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7 **Genome-wide association study of asthma identifies RAD50-IL13 and HLA-DR/DQ regions**

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27 **Table E1.** Association results of 248 SNPs with GC-adjusted P values $\leq 1.0E-03$

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SNP	UNADJ P value	GC-ADJ P value	Chr	Coordinate	Gene	Location
rs2244012	3.04E-07	7.69E-07	5	131929124	<i>RAD50</i>	intron
rs6871536	9.03E-07	2.13E-06	5	131997773	<i>RAD50</i>	intron
rs17525472	1.50E-06	3.41E-06	15	49756960	<i>SCG3</i>	flanking_5UTR
rs2897443	2.74E-06	5.99E-06	5	131957493	<i>RAD50</i>	intron
rs4815617	7.92E-06	1.62E-05	20	3775309	<i>KIAA1271</i>	flanking_5UTR
rs1063355	9.55E-06	1.93E-05	6	32735692	<i>HLA-DQB1</i>	3UTR
rs9275312	1.13E-05	2.25E-05	6	32773706	<i>HLA-DQB1</i>	flanking_5UTR
rs10493343	1.37E-05	2.69E-05	1	63486112	<i>FOXD3</i>	flanking_5UTR
rs8020818	2.14E-05	4.09E-05	14	100753214	<i>FLJ41170</i>	flanking_3UTR
rs6861032	2.29E-05	4.36E-05	5	174833658	<i>SFXN1</i>	flanking_5UTR
rs17275283	2.30E-05	4.39E-05	11	96347024	<i>JRKL</i>	flanking_3UTR
rs6958325	2.33E-05	4.43E-05	7	110464892	<i>LRRN3</i>	flanking_5UTR
rs2516049	2.62E-05	4.95E-05	6	32678378	<i>HLA-DRB1</i>	flanking_5UTR
rs2239804	2.80E-05	5.26E-05	6	32519501	<i>HLA-DRA</i>	intron
rs967676	3.18E-05	5.92E-05	17	47315308	<i>CA10</i>	intron
rs723498	3.25E-05	6.05E-05	17	65787127	<i>KCNJ2</i>	flanking_3UTR
rs16909520	3.81E-05	7.01E-05	11	5041830	<i>OR52E2</i>	flanking_5UTR
rs13159461	3.89E-05	7.16E-05	5	1256437	<i>SLC6A19</i>	intron
rs2277968	4.27E-05	7.80E-05	19	9932669	<i>COL5A3</i>	intron
rs1411164	4.46E-05	8.14E-05	9	72844892	<i>TRPM3</i>	intron
rs11770226	4.69E-05	8.52E-05	7	94923367	<i>PON2</i>	flanking_5UTR
rs10496855	4.90E-05	8.88E-05	2	141354850	<i>LRP1B</i>	intron
rs326234	5.12E-05	9.26E-05	7	130526092	<i>MKLN1</i>	flanking_5UTR
rs1859600	5.38E-05	9.69E-05	7	26509841	<i>SNX10</i>	flanking_3UTR
rs3180361	5.83E-05	1.04E-04	7	26503438	<i>SNX10</i>	flanking_3UTR

rs359486	6.11E-05	1.09E-04	4	163127283	<i>FSTL5</i>	intron
rs757393	6.26E-05	1.12E-04	7	26498670	<i>SNX10</i>	flanking_3UTR
rs1328589	6.50E-05	1.16E-04	1	63447502	<i>FOXD3</i>	flanking_5UTR
rs646297	6.98E-05	1.24E-04	23	71455300	<i>HDAC8</i>	flanking_3UTR
rs3181096	7.12E-05	1.26E-04	2	204278337	<i>CD28</i>	flanking_5UTR
rs9268542	8.55E-05	1.49E-04	6	32492699	<i>BTNL2</i>	flanking_5UTR
rs2395185	8.73E-05	1.52E-04	6	32541145	<i>HLA-DRA</i>	flanking_3UTR
rs655198	8.87E-05	1.55E-04	1	42098604	<i>HIVEP3</i>	intron
rs2280229	9.15E-05	1.59E-04	6	45651316	<i>RUNX2</i>	flanking_3UTR
rs5000634	9.16E-05	1.59E-04	6	32771542	<i>HLA-DQB1</i>	flanking_5UTR
rs11079992	9.24E-05	1.61E-04	17	47572536	<i>CA10</i>	intron
rs3001156	9.46E-05	1.64E-04	1	192817561	<i>CDC73</i>	flanking_3UTR
rs4867956	9.54E-05	1.66E-04	5	169676190	<i>LOC257358</i>	flanking_5UTR
rs5928535	9.65E-05	1.67E-04	23	34313383	<i>TMEM47</i>	flanking_3UTR
rs6779474	9.90E-05	1.71E-04	3	182738502	<i>SOX2</i>	flanking_5UTR
rs7144274	9.94E-05	1.72E-04	14	77695406	<i>ADCK1</i>	flanking_3UTR
rs1916804	9.98E-05	1.73E-04	2	228516940	<i>WDR69</i>	flanking_3UTR
rs2938140	1.06E-04	1.83E-04	17	47531500	<i>CA10</i>	intron
rs362112	1.14E-04	1.95E-04	22	33793994	<i>RAXLX</i>	intron
rs9296461	1.19E-04	2.03E-04	6	45659449	<i>RUNX2</i>	flanking_3UTR
rs6848139	1.21E-04	2.07E-04	4	123614491	<i>IL2</i>	flanking_5UTR
rs6860112	1.26E-04	2.14E-04	5	4189154	<i>IRX1</i>	flanking_3UTR
rs9810311	1.29E-04	2.19E-04	3	31456330	<i>STT3B</i>	flanking_5UTR
rs4953456	1.30E-04	2.20E-04	2	47144074	<i>TTC7A</i>	intron
rs643930	1.30E-04	2.21E-04	1	206224964	<i>PLXNA2</i>	flanking_3UTR
rs6551207	1.30E-04	2.21E-04	3	27527986	<i>SLC4A7</i>	flanking_5UTR
rs9885995	1.31E-04	2.22E-04	7	20579891	<i>ABCB5</i>	flanking_5UTR
rs2243204	1.31E-04	2.23E-04	5	132027393	<i>IL13</i>	flanking_3UTR
rs9346917	1.32E-04	2.24E-04	6	162834976	<i>PARK2</i>	flanking_5UTR

