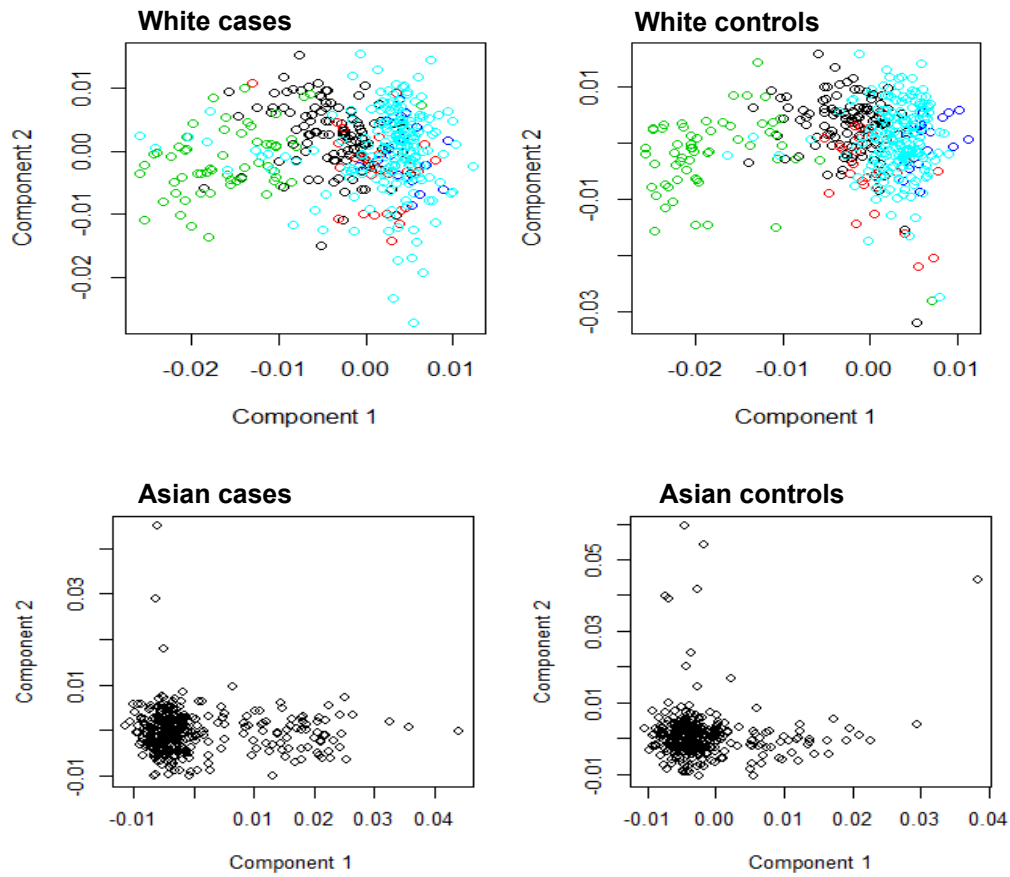# HLA-DPB1 and HLA Class I Confer

Risk of and Protection from Narcolepsy

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Figure S1. Principal components in the matched data sets

Principal components in the matched data sets. The components are shown separately for White (upper) and in Asian (lower) panels.

Table S1. Association of HLA-DRB1 alleles with narcolepsy in individuals matched for HLA-DQA1 and HLA-DQB1 alleles.

HLA-DRB1 Allele	Imputed White (N=840)				Imputed Asian (N=776)				N controls (carrier frequency)
	N controls (carrier frequency	N cases (carrier frequency)	OR (CI)	P	N controls (carrier frequency	N cases (carrier frequency)	OR (CI)	P	
01:01	37 (8.69%)	35 (8.45%)	0.97 (0.6-1.57)	0.905	6 (1.55%)	3 (0.77%)	0.5 (0.12-2)	0.314	3 (2.03%)
01:02	7 (1.64%)	10 (2.42%)	1.48 (0.56-3.93)	0.427	0 (0)	2 (0.52%)	-	0.157	-
01:03	3 (0.70%)	0 (0)	-	0.087	-	-	-	-	1 (0.68%)
03:01	47 (11.03%)	46 (11.11%)	1.01 (0.66-1.55)	0.971	17 (4.38%)	18 (4.64%)	1.06 (0.54-2.09)	0.863	14 (9.46%)
04:01	31 (7.28%)	26 (6.28%)	0.85 (0.5-1.46)	0.566	4 (1.03%)	4 (1.03%)	1 (0.25-4.03)	1	5 (3.38%)
04:02	7 (1.64%)	6 (1.45%)	0.88 (0.29-2.64)	0.82	2 (0.52%)	0 (0)	-	0.157	0 (0)
04:03	0 (0)	4 (0.97%)	-	0.042	5 (1.29%)	11 (2.84%)	2.24 (0.77-6.49)	0.13	3 (2.03%)
04:04	13 (3.05%)	11 (2.66%)	0.87 (0.38-1.96)	0.731	-	-	-	-	3 (2.03%)
04:05	0 (0)	1 (0.24%)	-	0.31	14 (3.61%)	15 (3.87%)	1.07 (0.51-2.26)	0.85	7 (4.73%)
04:06	-	-	-	-	9 (2.32%)	6 (1.55%)	0.66 (0.23-1.88)	0.434	7 (4.73%)
04:07	2 (0.47%)	6 (1.45%)	3.12 (0.63-15.54)	0.144	-	-	-	-	-
04:08	0 (0)	1 (0.24%)	-	0.31	-	-	-	-	-
04:10	-	-	-	-	1 (0.26%)	1 (0.26%)	1 (0.06-16.04)	1	0 (0)
07:01	70 (16.43%)	69 (16.67%)	1.02 (0.71-1.46)	0.927	46 (11.86%)	45 (11.60%)	0.98 (0.63-1.51)	0.911	12 (8.11%)
08:01	17 (3.99%)	14 (3.38%)	0.84 (0.41-1.73)	0.64	-	-	-	-	1 (0.68%)
08:02	-	-	-	-	5 (1.29%)	4 (1.03%)	0.8 (0.21-2.99)	0.737	1 (0.68%)
08:03	-	-	-	-	21 (5.41%)	18 (4.64%)	0.85 (0.45-1.62)	0.622	3 (2.03%)
08:04	3 (0.70%)	4 (0.97%)	1.38 (0.31-6.18)	0.676	-	-	-	-	-
09:01	2 (0.47%)	3 (0.72%)	1.55 (0.26-9.31)	0.631	49 (12.63%)	49 (12.63%)	1 (0.65-1.53)	1	10 (6.76%)
10:01	7 (1.64%)	6 (1.45%)	0.88 (0.29-2.64)	0.82	8 (2.06%)	8 (2.06%)	1 (0.37-2.69)	1	1 (0.68%)
11:01	60 (14.08%)	53 (12.80%)	0.9 (0.6-1.33)	0.586	43 (11.08%)	50 (12.89%)	1.19 (0.77-1.83)	0.439	8 (5.41%)
11:02	-	-	-	-	-	-	-	-	-
11:03	0 (0)	2 (0.48%)	-	0.151	-	-	-	-	-
11:04	14 (3.29%)	13 (3.14%)	0.95 (0.44-2.06)	0.904	4 (1.03%)	1 (0.26%)	0.25 (0.03-2.23)	0.178	1 (0.68%)
11:06	-	-	-	-	-	-	-	-	1 (0.68%)
12:01	6 (1.41%)	6 (1.45%)	1.03 (0.33-3.22)	0.96	15 (3.87%)	15 (3.87%)	1 (0.48-2.07)	1	13 (8.78%)
12:02	-	-	-	-	28 (7.22%)	31 (7.99%)	1.12 (0.66-1.9)	0.685	13 (8.78%)
13:01	14 (3.29%)	13 (3.14%)	0.95 (0.44-2.06)	0.904	9 (2.32%)	8 (2.06%)	0.89 (0.34-2.32)	0.806	1 (0.68%)
13:02	18 (4.23%)	17 (4.11%)	0.97 (0.49-1.91)	0.931	15 (3.87%)	14 (3.61%)	0.93 (0.44-1.96)	0.85	11 (7.43%)
13:03	11 (2.58%)	8 (1.93%)	0.74 (0.3-1.87)	0.527	-	-	-	-	-
13:05	-	-	-	-	-	-	-	-	-
13:10	-	-	-	-	-	-	-	-	-
13:12	-	-	-	-	0 (0)	2 (0.52%)	-	0.157	-
14:01	13 (3.05%)	13 (3.14%)	1.03 (0.47-2.25)	0.941	9 (2.32%)	8 (2.06%)	0.89 (0.34-2.32)	0.806	0 (0)
14:03	-	-	-	-	4 (1.03%)	1 (0.26%)	0.25 (0.03-2.23)	0.178	1 (0.68%)
14:04	-	-	-	-	5 (1.29%)	4 (1.03%)	0.8 (0.21-2.99)	0.737	1 (0.68%)
14:05	-	-	-	-	4 (1.03%)	7 (1.80%)	1.76 (0.51-6.07)	0.362	5 (3.38%)
14:07	-	-	-	-	-	-	-	-	1 (0.68%)
14:54	-	-	-	-	2 (0.52%)	1 (0.26%)	0.5 (0.05-5.52)	0.563	5 (3.38%)
15:01	423 (99.30%)	413 (99.76%)	2.93 (0.3-28.27)	0.33	387 (99.74%)	388 (100.00%)	-	0.317	146 (98.65%)
15:02	2 (0.47%)	2 (0.48%)	1.03 (0.14-7.34)	0.977	19 (4.90%)	23 (5.93%)	1.22 (0.66-2.29)	0.526	8 (5.41%)
15:03	-	-	-	-	-	-	-	-	0 (0)
16:01	12 (2.82%)	12 (2.90%)	1.03 (0.46-2.32)	0.943	-	-	-	-	0 (0)
16:02	1 (0.23%)	0 (0)	-	0.324	14 (3.61%)	11 (2.84%)	0.78 (0.35-1.74)	0.542	1 (0.68%)

