960								

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value		
								Asthma	Atopy	Atopic asthma
<i>MUC2</i>	13	0.0030	7103978	G	7.1	39	-1.987			0.0469
				A	92.9		1.987			
<i>COL2A1</i>	24	0.0020	4760607	G	10.4	44	2.168	0.0302		
				T	89.6		-2.168			
			917055	A	15.1	95	2.072	0.0382		
				G	84.9		-2.072			
			1034762	A	16.9	105	2.164	0.0300		
				C	83.1		-2.164			
			6580647	A	19.1	110	2.724	0.0064		
				C	80.9		-2.724			
			7305954	C	19.2	111	2.649	0.0081		
				T	80.8		-2.649			
			12439075	T	33.1	121	2.161	0.0307		
				C	66.9		-2.161			
11073813	G	33.3	120	2.108	0.0350					
	A	66.7		2.108						
11630178	C	33.5	99	2.695	0.0070					
	T	66.5		-2.695						
	C	33.5	82	3.589	0.0003					
	T	66.5		-3.589						
	C	33.5	85	3.900	0.0001					
	T	66.5		-3.900						
938605	G	17.6	101	-2.203	0.0276					
	A	82.4		2.203						
	G	17.6	84	-2.086	0.0370					
	A	82.4		2.086						
11632435	G	12.9	75	-2.254	0.0242					
	A	87.1		2.254						
8031532	G	16.8	82	-2.458	0.0140					
	T	83.2		2.458						
12905452	A	27.9	95	2.635	0.0084					
	C	72.1		-2.635						
	A	27.9	100	2.745	0.0061					
	C	72.1		-2.745						
7180356	T	29.9	95	-2.166	0.0303					
	C	70.1		2.166						
	T	29.9	100	2.134	0.0328					
	C	70.1		-2.134						
4932432	C	31.6	106	2.095	0.0361					
	A	68.4		-2.095						
	C	31.6	197	2.690	0.0071					
	A	68.4		-2.690						

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value							
								Asthma	Atopy	Atopic asthma					
<i>AGCI</i>	32	0.0012	938613	A	33.5	109	2.154	0.0312							
				G	66.5		-2.154								
				A	33.5	110	2.570				0.0102				
				G	66.5		-2.570								
<i>FBLNI</i>	30	0.0011	3810631	T	36.4	134	-1.962	0.0498							
				C	63.6		1.962								
			5765475	C	42.5	115	2.144				0.0321				
				T	57.5		-2.144								
			2051616	G	40.6	107	2.182					0.0291			
				A	59.4		-2.182								
Group 3: Immune response															
<i>HLA-DPBI</i>	24	0.0028	1431403	C	35.6	144	-2.043	0.0411							
				T	64.4		2.043								
			9277357	G	36.2	138	-2.609				0.0091				
				A	63.8		2.609								
				G	36.2	111	-2.500					0.0124			
				A	63.8		2.500								
			9277396	A	37.7	143	-2.680				0.0074				
				G	62.3		2.680								
				A	37.7	124	-2.199					0.0279			
				G	62.3		2.199								
				A	37.7	114	-2.733						0.0063		
				G	62.3		2.733								
			9277464	T	34.9	139	-2.530				0.0114				
				C	65.1		2.530								
				T	34.9	119	-2.014					0.0440			
				C	65.1		2.014								
				T	34.9	111	-2.553						0.0107		
				C	65.1		2.553								
				9277535	G	34.9	138							-2.591	0.0096
					A	65.1								2.591	
G	34.9	118			-2.083	0.0372									
A	65.1				2.083										
G	34.9	110	-2.628		0.0086										
A	65.1		2.268												
9277554	T	37.6	142	-2.869			0.0041								
	C	62.4		2.869											
	T	37.6	125	-2.256		0.0241									
	C	62.4		2.256											
	T	37.6	114	-2.649	0.0081										
	C	62.4		2.649											