rs12995456	1.39E-04	2.35E-04	2	2573621	<i>MYT1L</i>	flanking_5UTR
rs12352086	1.41E-04	2.39E-04	9	25707537	<i>TUSC1</i>	flanking_5UTR
rs770918	1.49E-04	2.52E-04	1	98701525	<i>SNX7</i>	flanking_5UTR
rs2329020	1.52E-04	2.56E-04	3	49660077	<i>BSN</i>	intron
rs1542112	1.55E-04	2.61E-04	15	96669517	<i>FLJ39743</i>	flanking_3UTR
rs8020795	1.59E-04	2.67E-04	14	67559788	<i>RAD51L1</i>	intron
rs525247	1.60E-04	2.69E-04	6	81696055	<i>BCKDHB</i>	flanking_3UTR
rs931992	1.61E-04	2.70E-04	17	35074961	<i>TCAP</i>	flanking_5UTR
rs2967675	1.64E-04	2.74E-04	19	8650484	<i>MGC33407</i>	flanking_3UTR
rs141155	1.66E-04	2.78E-04	17	65865187	<i>KCNJ2</i>	flanking_3UTR
rs9275141	1.77E-04	2.94E-04	6	32759095	<i>HLA-DQB1</i>	flanking_5UTR
rs2056317	1.77E-04	2.95E-04	15	35350843	<i>MEIS2</i>	flanking_5UTR
rs11746935	1.78E-04	2.97E-04	5	127650646	<i>FBN2</i>	intron
rs9906612	1.80E-04	3.00E-04	17	34801157	<i>FBXL20</i>	intron
rs10233470	1.83E-04	3.04E-04	7	20525526	<i>ITGB8</i>	flanking_3UTR
rs12324805	1.84E-04	3.06E-04	15	80139255	<i>RKHD3</i>	flanking_5UTR
rs1029322	1.85E-04	3.08E-04	1	7318619	<i>CAMTA1</i>	intron
rs456084	1.86E-04	3.08E-04	15	60404524	<i>FLJ38723</i>	flanking_5UTR
rs7241842	1.86E-04	3.08E-04	18	33126739	<i>BRUNOL4</i>	intron
rs1135889	1.86E-04	3.09E-04	17	71437716	<i>ACOX1</i>	flanking_3UTR
rs10948239	1.86E-04	3.09E-04	6	45644058	<i>RUNX2</i>	flanking_3UTR
rs996812	1.87E-04	3.10E-04	1	81229634	<i>LPHN2</i>	flanking_5UTR
rs11701	1.88E-04	3.13E-04	14	20231893	<i>ANG</i>	coding
rs556458	1.90E-04	3.15E-04	6	81687679	<i>BCKDHB</i>	flanking_3UTR
rs10500350	1.93E-04	3.20E-04	16	7170644	<i>A2BP1</i>	intron
rs1541533	1.94E-04	3.21E-04	11	17052787	<i>RNU14</i>	3UTR
rs17623690	1.99E-04	3.29E-04	13	58702026	<i>DIAPH3</i>	flanking_3UTR
rs7456530	2.00E-04	3.31E-04	7	56011943	<i>GBAS</i>	intron
rs2830865	2.00E-04	3.31E-04	21	27649571	<i>ADAMTS5</i>	flanking_5UTR