Association of HLA-DRB1 alleles with narcolepsy in individuals matched for HLA-DQA1 and HLA-DQB1 alleles. P values calculated with $\chi2$ test and Maentel Haenszel test. CI = confidence interval. Upper and lower limits r

Table S1. continued

Typed Asian (N=296)			Typed White (N=530)				Mantel Haenszel test			
N cases (carrier frequency)	OR (CI)	P	N controls (carrier frequency	N cases (carrier frequency)	OR (CI)	P	Allele	OR (CI)	P	Heterogeneity P
3 (2.03%)	1 (0.2-5.04)	1	13 (4.91%)	9 (3.40%)	0.68 (0.29-1.62)	0.384	01:01	0.85 (0.58-1.26)	0.43	0.765
-	-	-	0 (0)	4 (1.51%)	-	0.045	01:02	2.37 (0.97-5.82)	0.052	0
1 (0.68%)	1 (0.06-16.14)	1	3 (1.13%)	3 (1.13%)	1 (0.2-5)	1	01:03	0.57 (0.17-1.97)	0.371	0.433
14 (9.46%)	1 (0.46-2.18)	1	51 (19.25%)	50 (18.87%)	0.98 (0.63-1.51)	0.912	03:01	1.00 (0.77-1.30)	0.982	0.998
8 (5.41%)	1.63 (0.52-5.12)	0.395	28 (10.57%)	27 (10.19%)	0.96 (0.55-1.68)	0.887	04:01	0.97 (0.68-1.37)	0.844	0.797
2 (1.35%)		0.156	0 (0)	3 (1.13%)	-	0.082	04:02	1.25 (0.51-3.03)	0.623	0
3 (2.03%)	1 (0.2-5.04)	1	2 (0.75%)	4 (1.51%)	2.02 (0.37-11.1)	0.412	04:03	2.23 (1.05-4.74)	0.032	0.618
2 (1.35%)	0.66 (0.11-4.02)	0.652	18 (6.79%)	12 (4.53%)	0.65 (0.31-1.38)	0.259	04:04	0.73 (0.43-1.24)	0.25	0.873
6 (4.05%)	0.85 (0.28-2.6)	0.777	-	-	-	-	04:05	1.05 (0.57-1.93)	0.875	0.708
5 (3.38%)	0.7 (0.22-2.27)	0.556	-	-	-	-	04:06	0.68 (0.31-1.48)	0.329	0.937
-	-	-	4 (1.51%)	7 (2.64%)	1.77 (0.51-6.12)	0.361	04:07	2.22 (0.84-5.88)	0.1	0.584
-	-	-	3 (1.13%)	1 (0.38%)	0.33 (0.03-3.2)	0.315	04:08	0.67 (0.11-4.01)	0.659	0
1 (0.68%)	-	0.316	-	-	-	-	04:10	2.00 (0.18-22.13)	0.564	0
12 (8.11%)	1 (0.43-2.3)	1	34 (12.83%)	35 (13.21%)	1.03 (0.62-1.71)	0.897	07:01	1.01 (0.80-1.27)	0.953	0.998
0 (0)	-	0.316	8 (3.02%)	7 (2.64%)	0.87 (0.31-2.44)	0.793	08:01	0.82 (0.46-1.47)	0.499	0.884
2 (1.35%)	2.01 (0.18-22.45)	0.562	0 (0)	1 (0.38%)	-	0.317	08:02	1.17 (0.39-3.50)	0.781	0.473
4 (2.70%)	1.34 (0.3-6.11)	0.702	1 (0.38%)	0 (0)	-	0.317	08:03	0.87 (0.49-1.57)	0.655	0.575
-	-	-	-	-	-	-	08:04	1.38 (0.31-6.18)	0.676	0
9 (6.08%)	0.89 (0.35-2.27)	0.813	2 (0.75%)	2 (0.75%)	1 (0.14-7.15)	1	09:01	1.00 (0.69-1.45)	0.995	0.963
1 (0.68%)	1 (0.06-16.14)	1	2 (0.75%)	2 (0.75%)	1 (0.14-7.15)	1	10:01	0.95 (0.49-1.86)	0.89	0.998
11 (7.43%)	1.41 (0.55-3.6)	0.477	28 (10.57%)	20 (7.55%)	0.69 (0.38-1.26)	0.226	11:01	0.97 (0.76-1.25)	0.828	0.423
-	-	-	0 (0)	1 (0.38%)	-	0.317	11:02	-	0.317	-
-	-	-	2 (0.75%)	2 (0.75%)	1 (0.14-7.15)	1	11:03	2.02 (0.37-11.06)	0.407	0
1 (0.68%)	1 (0.06-16.14)	1	9 (3.40%)	9 (3.40%)	1 (0.39-2.56)	1	11:04	0.87 (0.50-1.51)	0.611	0.704
1 (0.68%)	1 (0.06-16.14)	1	-	-	-	-	11:06	1.00 (0.06-16.14)	1	1
13 (8.78%)	1 (0.45-2.24)	1	8 (3.02%)	11 (4.15%)	1.39 (0.55-3.52)	0.483	12:01	1.08 (0.70-1.66)	0.728	0.946
12 (8.11%)	0.92 (0.4-2.08)	0.834	0 (0)	1 (0.38%)	-	0.317	12:02	1.08 (0.69-1.68)	0.735	0.681
1 (0.68%)	1 (0.06-16.14)	1	5 (1.89%)	4 (1.51%)	0.8 (0.21-3)	0.737	13:01	0.91 (0.53-1.55)	0.721	0.996
11 (7.43%)	1 (0.42-2.38)	1	11 (4.15%)	11 (4.15%)	1 (0.43-2.35)	1	13:02	0.97 (0.66-1.43)	0.883	0.999
-	-	-	2 (0.75%)	5 (1.89%)	2.53 (0.49-13.15)	0.254	13:03	1.02 (0.47-2.22)	0.957	0.203
-	-	-	2 (0.75%)	3 (1.13%)	1.51 (0.25-9.09)	0.653	13:05	1.51 (0.25-9.09)	0.653	1
-	-	-	0 (0)	1 (0.38%)	-	0.317	13:10	-	0.317	-
-	-	-	-	-	-	-	13:12	-	0.157	-
1 (0.68%)	-	0.316	0 (0)	1 (0.38%)	-	0.317	14:01	1.06 (0.59-1.93)	0.836	0.703
1 (0.68%)	1 (0.06-16.14)	1	-	-	-	-	14:03	0.40 (0.08-2.06)	0.256	0.439
1 (0.68%)	1 (0.06-16.14)	1	-	-	-	-	14:04	0.83 (0.25-2.74)	0.762	0.886
5 (3.38%)	1 (0.28-3.53)	1	-	-	-	-	14:05	1.34 (0.56-3.22)	0.508	0.529
0 (0)	-	0.316	-	-	-	-	14:07	-	0.317	-
5 (3.38%)	1 (0.28-3.53)	1	8 (3.02%)	7 (2.64%)	0.87 (0.31-2.44)	0.793	14:54	0.86 (0.41-1.83)	0.702	0.881
145 (97.97%)	0.66 (0.11-4.02)	0.652	262 (98.87%)	265 (100.00%)	-	0.082	15:01	2.25 (0.69-7.34)	0.169	0.178
3 (2.03%)	0.36 (0.09-1.39)	0.124	1 (0.38%)	1 (0.38%)	1 (0.06-16.07)	1	15:02	0.97 (0.57-1.63)	0.9	0.459
1 (0.68%)	-	0.316	1 (0.38%)	0 (0)	-	0.317	15:03	1.00 (0.06-15.99)	1	-
1 (0.68%)	-	0.316	3 (1.13%)	2 (0.75%)	0.66 (0.11-4.01)	0.653	16:01	1.02 (0.50-2.11)	0.949	0.637
3 (2.03%)	3.04 (0.31-29.58)	0.314	1 (0.38%)	1 (0.38%)	1 (0.06-16.07)	1	16:02	0.88 (0.44-1.78)	0.722	0.539