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value			
								Asthma	Atopy	Atopic asthma	
<i>HLA-DPBI</i>	24	0.0028	9277555	A	30.5	128	-2.501	0.0124			
				G	69.5		2.501				
				A	30.5	113	-2.539				0.0111
				G	69.5		2.539				
				A	30.5	102	-2.660				0.0078
				G	69.5		2.660				
			9277565	T	27.8	124	-2.588	0.0096			
				C	72.2		2.588				
				T	27.8	108	-2.433	0.0150			
				C	72.2		2.433				
				T	27.8	99	-2.673	0.0075			
				C	72.2		2.673				
			10484569	A	9.7	65	-2.225	0.0261			
				G	90.3		2.225				
				A	9.7	59	-2.714	0.0067			
				G	90.3		2.714				
				A	9.7	52	-2.390	0.0168			
				G	90.3		2.390				
			3128917	G	30.5	128	-2.501	0.0124			
				T	69.5		2.501				
				G	30.5	113	-2.539	0.0111			
				T	69.5		2.539				
				G	30.5	102	-2.660	0.0078			
				T	69.5		2.660				
2281388	A	6.4	46	-2.255	0.0241						
	G	93.6		2.255							
3117222	T	30.5	127	-2.400	0.0164						
	C	69.5		2.400							
	T	30.5	112	-2.427	0.0152						
	C	69.5		2.427							
	T	30.5	102	-2.660	0.0078						
	C	69.5		2.660							
3117221	T	27.8	124	-2.468	0.0136						
	C	72.2		2.468							
	T	27.8	107	-2.369	0.0178						
	C	72.2		2.369							
	T	27.8	99	-2.619	0.0088						
	C	72.2		2.619							
6914651	G	31.6	111	-2.305	0.0212						
	A	68.4		2.305							
	G	31.6	102	-2.955	0.0031						
	A	68.4		2.955							
	G	31.6	92	-2.863	0.0042						
	A	68.4		2.863							

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value							
								Asthma	Atopy	Atopic asthma					
<i>MS4A1</i>	27	0.0037	11230335	A	8.9	60	2.828	0.0047							
				C	91.1		-2.282								
<i>CEACAM5</i>	9	0.0050	7257798	C	23	117	2.042	0.0412							
				A	77		-2.042								
<i>IGHG1</i>	39	0.0028	2040459	A	11.8	73	2.034	0.0420							
				C	88.2		-2.034								
			2105992	A	18.4	96	2.334	0.0196							
				G	81.6		-2.334								
				A	18.4		81							1.993	0.0463
				G	81.6									-1.993	
		17112712	A	18.4	79	2.433						0.0150			
			G	81.6		-2.433									
		1544317	A	29.8	94	2.440	0.0147								
			G	70.2		-2.440									
			A	29.8		95							2.219	0.0265	
			G	70.2									-2.219		
5760189	G	30.4	99	2.376	0.0175										
	A	69.6		-2.376											
	G	30.4		98							2.134	0.0328			
	A	69.6									-2.134				
<i>IGL@</i>	74	0.0012	5760189	T	27.2	114	2.194	0.0282							
				C	72.8		-2.194								
			2001106	T	27.2	103	2.204	0.0275							
				C	72.8		-2.204								
				T	27.2		96							2.691	0.0071
				C	72.8									-2.691	
			3788368	C	8.8	58	-2.224	0.0262							
				T	91.2		2.224								
				C	8.8		49							-2.066	0.0389
				T	91.2									2.066	
3788368	C	10.4	58	-2.061	0.0393										
	T	89.6		2.061											

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value			
								Asthma	Atopy	Atopic asthma	
Group 4: Intracellular signalling											
<i>PTPRC</i>	35	0.0012	1052238	T	47.9	135	-2.230	0.0257			
				C	52.1		2.230				
				T	47.9	117	-2.384				0.0171
				C	52.1		2.384				
			T	47.9	115	-2.333	0.0196				
			C	52.1		2.333					
			7522020	T	34.3	131		2.055	0.0399		
				G	65.7			-2.055			
				T	34.3	104	2.085	0.0371			
				G	65.7		-2.085				
			T	34.3	107	2.137	0.0326				
			G	65.7		-2.137					
			9803750	T	32	118		-2.863	0.0042		
				C	68			2.863			
				T	32	108	-3.034	0.0024			
				C	68		3.034				
			T	32	99	-2.880	0.0040				
			C	68		2.880					
			2359952	G	32.6	117		-2.664	0.0077		
				A	67.4			2.664			
G	32.6	106		-2.427	0.0151						
A	67.4			2.427							
G	32.6	98	-2.710	0.0067							
A	67.4		2.710								
3754098	T	8.4	51		-2.502						
	C	91.6			2.502						
1932436	G	28.1	131	-2.277	0.0228						
	A	71.9		2.277							
14575169	A	34.4	107	-2.064	0.0390						
	C	65.6		2.064							
10919584	A	33.6	107	-2.115	0.0344						
	G	66.4		2.115							
<i>GIP3</i>	3	0.0250	1247653	G	43.4	133	-2.353	0.0186			
				A	56.6		2.353				
<i>SYK</i>	56	0.0006	169724	C	9	57	-2.043	0.0411			
				T	91		2.043				
			10993705	T	7.3	103	2.086		0.0370		
G	92.7	-2.086									
Group 5: Proteolytic enzymes											
<i>CTSC</i>	18	0.0028	217111	G	49.9	108	2.084			0.0372	
				A	50.1		-2.084				
<i>PSMA6</i>	5	0.0063	10141237	G	9.3	62	-1.975	0.0482			
				A	90.7		1.975				