rs3782309	2.02E-04	3.34E-04	12	26750663	<i>ITPR2</i>	intron
rs660895	2.02E-04	3.34E-04	6	32685358	<i>HLA-DRB1</i>	flanking_5UTR
rs359512	2.06E-04	3.41E-04	4	163100537	<i>FSTL5</i>	intron
rs4601994	2.13E-04	3.51E-04	15	84235520	<i>KLHL25</i>	flanking_5UTR
rs7214151	2.15E-04	3.55E-04	17	34761298	<i>FBXL20</i>	intron
rs1956534	2.17E-04	3.56E-04	14	67963825	<i>RAD51L1</i>	intron
rs312729	2.18E-04	3.58E-04	17	65818432	<i>KCNJ2</i>	flanking_3UTR
rs6696780	2.21E-04	3.63E-04	1	76504495	<i>ST6GALNAC3</i>	intron
rs1295686	2.21E-04	3.63E-04	5	132023742	<i>IL13</i>	intron
rs7577607	2.25E-04	3.69E-04	2	192414794	<i>SDPR</i>	intron
rs9563026	2.26E-04	3.71E-04	13	50591509	<i>GUCY1B2</i>	flanking_5UTR
rs10146353	2.27E-04	3.72E-04	14	77705251	<i>NRXN3</i>	flanking_5UTR
rs2307127	2.28E-04	3.73E-04	11	128817282	<i>BARX2</i>	intron
rs739107	2.29E-04	3.76E-04	22	47195099	<i>FAM19A5</i>	flanking_5UTR
rs16988492	2.31E-04	3.79E-04	23	72479814	<i>CDX4</i>	flanking_5UTR
rs1543540	2.32E-04	3.81E-04	14	101867808	<i>C14orf131</i>	5UTR
rs2111996	2.33E-04	3.81E-04	10	107461332	<i>SORCS3</i>	flanking_3UTR
rs5992495	2.33E-04	3.81E-04	22	18262984	<i>TXNRD2</i>	coding
rs2025753	2.37E-04	3.87E-04	6	51805526	<i>PKHD1</i>	intron
rs45426	2.39E-04	3.91E-04	4	163113553	<i>FSTL5</i>	intron
rs2380945	2.39E-04	3.91E-04	2	141384793	<i>LRP1B</i>	intron
rs20541	2.50E-04	4.07E-04	5	132023863	<i>IL13</i>	coding
rs1444393	2.50E-04	4.08E-04	18	35540370	<i>BRUNOL4</i>	flanking_5UTR
rs11765081	2.53E-04	4.13E-04	7	88312832	<i>MGC26647</i>	flanking_5UTR
rs14138	2.56E-04	4.16E-04	2	46267950	<i>PRKCE</i>	3UTR
rs983789	2.57E-04	4.18E-04	1	157862306	<i>APCS</i>	flanking_3UTR
rs904132	2.57E-04	4.19E-04	4	55496865	<i>KDR</i>	flanking_3UTR
rs9299508	2.58E-04	4.20E-04	10	73213459	<i>CDH23</i>	intron
rs1544412	2.61E-04	4.24E-04	7	26465493	<i>SNX10</i>	flanking_3UTR

rs6577395	2.61E-04	4.25E-04	1	6914512	<i>CAMTA1</i>	intron
rs10951140	2.62E-04	4.26E-04	7	26498245	<i>SNX10</i>	flanking_3UTR
rs688540	2.63E-04	4.27E-04	1	47775034	<i>FOXD2</i>	flanking_3UTR
rs2189556	2.67E-04	4.33E-04	7	26461733	<i>SNX10</i>	flanking_3UTR
rs12574869	2.70E-04	4.37E-04	11	5029677	<i>OR52J3</i>	flanking_3UTR
rs1579333	2.73E-04	4.42E-04	16	73710475	<i>LDHD</i>	flanking_5UTR
rs9874701	2.74E-04	4.43E-04	3	16130293	<i>GALNTL2</i>	flanking_5UTR
rs2823048	2.76E-04	4.47E-04	21	15384139	<i>NRIP1</i>	flanking_5UTR
rs359508	2.77E-04	4.49E-04	4	163103214	<i>FSTL5</i>	intron
rs179988	2.79E-04	4.51E-04	6	16446200	<i>ATXN1</i>	intron
rs7208487	2.79E-04	4.51E-04	17	34796975	<i>FBXL20</i>	intron
rs1350406	2.79E-04	4.52E-04	6	77542029	<i>HTR1B</i>	flanking_3UTR
rs315791	2.94E-04	4.74E-04	5	169668498	<i>LCP2</i>	flanking_5UTR
rs12373339	2.94E-04	4.75E-04	18	32632020	<i>C18orf10</i>	intron
rs1877031	3.00E-04	4.83E-04	17	35067606	<i>STARD3</i>	coding
rs1474454	3.03E-04	4.88E-04	17	36045007	<i>SMARCE1</i>	intron
rs1873288	3.03E-04	4.88E-04	13	84779125	<i>SLITRK6</i>	flanking_3UTR
rs11938388	3.05E-04	4.90E-04	4	7169428	<i>GRPEL1</i>	flanking_5UTR
rs511625	3.05E-04	4.91E-04	2	141066570	<i>LRP1B</i>	intron
rs1530758	3.10E-04	4.99E-04	2	23212606	<i>UBXD4</i>	flanking_5UTR
rs10783425	3.11E-04	4.99E-04	12	49916559	<i>DAZAP2</i>	flanking_5UTR
rs926929	3.15E-04	5.07E-04	10	83837968	<i>NRG3</i>	intron
rs4959689	3.16E-04	5.07E-04	6	2562121	<i>C6orf195</i>	flanking_3UTR
rs11635084	3.16E-04	5.08E-04	15	76473878	<i>IREB2</i>	flanking_5UTR
rs2838906	3.19E-04	5.11E-04	21	45646335	<i>COL18A1</i>	flanking_5UTR
rs9966349	3.24E-04	5.20E-04	18	53442584	<i>NARS</i>	intron
rs4909638	3.28E-04	5.25E-04	8	138323508	<i>C8ORFK32</i>	flanking_3UTR
rs2830863	3.32E-04	5.31E-04	21	27649080	<i>ADAMTS5</i>	flanking_5UTR
rs3750340	3.32E-04	5.31E-04	9	130812210	<i>SH3GLB2</i>	intron