epresent 95 intervals. Cases and controls are matched for country, ethnicity and HLA-DRB1 and HLA-DQ genotypes.

Table S2. Association of HLA-DPB1 alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles.

HLA-DPB1 allele	Asian typed (N=160)				White typed (N=426)				W
	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)
01:01	-	-	-	-	19 (8.920%)	17 (7.981%)	0.886 (0.447-1.755)	0.728	14 (3.518%)
02:01	53 (66.250%)	52 (65.000%)	0.946 (0.493-1.817)	0.868	35 (16.432%)	37 (17.371%)	1.069 (0.644-1.775)	0.796	76 (19.095%)
02:02	8 (10.000%)	5 (6.250%)	0.600 (0.187-1.920)	0.385	1 (0.469%)	2 (0.939%)	2.009 (0.181-22.329)	0.562	5 (1.256%)
03:01	7 (8.750%)	5 (6.250%)	0.695 (0.211-2.290)	0.548	32 (15.023%)	33 (15.493%)	1.037 (0.611-1.759)	0.893	64 (16.080%)
04:01	18 (22.500%)	8 (10.000%)	0.383 (0.156-0.941)	0.032	175 (82.160%)	173 (81.221%)	0.939 (0.575-1.535)	0.802	332 (83.417%)
04:02	7 (8.750%)	4 (5.000%)	0.549 (0.154-1.954)	0.349	38 (17.840%)	23 (10.798%)	0.557 (0.319-0.973)	0.038	76 (19.095%)
05:01	35 (43.750%)	50 (62.500%)	2.143 (1.138-4.033)	0.017	12 (5.634%)	9 (4.225%)	0.739 (0.305-1.792)	0.502	22 (5.528%)
06:01	-	-	-	-	6 (2.817%)	10 (4.695%)	1.700 (0.606-4.763)	0.308	-
06:02	-	-	-	-	-	-	-	-	1 (0.251%)
09:01	2 (2.500%)	1 (1.250%)	0.494 (0.044-5.556)	0.56	0 (0)	2 (0.939%)	-	0.156	6 (1.508%)
09:02	-	-	-	-	-	-	-	-	-
10:01	-	-	-	-	11 (5.164%)	2 (0.939%)	0.174 (0.038-0.795)	0.011	18 (4.523%)
104:01	-	-	-	-	-	-	-	-	6 (1.508%)
105:01	-	-	-	-	2 (0.939%)	0 (0)	-	0.156	-
11:01	-	-	-	-	5 (2.347%)	4 (1.878%)	0.796 (0.211-3.007)	0.736	11 (2.764%)
13:01	8 (10.000%)	5 (6.250%)	0.600 (0.187-1.920)	0.385	3 (1.408%)	4 (1.878%)	1.340 (0.296-6.059)	0.703	14 (3.518%)
14:01	0 (0)	6 (7.500%)	-	0.013	5 (2.347%)	3 (1.408%)	0.594 (0.140-2.519)	0.475	13 (3.266%)
15:01	-	-	-	-	0 (0)	4 (1.878%)	-	0.044	3 (0.754%)
16:01	-	-	-	-	1 (0.469%)	2 (0.939%)	2.009 (0.181-22.329)	0.562	1 (0.251%)
17:01	1 (1.250%)	2 (2.500%)	2.026 (0.180-22.797)	0.56	6 (2.817%)	5 (2.347%)	0.829 (0.249-2.760)	0.76	7 (1.759%)
19:01	0 (0)	1 (1.250%)	-	0.316	-	-	-	-	6 (1.508%)
20:01	-	-	-	-	3 (1.408%)	2 (0.939%)	0.664 (0.110-4.011)	0.653	-
21:01	0 (0)	1 (1.250%)	-	0.316	-	-	-	-	-
23:01	-	-	-	-	3 (1.408%)	9 (4.225%)	3.088 (0.824-11.569)	0.079	-
26:01	1 (1.250%)	0 (0)	-	0.316	0 (0)	1 (0.469%)	-	0.317	-
34:01	-	-	-	-	1 (0.469%)	0 (0)	-	0.317	-
41:01	-	-	-	-	0 (0)	1 (0.469%)	-	0.317	-

Association of HLA-DPB1 alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles. P values calculated with $\chi2$ test and Maentel Haenszel test.