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value				
								Asthma	Atopy	Atopic asthma		
SPINK5	22	0.0023	2287770	G	6.6	41	2.321	0.0203				
				A	93.4		-2.321					
			2287769	T	6.6	41	2.321					
				C	93.4		-2.321					
6580523	A	87.3	84	-2.169	0.0301							
	C	12.7		2.169								
Group 6: Transmembrane proteins												
KLRC3	4	0.0127	2734565	C	25	125	1.975	0.0482				
				T	75		-1.975					
				C	25	109	2.166				0.0303	
					T		75					-2.166
				2617170	T	25	125				1.975	0.0482
					C	75					-1.975	
T	25	108	2.183	0.0290								
	C		75		-2.183							
ADRA2A	1	0.0250	11195299	A	6.3	56	-2.588	0.0097				
				G	93.7		2.588					
CLCA2	13	0.0034	4912463	A	25.8	114	2.405	0.0162				
				C	74.2		-2.504					
				A	25.8	108	2.801				0.0051	
					C		74.2					-2.801
KCNJ16	21	0.0017	1990197	G	46.4	139	2.019	0.0435				
				A	53.6		-2.019					
				G	46.4	117	2.078				0.0377	
					A		53.6					-2.078
				12943869	G	31.1	110				2.018	0.0436
					A	68.9					-2.018	
Group 7: Free radical metabolism												
CYBA	5	0.0054	899729	A	50	126	-1.990	0.0466				
				C	50		1.990					
Group 8: Gene transcription												
ZNF38	4	0.0085	11550034	G	18.1	102	-1.986	0.0470				
				A	81.9		1.986					
Group 10: Cell adhesion molecules												
ITGB2	33	0.0012	2070947	G	34.5	129	-2.031	0.0423				
				A	65.5		2.031					
				G	34.5	108	-2.050				0.0404	
					A		65.5					2.050

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value		
								Asthma	Atopy	Atopic asthma
Group 11: Complement components										
<i>C7</i>	35	0.0014	13175903	G	24.1	123	-2.745	0.0060		
				A	75.9		2.745			
				G	24.1	98	-2.204	0.0275		
				A	75.9		2.204			
			G	24.1	97	-2.407				
			A	75.9		2.407				
			16870514	A	9.6	53	1.995	0.0461		
				G	90.4		-1.995			
Group 12: Metabolic enzymes										
<i>ALDH3A1</i>	13	0.0078	1989379	A	25	129	-1.965	0.0494		
				G	75		1.965			
			2228100	C	23.1	112	2.032	0.0422		
				G	76.9		-2.032			
<i>FA2H</i>	14	0.0024	12919626	A	11.6	84	-2.279	0.0226		
				G	88.4		2.279			
				A	11.6	68	-2.730			
			G	88.4	2.730					
			49999690	A	36.6	109	2.155	0.0312		
				G	63.4		-2.155			
<i>ADH1B</i>	15	0.0030	1826909	C	31.3	133	2.807	0.0050		
				T	68.7		-2.807			
				C	31.3	114	2.400	0.0164		
				T	68.7		-2.400			
			13103321	C	31.3	112	2.356	0.0185		
				T	68.7		-2.356			
			1353621	T	47.7	135	-3.040	0.0024		
				G	52.3		3.040			
				T	47.7	114	-2.566	0.0103		
				G	52.3		2.566			
			1159918	T	47.7	114	-2.621	0.0088		
				G	52.3		2.621			
			1353621	C	47.3	136	-2.848	0.0044		
				T	52.7		2.848			
C	47.3	116		-2.436	0.0149					
T	52.7			2.436						
1159918	C	47.3		115	-2.403	0.0063				
	T	52.7			2.403					
1159918	A	32.3	126	2.329	0.0199					
	C	67.7		-2.329						
	1159918	A	32.3	106	2.194	0.0282				
		C	67.7		-2.194					

Gene	Number of tested SNP	Corrected threshold	SNP	Allele	AF	Number of families	Z	p value		
								Asthma	Atopy	Atopic asthma
<i>PIK3R1</i>	4	0.0065	34306	A	31.3	82	-2.154	0.0313		
				G	68.7		2.154			
				A	31.3	81	-2.021	0.0433		
				G	68.7		2.021			
Group 13: Structural proteins										
<i>TENASCIN C</i>	36	0.0012	1330368	G	45.3	134	2.019	0.0435		
				A	54.7		-2.019			
			1060545	C	45.1	132	2.020	0.0434		
				A	54.9		-2.020			
			1757095	T	8.5	48	2.157	0.0310		
				C	91.5		-2.157			

Abbreviations : SNP = Single Nucleotide Polymorphism, AF= Minor Allele Frequency, Z= Z score