rs9417254	3.36E-04	5.37E-04	10	20055938	<i>PLXDC2</i>	flanking_5UTR
rs2275593	3.36E-04	5.38E-04	14	103709764	<i>TDRD9</i>	flanking_3UTR
rs9789945	3.36E-04	5.38E-04	3	31452286	<i>STT3B</i>	flanking_5UTR
rs7896565	3.39E-04	5.42E-04	10	123382368	<i>FGFR2</i>	flanking_5UTR
rs8056241	3.40E-04	5.43E-04	16	55685889	<i>CPNE2</i>	intron
rs1549709	3.49E-04	5.56E-04	2	141375997	<i>LRP1B</i>	intron
rs6795028	3.50E-04	5.58E-04	3	88563780	<i>C3orf38</i>	flanking_3UTR
rs957781	3.51E-04	5.60E-04	2	196500819	<i>DNAH7</i>	intron
rs12338788	3.53E-04	5.63E-04	9	115253879	<i>RGS3</i>	flanking_5UTR
rs10485961	3.53E-04	5.63E-04	7	78977339	<i>MAGI2</i>	flanking_5UTR
rs4902538	3.55E-04	5.66E-04	14	67494562	<i>RAD51L1</i>	intron
rs1901548	3.56E-04	5.68E-04	6	159818518	<i>FLJ27255</i>	flanking_3UTR
rs1861828	3.58E-04	5.71E-04	9	89434951	<i>DAPK1</i>	intron
rs4523612	3.61E-04	5.74E-04	10	120273282	<i>PRLHR</i>	flanking_3UTR
rs727152	3.61E-04	5.75E-04	11	3976341	<i>STIM1</i>	intron
rs2066381	3.64E-04	5.79E-04	1	239062050	<i>RGS7</i>	intron
rs3897638	3.64E-04	5.80E-04	18	33151448	<i>BRUNOL4</i>	intron
rs2834280	3.67E-04	5.84E-04	21	34150372	<i>ITSN1</i>	intron
rs986032	3.67E-04	5.84E-04	1	168549668	<i>SCYL1BP1</i>	flanking_5UTR
rs1769807	3.72E-04	5.91E-04	1	229718014	<i>TSNAX</i>	flanking_5UTR
rs4621354	3.74E-04	5.94E-04	3	175070962	<i>NLGN1</i>	intron
rs6535363	3.74E-04	5.94E-04	4	83781593	<i>SCD5</i>	flanking_3UTR
rs203066	3.74E-04	5.95E-04	17	47349497	<i>CA10</i>	intron
rs3917254	3.79E-04	6.01E-04	2	102142950	<i>IL1R1</i>	intron
rs4866207	3.82E-04	6.07E-04	5	20700523	<i>CDH18</i>	flanking_5UTR
rs2866823	3.87E-04	6.14E-04	20	39912917	<i>PTPRT</i>	flanking_3UTR
rs202124	3.89E-04	6.17E-04	17	47342798	<i>CA10</i>	intron
rs134774	3.89E-04	6.17E-04	22	49427626	<i>ARSA</i>	flanking_5UTR
rs7719641	3.89E-04	6.17E-04	5	41360498	<i>PLCXD3</i>	intron