Table S2. continued

White imputed (N=796)			Asian imputed (N=744)				Meta-analysis			
N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	Allele	OR (CI)	P	P test of heterogeneity
27 (6.784%)	1.996 (1.031-3.866)	0.037	-	-	-	-	01:01	1.360 (0.853-2.169)	0.195	0.094
92 (23.116%)	1.274 (0.905-1.793)	0.165	191 (51.344%)	192 (51.613%)	1.011 (0.758-1.348)	0.942	02:01	1.091 (0.900-1.322)	0.377	0.741
5 (1.256%)	1.000 (0.287-3.481)	1	23 (6.183%)	27 (7.258%)	1.188 (0.668-2.112)	0.558	02:02	1.058 (0.665-1.681)	0.813	0.718
66 (16.583%)	1.037 (0.712-1.511)	0.848	40 (10.753%)	29 (7.796%)	0.702 (0.425-1.158)	0.164	03:01	0.919 (0.713-1.186)	0.517	0.589
335 (84.171%)	1.057 (0.725-1.541)	0.773	96 (25.806%)	62 (16.667%)	0.575 (0.402-0.823)	0.002	04:01	0.763 (0.612-0.951)	0.016	0.042
43 (10.804%)	0.513 (0.343-0.768)	0.001	42 (11.290%)	19 (5.108%)	0.423 (0.241-0.742)	0.002	04:02	0.501 (0.380-0.659)	6.105e-07	0.914
21 (5.276%)	0.952 (0.515-1.760)	0.875	201 (54.032%)	245 (65.860%)	1.641 (1.221-2.206)	9.947e-04	05:01	1.482 (1.172-1.875)	0.001	0.106
-	-	-	-	-	-	-	06:01	1.700 (0.606-4.763)	0.309	1
1 (0.251%)	1.000 (0.062-16.043)	1	-	-	-	-	06:02	1.000 (0.062-16.043)	1	1
4 (1.005%)	0.663 (0.186-2.369)	0.524	6 (1.613%)	9 (2.419%)	1.512 (0.533-4.292)	0.434	09:01	1.145 (0.556-2.360)	0.713	0.486
-	-	-	7 (1.882%)	10 (2.688%)	1.440 (0.542-3.825)	0.462	09:02	1.440 (0.542-3.825)	0.462	0
7 (1.759%)	0.378 (0.156-0.915)	0.025	-	-	-	-	10:01	0.300 (0.141-0.640)	0.001	0.385
10 (2.513%)	1.684 (0.606-4.678)	0.312	3 (0.806%)	2 (0.538%)	0.665 (0.110-4.002)	0.654	104:01	1.340 (0.561-3.201)	0.509	0.378
-	-	-	-	-	-	-	105:01	-	0.157	-
8 (2.010%)	0.722 (0.287-1.814)	0.486	-	-	-	-	11:01	0.745 (0.349-1.588)	0.445	0.905
10 (2.513%)	0.707 (0.310-1.611)	0.407	13 (3.495%)	16 (4.301%)	1.241 (0.588-2.618)	0.57	13:01	0.918 (0.574-1.467)	0.72	0.622
9 (2.261%)	0.685 (0.290-1.622)	0.387	23 (6.183%)	19 (5.108%)	0.817 (0.437-1.526)	0.525	14:01	0.899 (0.571-1.414)	0.644	0.675
5 (1.256%)	1.675 (0.398-7.057)	0.477	-	-	-	-	15:01	3.025 (0.816-11.223)	0.082	0
2 (0.503%)	2.005 (0.181-22.201)	0.563	-	-	-	-	16:01	2.007 (0.366-11.004)	0.413	0.999
10 (2.513%)	1.440 (0.542-3.821)	0.462	25 (6.720%)	20 (5.376%)	0.789 (0.430-1.446)	0.442	17:01	0.946 (0.597-1.499)	0.815	0.686
5 (1.256%)	0.831 (0.252-2.746)	0.761	4 (1.075%)	4 (1.075%)	1.000 (0.248-4.029)	1	19:01	1.000 (0.414-2.415)	1	0.762
-	-	-	-	-	-	-	20:01	0.664 (0.110-4.011)	0.653	1
-	-	-	-	-	-	-	21:01	-	0.317	-
-	-	-	-	-	-	-	23:01	3.088 (0.824-11.569)	0.079	1
-	-	-	2 (0.538%)	1 (0.269%)	0.499 (0.045-5.523)	0.563	26:01	0.666 (0.111-3.993)	0.654	0
-	-	-	-	-	-	-	34:01	-	0.317	-
-	-	-	-	-	-	-	41:01	-	0.317	-

CI = confidence interval. Upper and lower limits represent 95 intervals. Cases and controls are matched for country, ethnicity and HLA-DRB1 and HLA-DQ genotypes.

Table S3. Association of HLA-DPA1 alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles.

HLA-DPA1 allele	Asian typed (N=160)				White typed (N=426)				Wh
	N controls (carrier frequency)	N cases (carrier frequency)	OR (CI)	P	N controls (carrier frequency)	N cases (carrier frequency)	OR (CI lower - upper)	P	N controls (carrier frequency)
01:03	57 (71.250%)	49 (61.250%)	0.638 (0.329-1.235)	0.181	208 (97.653%)	209 (98.122%)	1.256 (0.333-4.743)	0.736	393 (98.744%)
01:04	-	-	-	-	0 (0)	3 (1.408%)	-	0.082	2 (0.503%)
02:01	10 (12.500%)	9 (11.250%)	0.887 (0.340-2.315)	0.807	47 (22.066%)	40 (18.779%)	0.817 (0.509-1.310)	0.4	81 (20.352%)
02:02	61 (76.250%)	67 (83.750%)	1.605 (0.731-3.523)	0.236	14 (6.573%)	9 (4.225%)	0.627 (0.265-1.482)	0.284	25 (6.281%)
03:01	-	-	-	-	2 (0.939%)	0 (0)	-	0.156	-
04:01	-	-	-	-	-	-	-	-	-

Association of HLA-DPA1 alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles. P values calculated with χ2 test and Maentel Haenszel test.

Table S3. continued

N cases (carrier frequency)	OR (CI)	P	N controls (carrier frequency)	N cases (carrier frequency)	OR (CI)	P	Allele	OR (CI)	P	P test of heterogeneity
ite imputed (N=796)			**Asian imputed (N=744)**				**Meta-analysis**			
392 (98.492%)	0.831 (0.252-2.746)	0.761	238 (63.978%)	196 (52.688%)	0.627 (0.467-0.841)	0.002	01:03	0.654 (0.506-0.845)	0.001	0.761
3 (0.754%)	1.504 (0.250-9.049)	0.654	-	-	-	-	01:04	3.015 (0.607-14.982)	0.156	0
69 (17.337%)	0.821 (0.575-1.172)	0.277	49 (13.172%)	43 (11.559%)	0.862 (0.556-1.334)	0.504	02:01	0.835 (0.662-1.052)	0.126	0.997
29 (7.286%)	1.173 (0.674-2.040)	0.573	309 (83.065%)	328 (88.172%)	1.520 (1.003-2.302)	0.047	02:02	1.289 (0.968-1.716)	0.081	0.294
-	-	-	-	-	-	-	03:01	-	0.157	-
-	-	-	0 (0)	1 (0.269%)	-	0.317	04:01	-	0.317	-

CI = confidence interval. Upper and lower limits represent 95 intervals. Cases and controls are matched for country, ethnicity and HLA-DRB1 and HLA-DQ genotypes.

Table S5. Association of HLA-A alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles.