rs10760397	3.89E-04	6.17E-04	9	127173028	<i>GAPVD1</i>	flanking_3UTR
rs723923	3.90E-04	6.18E-04	23	72267781	<i>LOC340529</i>	flanking_5UTR
rs7054904	3.90E-04	6.18E-04	23	72274502	<i>LOC340529</i>	flanking_5UTR
rs861475	3.90E-04	6.19E-04	1	206118011	<i>CD34</i>	flanking_3UTR
rs208358	3.91E-04	6.19E-04	7	2740131	<i>GNA12</i>	intron
rs6962263	3.96E-04	6.26E-04	7	88328758	<i>MGC26647</i>	flanking_5UTR
rs902810	3.96E-04	6.27E-04	14	98537686	<i>BCL11B</i>	flanking_3UTR
rs2822687	3.98E-04	6.29E-04	21	14775306	<i>SAMSN1</i>	flanking_3UTR
rs10493817	3.98E-04	6.30E-04	1	88899475	<i>PKN2</i>	flanking_5UTR
rs6719500	3.98E-04	6.30E-04	2	196533647	<i>DNAH7</i>	coding
rs7393606	3.98E-04	6.30E-04	10	134906487	<i>VENTX</i>	flanking_3UTR
rs1244459	3.99E-04	6.31E-04	10	7968246	<i>ATP5C1</i>	flanking_3UTR
rs7688489	4.00E-04	6.32E-04	4	109906763	<i>AGXT2L1</i>	flanking_5UTR
rs6544127	4.00E-04	6.33E-04	2	38073146	<i>FAM82A</i>	intron
rs767325	4.01E-04	6.34E-04	17	47260643	<i>CA10</i>	intron
rs2106365	4.02E-04	6.36E-04	16	22830079	<i>HS3ST2</i>	intron
rs10485285	4.03E-04	6.38E-04	6	81535326	<i>BCKDHB</i>	flanking_3UTR
rs10801687	4.13E-04	6.52E-04	1	89079849	<i>PKN2</i>	flanking_3UTR
rs1019595	4.14E-04	6.54E-04	10	82575930	<i>SH2D4B</i>	flanking_3UTR
rs867389	4.19E-04	6.60E-04	1	6907656	<i>CAMTA1</i>	intron
rs10875660	4.20E-04	6.63E-04	12	46220298	<i>FLJ21908</i>	flanking_3UTR
rs9677948	4.23E-04	6.67E-04	2	55290438	<i>FLJ31438</i>	coding
rs7304994	4.30E-04	6.77E-04	12	8883237	<i>A2ML1</i>	intron
rs12601221	4.38E-04	6.89E-04	17	65919990	<i>KCNJ2</i>	flanking_3UTR
rs889608	4.40E-04	6.91E-04	16	85895044	<i>FBXO31</i>	flanking_3UTR
rs2041992	4.42E-04	6.94E-04	19	51216311	<i>PGLYRP1</i>	intron
rs2273866	4.44E-04	6.98E-04	9	130742712	<i>PHYHD1</i>	coding
rs7623955	4.44E-04	6.98E-04	3	16014062	<i>ANKRD28</i>	flanking_5UTR
rs875339	4.46E-04	7.00E-04	15	58883347	<i>RORA</i>	intron