HLA-A Allele	Asian typed (N=154)				White typed (N=418)				
	N controls (carrier frequency)	N cases (carrier frequency)	OR (CI lower - upper)	P	N controls (carrier frequency)	N cases (carrier frequency)	OR (CI lower - upper)	P	N controls (carrier frequency)
01:01	1 (1.299%)	2 (2.597%)	2.027 (0.180-22.827)	0.56	58 (27.751%)	55 (26.316%)	0.930 (0.604-1.432)	0.741	86 (21.608%)
01:02	-	-	-	-	0 (0)	1 (0.478%)	-	0.317	-
02:01	23 (29.870%)	26 (33.766%)	1.197 (0.607-2.361)	0.604	105 (50.239%)	105 (50.239%)	1.000 (0.681-1.467)	1	183 (45.980%)
02:02	-	-	-	-	-	-	-	-	0 (0)
02:03	-	-	-	-	-	-	-	-	-
02:05	-	-	-	-	3 (1.435%)	5 (2.392%)	1.683 (0.397-7.135)	0.475	7 (1.759%)
02:06	16 (20.779%)	15 (19.481%)	0.922 (0.419-2.029)	0.841	2 (0.957%)	0 (0)	-	0.156	1 (0.251%)
02:07	2 (2.597%)	2 (2.597%)	1.000 (0.137-7.286)	1	-	-	-	-	-
02:10	2 (2.597%)	2 (2.597%)	1.000 (0.137-7.286)	1	-	-	-	-	-
02:17	-	-	-	-	0 (0)	1 (0.478%)	-	0.317	-
03:01	4 (5.195%)	0 (0)	-	0.043	84 (40.191%)	61 (29.187%)	0.613 (0.408-0.921)	0.018	141 (35.427%)
03:02	-	-	-	-	0 (0)	1 (0.478%)	-	0.317	-
11:01	22 (28.571%)	32 (41.558%)	1.778 (0.909-3.477)	0.091	22 (10.526%)	35 (16.746%)	1.710 (0.965-3.029)	0.064	47 (11.809%)
11:02	-	-	-	-	-	-	-	-	-
23:01	-	-	-	-	4 (1.914%)	6 (2.871%)	1.515 (0.421-5.448)	0.522	21 (5.276%)
24:02	30 (38.961%)	30 (38.961%)	1.000 (0.523-1.911)	1	31 (14.833%)	30 (14.354%)	0.962 (0.559-1.657)	0.89	81 (20.352%)
24:03	-	-	-	-	0 (0)	1 (0.478%)	-	0.317	-
24:20	0 (0)	1 (1.299%)	-	0.316	-	-	-	-	-
25:01	-	-	-	-	13 (6.220%)	17 (8.134%)	1.335 (0.631-2.823)	0.448	22 (5.528%)
26:01	5 (6.494%)	3 (3.896%)	0.584 (0.135-2.533)	0.468	4 (1.914%)	13 (6.220%)	3.399 (1.090-10.603)	0.026	17 (4.271%)
26:02	1 (1.299%)	1 (1.299%)	1.000 (0.061-16.281)	1	-	-	-	-	-
26:03	1 (1.299%)	2 (2.597%)	2.027 (0.180-22.827)	0.56	-	-	-	-	-
29:01	-	-	-	-	-	-	-	-	4 (1.005%)
29:02	-	-	-	-	13 (6.220%)	10 (4.785%)	0.758 (0.325-1.768)	0.52	31 (7.789%)
30:01	4 (5.195%)	2 (2.597%)	0.487 (0.086-2.739)	0.405	4 (1.914%)	3 (1.435%)	0.746 (0.165-3.376)	0.703	11 (2.764%)
30:02	-	-	-	-	4 (1.914%)	4 (1.914%)	1.000 (0.247-4.053)	1	7 (1.759%)
30:04	-	-	-	-	-	-	-	-	1 (0.251%)
31:01	7 (9.091%)	8 (10.390%)	1.159 (0.399-3.372)	0.786	10 (4.785%)	13 (6.220%)	1.320 (0.565-3.081)	0.52	13 (3.266%)
32:01	0 (0)	1 (1.299%)	-	0.316	14 (6.699%)	11 (5.263%)	0.774 (0.343-1.747)	0.536	27 (6.784%)
33:01	-	-	-	-	3 (1.435%)	1 (0.478%)	0.330 (0.034-3.200)	0.315	7 (1.759%)
33:03	24 (31.169%)	16 (20.779%)	0.579 (0.279-1.204)	0.142	-	-	-	-	2 (0.503%)
34:01	-	-	-	-	-	-	-	-	-
66:01	-	-	-	-	1 (0.478%)	0 (0)	-	0.317	3 (0.754%)
68:01	2 (2.597%)	0 (0)	-	0.155	8 (3.828%)	8 (3.828%)	1.000 (0.368-2.716)	1	16 (4.020%)
68:02	1 (1.299%)	0 (0)	-	0.316	3 (1.435%)	1 (0.478%)	0.330 (0.034-3.200)	0.315	5 (1.256%)
69:01	-	-	-	-	-	-	-	-	1 (0.251%)
74:03	-	-	-	-	1 (0.478%)	0 (0)	-	0.317	-

Association of HLA-A alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles. P values calculated with χ2 test and Maentel Haenszel test. CI = c

Table S5. continued

White imputed (N=796)			Asian imputed (N=744)				Meta-analysis			
N cases (carrier frequency)	OR (CI lower - upper)	P	N controls (carrier frequency)	N cases (carrier frequency)	OR (CI lower - upper)	P	Allele	OR	P	P test of heterogeneity
84 (21.106%)	0.971 (0.691-1.362)	0.863	37 (9.946%)	27 (7.258%)	0.709 (0.422-1.190)	0.191	01:01	0.904 (0.714-1.144)	0.401	0.692
-	-	-	-	-	-	-	01:02	-	0.317	-
182 (45.729%)	0.990 (0.749-1.308)	0.943	133 (35.753%)	108 (29.032%)	0.735 (0.540-1.001)	0.05	02:01	0.912 (0.765-1.087)	0.303	0.384
1 (0.251%)	-	0.317	-	-	-	-	02:02	-	0.317	-
-	-	-	1 (0.269%)	1 (0.269%)	1.000 (0.062-16.047)	1	02:03	1.000 (0.062-16.047)	1	1
8 (2.010%)	1.146 (0.412-3.190)	0.794	4 (1.075%)	3 (0.806%)	0.748 (0.166-3.365)	0.704	02:05	1.145 (0.556-2.361)	0.713	0.748
0 (0)	-	0.317	63 (16.935%)	77 (20.699%)	1.280 (0.885-1.852)	0.189	02:06	1.152 (0.828-1.602)	0.401	0.431
-	-	-	25 (6.720%)	41 (11.022%)	1.719 (1.023-2.891)	0.039	02:07	1.661 (1.006-2.744)	0.046	0.605
-	-	-	-	-	-	-	02:10	1.000 (0.137-7.286)	1	1
-	-	-	-	-	-	-	02:17	-	0.317	-
139 (34.925%)	0.978 (0.731-1.309)	0.882	44 (11.828%)	31 (8.333%)	0.678 (0.418-1.100)	0.113	03:01	0.785 (0.636-0.970)	0.024	0.138
-	-	-	4 (1.075%)	1 (0.269%)	0.248 (0.028-2.229)	0.178	03:02	0.499 (0.091-2.729)	0.413	0
52 (13.065%)	1.122 (0.736-1.711)	0.591	107 (28.763%)	139 (37.366%)	1.477 (1.086-2.009)	0.013	11:01	1.431 (1.154-1.775)	0.001	0.554
-	-	-	3 (0.806%)	1 (0.269%)	0.332 (0.034-3.202)	0.316	11:02	0.332 (0.034-3.202)	0.316	1
20 (5.025%)	0.950 (0.507-1.781)	0.873	2 (0.538%)	1 (0.269%)	0.499 (0.045-5.523)	0.563	23:01	1.000 (0.580-1.725)	1	0.687
84 (21.106%)	1.047 (0.743-1.475)	0.793	127 (34.140%)	134 (36.022%)	1.086 (0.804-1.468)	0.591	24:02	1.047 (0.859-1.278)	0.648	0.982
-	-	-	2 (0.538%)	1 (0.269%)	0.499 (0.045-5.523)	0.563	24:03	1.000 (0.140-7.118)	1	0
-	-	-	-	-	-	-	24:20	-	0.317	-
26 (6.533%)	1.195 (0.665-2.145)	0.551	-	-	-	-	25:01	1.246 (0.786-1.976)	0.349	0.819
19 (4.774%)	1.124 (0.575-2.195)	0.733	25 (6.720%)	21 (5.645%)	0.830 (0.456-1.511)	0.543	26:01	1.103 (0.748-1.628)	0.62	0.148
-	-	-	-	-	-	-	26:02	1.000 (0.061-16.281)	1	1
-	-	-	1 (0.269%)	0 (0)	-	0.317	26:03	1.000 (0.139-7.191)	1	0
1 (0.251%)	0.248 (0.028-2.230)	0.178	5 (1.344%)	6 (1.613%)	1.203 (0.364-3.978)	0.761	29:01	0.776 (0.287-2.094)	0.615	0.213
13 (3.266%)	0.400 (0.206-0.776)	0.005	-	-	-	-	29:02	0.504 (0.301-0.846)	0.008	0.244
11 (2.764%)	1.000 (0.428-2.334)	1	35 (9.409%)	29 (7.796%)	0.814 (0.487-1.362)	0.433	30:01	0.823 (0.547-1.239)	0.35	0.902
8 (2.010%)	1.146 (0.412-3.190)	0.794	0 (0)	1 (0.269%)	-	0.317	30:02	1.185 (0.527-2.666)	0.681	0.805
0 (0)	-	0.317	-	-	-	-	30:04	-	0.317	-
16 (4.020%)	1.240 (0.589-2.614)	0.57	34 (9.140%)	33 (8.871%)	0.968 (0.586-1.599)	0.898	31:01	1.102 (0.775-1.566)	0.591	0.911
24 (6.030%)	0.882 (0.500-1.557)	0.664	9 (2.419%)	8 (2.151%)	0.886 (0.338-2.323)	0.806	32:01	0.874 (0.576-1.325)	0.525	0.957
7 (1.759%)	1.000 (0.348-2.878)	1	1 (0.269%)	1 (0.269%)	1.000 (0.062-16.047)	1	33:01	0.816 (0.336-1.981)	0.653	0.68
0 (0)	-	0.157	30 (8.065%)	26 (6.989%)	0.857 (0.496-1.479)	0.578	33:03	0.714 (0.463-1.100)	0.126	0.389
-	-	-	1 (0.269%)	0 (0)	-	0.317	34:01	-	0.317	-
2 (0.503%)	0.665 (0.111-4.001)	0.654	-	-	-	-	66:01	0.498 (0.091-2.732)	0.413	0
21 (5.276%)	1.330 (0.683-2.588)	0.4	8 (2.151%)	7 (1.882%)	0.873 (0.313-2.431)	0.794	68:01	1.061 (0.658-1.711)	0.808	0.743
8 (2.010%)	1.612 (0.523-4.972)	0.402	-	-	-	-	68:02	1.000 (0.395-2.534)	1	0.205
1 (0.251%)	1.000 (0.062-16.043)	1	1 (0.269%)	0 (0)	-	0.317	69:01	0.499 (0.045-5.520)	0.564	0
-	-	-	-	-	-	-	74:03	-	0.317	-

onfidence interval. Upper and lower limits represent 95 intervals. Cases and controls are matched for country, ethnicity and HLA-DRB1 and HLA-DQ genotypes.

Table S7. Association of HLA-C alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles.

HLA-C allele	Asian typed (N=156)				White typed (N=424)				White imputed	
	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)
01:02	26 (33.333%)	24 (30.769%)	0.889 (0.454-1.742)	0.732	13 (6.132%)	9 (4.245%)	0.679 (0.284-1.623)	0.381	18 (4.523%)	27 (6.784%)
02:02	1 (1.282%)	0 (0)	-	0.316	14 (6.604%)	18 (8.491%)	1.312 (0.635-2.712)	0.462	29 (7.286%)	29 (7.286%)
02:10	-	-	-	-	2 (0.943%)	1 (0.472%)	0.498 (0.045-5.530)	0.562	-	-
03:01	0 (0)	1 (1.282%)	-	0.316	-	-	-	-	-	-
03:02	10 (12.821%)	6 (7.692%)	0.567 (0.195-1.644)	0.291	-	-	-	-	-	-
03:03	21 (26.923%)	28 (35.897%)	1.520 (0.769-3.005)	0.227	14 (6.604%)	12 (5.660%)	0.849 (0.383-1.880)	0.686	41 (10.302%)	22 (5.528%)
03:04	15 (19.231%)	18 (23.077%)	1.260 (0.583-2.724)	0.556	32 (15.094%)	22 (10.377%)	0.651 (0.365-1.163)	0.145	37 (9.296%)	35 (8.794%)
03:14	-	-	-	-	0 (0)	1 (0.472%)	-	0.317	-	-
04:01	11 (14.103%)	9 (11.538%)	0.794 (0.309-2.040)	0.632	29 (13.679%)	26 (12.264%)	0.882 (0.500-1.556)	0.665	58 (14.573%)	81 (20.352%)
04:03	-	-	-	-	-	-	-	-	-	-
05:01	2 (2.564%)	1 (1.282%)	0.494 (0.044-5.557)	0.56	30 (14.151%)	25 (11.792%)	0.811 (0.459-1.432)	0.47	65 (16.332%)	46 (11.558%)
06:02	6 (7.692%)	3 (3.846%)	0.480 (0.116-1.992)	0.303	22 (10.377%)	22 (10.377%)	1.000 (0.536-1.867)	1	53 (13.317%)	56 (14.070%)
07:01	4 (5.128%)	3 (3.846%)	0.740 (0.160-3.421)	0.699	52 (24.528%)	52 (24.528%)	1.000 (0.642-1.557)	1	90 (22.613%)	81 (20.352%)
07:02	13 (16.667%)	12 (15.385%)	0.909 (0.386-2.140)	0.827	133 (62.736%)	133 (62.736%)	1.000 (0.675-1.482)	1	228 (57.286%)	228 (57.286%)
07:04	2 (2.564%)	1 (1.282%)	0.494 (0.044-5.557)	0.56	6 (2.830%)	8 (3.774%)	1.346 (0.459-3.949)	0.587	6 (1.508%)	15 (3.769%)
08:01	15 (19.231%)	17 (21.795%)	1.170 (0.537-2.549)	0.692	-	-	-	-	1 (0.251%)	0 (0)
08:02	-	-	-	-	10 (4.717%)	14 (6.604%)	1.428 (0.620-3.291)	0.401	19 (4.774%)	27 (6.784%)
08:03	1 (1.282%)	0 (0)	-	0.316	-	-	-	-	-	-
12:02	3 (3.846%)	2 (2.564%)	0.658 (0.107-4.050)	0.649	1 (0.472%)	4 (1.887%)	4.058 (0.450-36.608)	0.177	3 (0.754%)	2 (0.503%)
12:03	0 (0)	1 (1.282%)	-	0.316	14 (6.604%)	32 (15.094%)	2.514 (1.300-4.863)	0.005	46 (11.558%)	56 (14.070%)
14:02	10 (12.821%)	11 (14.103%)	1.116 (0.445-2.803)	0.815	1 (0.472%)	2 (0.943%)	2.010 (0.181-22.330)	0.562	10 (2.513%)	11 (2.764%)
14:03	8 (10.256%)	4 (5.128%)	0.473 (0.136-1.641)	0.229	-	-	-	-	-	-
15:02	2 (2.564%)	7 (8.974%)	3.746 (0.753-18.639)	0.086	6 (2.830%)	8 (3.774%)	1.346 (0.459-3.949)	0.587	13 (3.266%)	16 (4.020%)
15:05	-	-	-	-	-	-	-	-	3 (0.754%)	3 (0.754%)
16:01	-	-	-	-	12 (5.660%)	8 (3.774%)	0.654 (0.262-1.633)	0.36	29 (7.286%)	10 (2.513%)
16:02	-	-	-	-	1 (0.472%)	2 (0.943%)	2.010 (0.181-22.330)	0.562	3 (0.754%)	2 (0.503%)
16:04	-	-	-	-	0 (0)	1 (0.472%)	-	0.317	0 (0)	2 (0.503%)
17:01	-	-	-	-	0 (0)	2 (0.943%)	-	0.156	7 (1.759%)	5 (1.256%)
17:03	-	-	-	-	0 (0)	1 (0.472%)	-	0.317	-	-
18:01	-	-	-	-	1 (0.472%)	0 (0)	-	0.317	-	-