rs1507741	4.47E-04	7.02E-04	1	161224435	<i>RGS4</i>	flanking_5UTR
rs10883109	4.48E-04	7.04E-04	10	100247350	<i>HPSE2</i>	intron
rs6738615	4.52E-04	7.10E-04	2	222599119	<i>PAX3</i>	flanking_3UTR
rs2933192	4.55E-04	7.13E-04	14	46456191	<i>MAMDC1</i>	intron
rs3738795	4.59E-04	7.20E-04	1	90139102	<i>LRRC8D</i>	intron
rs1565922	4.63E-04	7.25E-04	17	35084561	<i>PERLD1</i>	intron
rs205764	4.66E-04	7.30E-04	7	130248776	<i>KLF14</i>	flanking_5UTR
rs10496858	4.66E-04	7.30E-04	2	141356115	<i>LRP1B</i>	intron
rs289107	4.66E-04	7.30E-04	15	60417907	<i>FLJ38723</i>	flanking_5UTR
rs2070393	4.66E-04	7.31E-04	21	34160957	<i>ITSN1</i>	intron
rs1575847	4.71E-04	7.37E-04	7	94308081	<i>SGCE</i>	flanking_5UTR
rs6007798	4.71E-04	7.38E-04	22	46860129	<i>LOC388915</i>	flanking_5UTR
rs3761353	4.75E-04	7.43E-04	21	34193743	<i>ATP5O</i>	flanking_3UTR
rs3197999	4.82E-04	7.54E-04	3	49696536	<i>MST1</i>	coding
rs1565611	4.85E-04	7.58E-04	14	98543918	<i>BCL11B</i>	flanking_3UTR
rs716066	4.88E-04	7.63E-04	11	120721777	<i>SC5DL</i>	flanking_3UTR
rs606850	4.91E-04	7.66E-04	1	42047721	<i>HIVEP3</i>	intron
rs4684448	4.91E-04	7.66E-04	3	4871495	<i>ITPR1</i>	flanking_3UTR
rs1475091	4.97E-04	7.75E-04	23	71490721	<i>HDAC8</i>	intron
rs3859956	5.08E-04	7.92E-04	23	43738241	<i>NDP</i>	flanking_5UTR
rs4657210	5.12E-04	7.97E-04	1	160854047	<i>DDR2</i>	flanking_5UTR
rs2271308	5.13E-04	7.99E-04	17	35071008	<i>STARD3</i>	intron
rs462954	5.14E-04	8.00E-04	13	91169091	<i>GPC5</i>	intron
rs1003385	5.17E-04	8.04E-04	12	114236286	<i>TBX3</i>	flanking_5UTR
rs1552741	5.18E-04	8.05E-04	14	46414182	<i>MAMDC1</i>	intron
rs4600441	5.18E-04	8.07E-04	15	25127607	<i>GABRG3</i>	flanking_5UTR
rs2217008	5.19E-04	8.07E-04	4	153169194	<i>PET112L</i>	flanking_5UTR
rs7601	5.20E-04	8.09E-04	15	89310596	<i>PRCI</i>	3UTR
rs943997	5.23E-04	8.13E-04	14	20535329	<i>FLJ20859</i>	flanking_3UTR

rs547311	5.24E-04	8.15E-04	7	130248994	<i>KLF14</i>	flanking_5UTR
rs13131255	5.25E-04	8.16E-04	4	31806809	<i>PCDH7</i>	flanking_3UTR
rs730489	5.27E-04	8.18E-04	6	151441584	<i>MTHFD1L</i>	intron
rs12685378	5.29E-04	8.22E-04	9	130787532	<i>NUP188</i>	intron
rs9571705	5.31E-04	8.25E-04	13	66451841	<i>PCDH9</i>	intron
rs311384	5.32E-04	8.27E-04	19	52147155	<i>GRLF1</i>	intron
rs12464787	5.35E-04	8.31E-04	2	179148275	<i>TTN</i>	coding
rs4073051	5.37E-04	8.34E-04	1	24780002	<i>C1orf130</i>	intron
rs2293700	5.38E-04	8.35E-04	19	40688220	<i>ZD52F10</i>	intron
rs203049	5.39E-04	8.36E-04	17	47433988	<i>CA10</i>	intron
rs4985019	5.43E-04	8.42E-04	16	9019717	<i>USP7</i>	flanking_5UTR
rs2054892	5.46E-04	8.47E-04	3	178042453	<i>TBL1XR1</i>	flanking_3UTR
rs2273508	5.48E-04	8.50E-04	6	90034567	<i>GABRR2</i>	intron
rs7664958	5.50E-04	8.52E-04	4	172506527	<i>AADAT</i>	flanking_5UTR
rs11176241	5.52E-04	8.55E-04	12	65194084	<i>HELB</i>	flanking_3UTR
rs2294622	5.53E-04	8.56E-04	16	1536260	<i>C16orf30</i>	intron
rs2004375	5.53E-04	8.58E-04	8	130071912	<i>CCDC26</i>	flanking_3UTR
rs1872901	5.57E-04	8.63E-04	11	103294671	<i>PDGFD</i>	intron
rs7205853	5.59E-04	8.66E-04	16	10435114	<i>ATF7IP2</i>	intron
rs10483393	5.60E-04	8.67E-04	14	31530235	<i>C14orf128</i>	flanking_3UTR
rs2061342	5.67E-04	8.77E-04	17	34659183	<i>FBXL20</i>	flanking_3UTR
rs7310659	5.75E-04	8.89E-04	12	14201016	<i>GRIN2B</i>	flanking_5UTR
rs3861866	5.76E-04	8.89E-04	9	127060695	<i>GAPVD1</i>	flanking_5UTR
rs6451870	5.77E-04	8.91E-04	5	20686228	<i>CDH18</i>	flanking_5UTR
rs4692346	5.77E-04	8.92E-04	4	25681683	<i>KIAA0746</i>	flanking_5UTR
rs10995190	5.79E-04	8.95E-04	10	63948688	<i>ZNF365</i>	intron
rs13285154	5.82E-04	8.98E-04	9	31495016	<i>ACO1</i>	flanking_5UTR
rs1894814	5.83E-04	9.00E-04	12	8880044	<i>A2ML1</i>	intron
rs10819043	5.83E-04	9.01E-04	9	127077066	<i>GAPVD1</i>	intron