Association of HLA-C alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQB1 and HLA-DQA1 alleles. P values calculated with χ2 test and Ma... ethnicity and HLA-DRB1 and HLA-DQ genotypes.

d (N=796)		Asian imputed (N=744)				Meta-analysis			
OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	Allele	OR (CI)	P	P heterogeneity
1.536 (0.832-2.837)	0.167	69 (18.548%)	77 (20.699%)	1.146 (0.798-1.647)	0.46	01:02	1.108 (0.848-1.448)	0.453	0.432
1.000 (0.586-1.707)	1	5 (1.344%)	6 (1.613%)	1.203 (0.364-3.978)	0.761	02:02	1.088 (0.728-1.626)	0.682	0.827
-	-	-	-	-	-	02:10	0.498 (0.045-5.530)	0.563	0
-	-	-	-	-	-	03:01	-	0.317	-
-	-	21 (5.645%)	17 (4.570%)	0.800 (0.415-1.543)	0.505	03:02	0.727 (0.416-1.269)	0.261	0.588
0.509 (0.298-0.872)	0.013	99 (26.613%)	103 (27.688%)	1.056 (0.764-1.459)	0.742	03:03	0.927 (0.728-1.180)	0.538	0.059
0.941 (0.579-1.527)	0.805	73 (19.624%)	59 (15.860%)	0.772 (0.529-1.127)	0.179	03:04	0.830 (0.647-1.066)	0.144	0.533
-	-	-	-	-	-	03:14	-	0.317	-
1.498 (1.034-2.169)	0.032	37 (9.946%)	42 (11.290%)	1.152 (0.722-1.839)	0.552	04:01	1.201 (0.938-1.540)	0.147	0.352
-	-	3 (0.806%)	2 (0.538%)	0.665 (0.110-4.002)	0.654	04:03	0.665 (0.110-4.002)	0.654	1
0.669 (0.446-1.005)	0.052	11 (2.957%)	10 (2.688%)	0.907 (0.380-2.161)	0.825	05:01	0.731 (0.538-0.993)	0.044	0.886
1.066 (0.711-1.597)	0.757	66 (17.742%)	52 (13.978%)	0.753 (0.507-1.119)	0.16	06:02	0.890 (0.692-1.146)	0.368	0.512
0.874 (0.623-1.227)	0.437	6 (1.613%)	6 (1.613%)	1.000 (0.320-3.129)	1	07:01	0.917 (0.709-1.187)	0.511	0.956
1.000 (0.755-1.324)	1	117 (31.452%)	109 (29.301%)	0.903 (0.661-1.235)	0.524	07:02	0.963 (0.804-1.153)	0.679	0.963
2.559 (0.983-6.664)	0.047	9 (2.419%)	9 (2.419%)	1.000 (0.392-2.548)	1	07:04	1.448 (0.845-2.483)	0.176	0.434
-	0.317	90 (24.194%)	95 (25.538%)	1.075 (0.771-1.499)	0.671	08:01	1.075 (0.793-1.458)	0.641	0.831
1.452 (0.793-2.656)	0.224	1 (0.269%)	1 (0.269%)	1.000 (0.062-16.047)	1	08:02	1.428 (0.882-2.312)	0.146	0.967
-	-	0 (0)	1 (0.269%)	-	0.317	08:03	1.000 (0.063-15.988)	1	-
0.665 (0.111-4.001)	0.654	24 (6.452%)	22 (5.914%)	0.911 (0.502-1.656)	0.761	12:02	0.966 (0.577-1.617)	0.896	0.57
1.253 (0.825-1.902)	0.289	16 (4.301%)	10 (2.688%)	0.615 (0.275-1.373)	0.231	12:03	1.343 (0.980-1.842)	0.066	0.027
1.103 (0.463-2.627)	0.825	32 (8.602%)	36 (9.677%)	1.138 (0.691-1.876)	0.611	14:02	1.145 (0.778-1.685)	0.492	0.974
-	-	7 (1.882%)	2 (0.538%)	0.282 (0.058-1.366)	0.094	14:03	0.382 (0.145-1.006)	0.044	0.613
1.240 (0.589-2.614)	0.57	31 (8.333%)	37 (9.946%)	1.215 (0.737-2.004)	0.445	15:02	1.333 (0.918-1.938)	0.13	0.623
1.000 (0.201-4.985)	1	2 (0.538%)	4 (1.075%)	2.011 (0.366-11.046)	0.412	15:05	1.404 (0.444-4.441)	0.562	0.559
0.328 (0.158-0.682)	0.002	-	-	-	-	16:01	0.422 (0.240-0.744)	0.002	0.249
0.665 (0.111-4.001)	0.654	0 (0)	2 (0.538%)	-	0.157	16:02	1.503 (0.423-5.344)	0.526	0.357
-	0.157	-	-	-	-	16:04	-	0.083	-
0.711 (0.224-2.258)	0.561	1 (0.269%)	0 (0)	-	0.317	17:01	0.874 (0.315-2.424)	0.795	0
-	-	-	-	-	-	17:03	-	0.317	-
-	-	-	-	-	-	18:01	-	0.317	-

entel Haenszel test. CI = confidence interval. Upper and lower limits represent 95 intervals. Cases and controls are matched for country,

Table S8. Association of HLA-A alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQ and HLA-DP alleles.