rs10235248	5.92E-04	9.13E-04	7	26470884	<i>SNX10</i>	flanking_3UTR
rs948445	5.92E-04	9.13E-04	11	67171068	<i>ACY3</i>	coding
rs11029745	5.93E-04	9.14E-04	11	26916960	<i>LOC387758</i>	flanking_5UTR
rs4074186	5.99E-04	9.24E-04	11	124453249	<i>SLC37A2</i>	intron
rs7868264	6.00E-04	9.24E-04	9	137990431	<i>UBADC1</i>	intron
rs4743641	6.00E-04	9.24E-04	9	105107354	<i>CYLC2</i>	flanking_3UTR
rs1038335	6.02E-04	9.28E-04	6	2577107	<i>C6orf195</i>	intron
rs2268084	6.03E-04	9.30E-04	20	32095049	<i>RALY</i>	intron
rs319920	6.08E-04	9.37E-04	6	64562211	<i>PHF3</i>	flanking_3UTR
rs330181	6.09E-04	9.37E-04	5	119059458	<i>LOC340069</i>	flanking_3UTR
rs7432941	6.10E-04	9.39E-04	3	70345767	<i>MITF</i>	flanking_3UTR
rs632374	6.10E-04	9.39E-04	11	96331679	<i>JRKL</i>	flanking_3UTR
rs8137110	6.12E-04	9.42E-04	22	41141106	<i>NFAMI</i>	intron
rs1696839	6.17E-04	9.49E-04	10	123499677	<i>ATE1</i>	intron
rs9268832	6.20E-04	9.53E-04	6	32535767	<i>HLA-DRA</i>	flanking_3UTR
rs1378624	6.20E-04	9.54E-04	2	196753322	<i>STK17B</i>	flanking_5UTR
rs1529756	6.23E-04	9.58E-04	3	12976642	<i>IQSEC1</i>	intron
rs7756268	6.30E-04	9.68E-04	6	51660261	<i>PKHD1</i>	intron
rs2074565	6.32E-04	9.71E-04	14	68013900	<i>RAD51L1</i>	intron
rs7553424	6.37E-04	9.79E-04	1	18232488	<i>IGSF21</i>	flanking_5UTR
rs4075387	6.38E-04	9.80E-04	15	99297554	<i>ALDH1A3</i>	flanking_3UTR
rs8018430	6.42E-04	9.85E-04	14	77727425	<i>NRXN3</i>	flanking_5UTR
rs10943755	6.45E-04	9.90E-04	6	81653169	<i>BCKDHB</i>	flanking_3UTR
rs2941503	6.46E-04	9.91E-04	17	35082271	<i>PERLD1</i>	3UTR
rs4837016	6.49E-04	9.96E-04	9	127181630	<i>GAPVD1</i>	flanking_3UTR
rs13077437	6.50E-04	9.96E-04	3	24457322	<i>THRB</i>	intron
rs1955850	6.50E-04	9.97E-04	14	26193254	<i>NOVA1</i>	flanking_5UTR

30 **Table E2.** Association results of 37 imputed SNPs in *RAD50*

31

SNP	Position	P value	Location
rs12652920	131913139	1.36E-06	5' upstream
rs2057687	131915144	1.46E-02	5' upstream
rs2706338	131923748	9.98E-07	intron 2
rs2244012	131929124	3.04E-07	intron 2
rs2299015	131929396	9.98E-07	intron 2
rs2706347	131933016	9.98E-07	intron 2
rs2706348	131933709	9.98E-07	intron 2
rs17166050	131943112	9.98E-07	intron 4, near RHS3
rs2522403	131943216	9.98E-07	intron 4, near RHS3
rs2246176	131945249	9.98E-07	intron 5
rs2252775	131946343	9.98E-07	intron 5
rs10463893	131955938	9.98E-07	intron 11
rs2897443	131957493	2.74E-06	intron 11
rs17622991	131960652	1.34E-06	intron 13
rs2706370	131960915	1.65E-06	intron 13
rs2706372	131963376	9.98E-07	intron 13
rs6884762	131966629	9.23E-02	intron 13
rs12187537	131967803	9.79E-07	intron 15
rs2522394	131972028	9.79E-07	intron 16
rs10520114	131976790	9.79E-07	intron 19, near RHS4, LCR
rs2301713	131979895	1.49E-06	intron 20, near RHS4, LCR
rs6596086	131980121	1.49E-06	intron 20, near RHS4, LCR
rs2106984	131980965	1.49E-06	intron 20, near RHS4, LCR
rs7449456	131981326	1.49E-06	intron 20, near RHS4, LCR
rs17772583	131981409	2.28E-01	intron 20, near RHS4, LCR

rs3798135	131993008	1.49E-06	intron 21, on RHS5/LCR-O
rs3798134	131993078	1.49E-06	intron 21, on RHS5/LCR-O
rs6596087	131996508	1.49E-06	intron 21, LCR
rs6871536	131997773	9.03E-07	intron 21, LCR
rs2237060	131998784	1.12E-01	intron 21, near RHS6/LCR-A
rs12653750	131999801	1.49E-06	intron 21, on RHS6/LCR-A
rs2040703	132000157	1.34E-06	intron 21, near RHS6/LCR-A
rs2040704	132001076	1.33E-06	intron 22, on RHS6/LCR-B
rs2074369	132001562	8.36E-07	intron 22, LCR
rs7737470	132001962	1.94E-06	intron 23, LCR
rs2240032	132005026	6.68E-06	intron 24, on RHS7/LCR-C
rs2158177	132011957	1.48E-04	3' downstream

32

33 Bold faced SNPs were genotyped SNPs, others were imputed.

34

35 **Table E3.** 41 Association results of imputed SNPs in HLA-DR/DQ region ($P \leq 1.0E-04$)

SNP	Position	Pvalue	Gene	Location
rs9268542	32492699	8.55E-05	<i>BTNL2</i>	flanking_5UTR
rs9268544	32493431	8.55E-05	<i>BTNL2</i>	flanking_5UTR
rs9268556	32494942	8.55E-05	<i>BTNL2</i>	flanking_5UTR
rs9268644	32516022	6.55E-05	<i>HLA-DRA</i>	intron
rs6926374	32517283	3.23E-05	<i>HLA-DRA</i>	intron
rs9268657	32517634	6.54E-05	<i>HLA-DRA</i>	intron
rs2239804	32519501	2.80E-05	<i>HLA-DRA</i>	intron
rs2239803	32519811	2.80E-05	<i>HLA-DRA</i>	intron
rs9268831	32535726	2.43E-05	<i>HLA-DRA</i>	flanking_3UTR
rs9268853	32537621	7.30E-05	<i>HLA-DRA</i>	flanking_3UTR
rs9268858	32537736	7.30E-05	<i>HLA-DRA</i>	flanking_3UTR
rs2395185	32541145	1.00E-04	<i>HLA-DRA</i>	flanking_3UTR
rs9405040	32547371	8.77E-05	<i>HLA-DRA</i>	flanking_3UTR
rs9286790	32547806	8.77E-05	<i>HLA-DRA</i>	flanking_3UTR
rs2516049	32678378	2.93E-05	<i>HLA-DRB1</i>	flanking_5UTR
rs522308	32689900	4.34E-05	<i>HLA-DRB1</i>	flanking_5UTR
rs3828800	32744041	4.34E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275184	32762692	1.26E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275207	32765688	5.10E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275221	32767077	5.10E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275293	32771286	5.10E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs5000634	32771542	9.76E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs7745040	32772310	3.23E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275307	32772968	2.68E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275310	32773297	4.72E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275311	32773618	4.72E-06	<i>HLA-DQB1</i>	flanking_5UTR

rs9275312	32773706	1.13E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275313	32773737	5.95E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275319	32774273	1.28E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275324	32774613	4.72E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275328	32774800	1.24E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275330	32774853	1.12E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275334	32775085	2.68E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275338	32775321	1.13E-05	<i>HLA-DQB1</i>	flanking_5UTR
rs9275351	32775771	2.68E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275356	32775828	2.68E-06	<i>HLA-DQB1</i>	flanking_5UTR
rs9275592	32788598	2.68E-06	<i>HLA-DQA2</i>	flanking_5UTR
rs7454108	32789461	2.68E-06	<i>HLA-DQA2</i>	flanking_5UTR
rs3957146	32789508	2.68E-06	<i>HLA-DQA2</i>	flanking_5UTR
rs3998159	32789997	1.45E-06	<i>HLA-DQA2</i>	flanking_5UTR
rs9275599	32790407	2.96E-06	<i>HLA-DQA2</i>	flanking_5UTR

36

37 Bold faced SNPs were genotyped SNPs, others were imputed.

38

39 **Figure legends**

40 **Figure E1.** Cluster plot of 607 TENOR cases and 262 HapMap samples. PC1 and PC2 are the
41 first and second principle component, respectively.

42

43 **Figure E2.** Principle components plot of 473 TENOR cases and 1,892 Illumina controls. PC1
44 and PC2 are the first and second principle component, respectively.

45

46 **Figure E3.** GWAS qq-plot of 292,443 SNPs of 473 TENOR cases and 1,892 Illumina controls.
47 Negative logarithm transformed expected P values are shown on the x-axis. Negative logarithm
48 transformed observed P values are shown on the y-axis.

49

50 **Figure E4.** Association of rs2516049 with the expression of *HLA-DRB1* in lymphocytes based
51 on GENEVAR dataset. X-axis represents copy numbers of minor allele of rs2516049. Y-axis
52 represents the expression levels of *HLA-DRB1* in lymphocytes.

53