HLA-A allele	White imputed (N=490)				Asian imputed (N=452)				Asian typed (	
	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)
01:01	55 (22.449%)	49 (20.000%)	0.864 (0.560-1.332)	0.507	14 (6.195%)	18 (7.965%)	1.310 (0.635-2.703)	0.463	0 (0)	1 (5.882%)
02:01	105 (42.857%)	115 (46.939%)	1.179 (0.826-1.684)	0.364	86 (38.053%)	64 (28.319%)	0.643 (0.433-0.954)	0.028	6 (35.294%)	6 (35.294%)
02:03	-	-	-	-	1 (0.442%)	0 (0)	-	0.317	-	-
02:05	7 (2.857%)	6 (2.449%)	0.854 (0.283-2.577)	0.779	1 (0.442%)	1 (0.442%)	1.000 (0.062-16.086)	1	-	-
02:06	-	-	-	-	37 (16.372%)	50 (22.124%)	1.451 (0.905-2.327)	0.121	6 (35.294%)	5 (29.412%)
02:07	-	-	-	-	16 (7.080%)	26 (11.504%)	1.706 (0.889-3.276)	0.105	1 (5.882%)	0 (0)
02:10	-	-	-	-	-	-	-	-	2 (11.765%)	2 (11.765%)
02:17	-	-	-	-	-	-	-	-	-	-
03:01	90 (36.735%)	79 (32.245%)	0.820 (0.564-1.190)	0.296	20 (8.850%)	22 (9.735%)	1.111 (0.588-2.098)	0.746	2 (11.765%)	0 (0)
03:02	-	-	-	-	2 (0.885%)	1 (0.442%)	0.498 (0.045-5.529)	0.562	-	-
11:01	29 (11.837%)	35 (14.286%)	1.241 (0.732-2.104)	0.421	68 (30.088%)	71 (31.416%)	1.064 (0.714-1.587)	0.76	3 (17.647%)	8 (47.059%)
11:02	-	-	-	-	2 (0.885%)	0 (0)	-	0.156	-	-
23:01	13 (5.306%)	10 (4.082%)	0.759 (0.326-1.766)	0.522	1 (0.442%)	1 (0.442%)	1.000 (0.062-16.086)	1	-	-
24:02	47 (19.184%)	45 (18.367%)	0.948 (0.602-1.492)	0.817	75 (33.186%)	81 (35.841%)	1.125 (0.763-1.658)	0.553	6 (35.294%)	3 (17.647%)
25:01	19 (7.755%)	24 (9.796%)	1.292 (0.688-2.425)	0.425	-	-	-	-	-	-
26:01	10 (4.082%)	9 (3.673%)	0.896 (0.358-2.245)	0.815	18 (7.965%)	18 (7.965%)	1.000 (0.506-1.976)	1	-	-
26:02	-	-	-	-	-	-	-	-	0 (0)	1 (5.882%)
29:01	1 (0.408%)	1 (0.408%)	1.000 (0.062-16.078)	1	2 (0.885%)	3 (1.327%)	1.507 (0.249-9.104)	0.653	-	-
29:02	18 (7.347%)	9 (3.673%)	0.481 (0.212-1.093)	0.075	-	-	-	-	-	-
30:01	7 (2.857%)	6 (2.449%)	0.854 (0.283-2.577)	0.779	27 (11.947%)	23 (10.177%)	0.835 (0.463-1.506)	0.549	1 (5.882%)	0 (0)
30:02	4 (1.633%)	6 (2.449%)	1.513 (0.421-5.428)	0.523	-	-	-	-	-	-
31:01	9 (3.673%)	17 (6.939%)	1.955 (0.854-4.476)	0.107	28 (12.389%)	16 (7.080%)	0.539 (0.283-1.026)	0.057	2 (11.765%)	3 (17.647%)
32:01	15 (6.122%)	17 (6.939%)	1.143 (0.558-2.344)	0.715	6 (2.655%)	7 (3.097%)	1.172 (0.388-3.543)	0.778	-	-
33:01	1 (0.408%)	2 (0.816%)	2.008 (0.181-22.293)	0.563	0 (0)	1 (0.442%)	-	0.317	-	-
33:03	1 (0.408%)	1 (0.408%)	1.000 (0.062-16.078)	1	19 (8.407%)	16 (7.080%)	0.830 (0.415-1.659)	0.598	4 (23.529%)	3 (17.647%)
66:01	3 (1.224%)	1 (0.408%)	0.331 (0.034-3.200)	0.315	-	-	-	-	-	-
68:01	11 (4.490%)	9 (3.673%)	0.811 (0.330-1.994)	0.648	5 (2.212%)	3 (1.327%)	0.595 (0.140-2.518)	0.476	-	-
68:02	5 (2.041%)	4 (1.633%)	0.797 (0.211-3.003)	0.737	-	-	-	-	-	-
69:01	1 (0.408%)	0 (0)	-	0.317	-	-	-	-	-	-
74:03	-	-	-	-	-	-	-	-	-	-

Association of HLA-A alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQ and HLA-DP alleles. P values calculated with χ2 test and Maentel Hae ethnicity and HLA-DRB1, HLA-DQ and HLA-DP genotypes.

(N=34)		White typed (N=194)				Meta-analysis			
OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	Allele	OR (CI)	P	P test of heterogeneity
-	0.31	28 (28.866%)	25 (25.773%)	0.856 (0.455-1.610)	0.629	01:01	0.948 (0.690-1.304)	0.745	0.593
1.000 (0.245-4.083)	1	50 (51.546%)	54 (55.670%)	1.180 (0.671-2.077)	0.565	02:01	0.944 (0.747-1.194)	0.632	0.125
-	-	-	-	-	-	02:03	-	0.317	-
-	-	1 (1.031%)	2 (2.062%)	2.021 (0.180-22.664)	0.561	02:05	1.000 (0.393-2.545)	1	0.817
0.764 (0.181-3.229)	0.714	1 (1.031%)	0 (0)	-	0.316	02:06	1.323 (0.849-2.062)	0.216	0.401
-	0.31	-	-	-	-	02:07	1.594 (0.841-3.020)	0.15	0
1.000 (0.124-8.057)	1	-	-	-	-	02:10	1.000 (0.124-8.057)	1	1
-	-	0 (0)	1 (1.031%)	-	0.316	02:17	-	0.317	-
-	0.145	42 (43.299%)	29 (29.897%)	0.558 (0.309-1.009)	0.053	03:01	0.783 (0.591-1.036)	0.087	0.29
-	-	-	-	-	-	03:02	0.498 (0.045-5.529)	0.563	1
4.148 (0.864-19.920)	0.067	7 (7.216%)	17 (17.526%)	2.732 (1.078-6.927)	0.029	11:01	1.304 (0.973-1.748)	0.074	0.136
-	-	-	-	-	-	11:02	-	0.157	-
-	-	4 (4.124%)	1 (1.031%)	0.242 (0.027-2.207)	0.174	23:01	0.656 (0.311-1.381)	0.264	0.611
0.393 (0.080-1.936)	0.244	17 (17.526%)	14 (14.433%)	0.794 (0.367-1.716)	0.557	24:02	0.981 (0.749-1.286)	0.89	0.562
-	-	3 (3.093%)	5 (5.155%)	1.703 (0.396-7.332)	0.47	25:01	1.350 (0.758-2.406)	0.307	0.733
-	-	2 (2.062%)	3 (3.093%)	1.516 (0.248-9.280)	0.65	26:01	1.000 (0.593-1.686)	1	0.879
-	0.31	-	-	-	-	26:02	-	0.317	-
-	-	-	-	-	-	29:01	1.337 (0.297-6.012)	0.704	0.808
-	-	4 (4.124%)	3 (3.093%)	0.742 (0.162-3.407)	0.7	29:02	0.529 (0.257-1.086)	0.079	0.623
-	0.31	2 (2.062%)	3 (3.093%)	1.516 (0.248-9.280)	0.65	30:01	0.853 (0.520-1.399)	0.529	0.822
-	-	1 (1.031%)	1 (1.031%)	1.000 (0.062-16.219)	1	30:02	1.409 (0.443-4.486)	0.561	0.791
1.607 (0.233-11.092)	0.628	3 (3.093%)	6 (6.186%)	2.066 (0.502-8.509)	0.306	31:01	1.000 (0.641-1.560)	1	0.063
-	-	4 (4.124%)	6 (6.186%)	1.533 (0.419-5.612)	0.516	32:01	1.213 (0.703-2.092)	0.489	0.926
-	-	2 (2.062%)	1 (1.031%)	0.495 (0.044-5.549)	0.561	33:01	1.337 (0.297-6.012)	0.705	0.384
0.696 (0.130-3.724)	0.671	-	-	-	-	33:03	0.818 (0.438-1.525)	0.528	0.972
-	-	1 (1.031%)	0 (0)	-	0.316	66:01	0.248 (0.028-2.229)	0.179	0
-	-	3 (3.093%)	5 (5.155%)	1.703 (0.396-7.332)	0.47	68:01	0.891 (0.458-1.735)	0.735	0.577
-	-	3 (3.093%)	0 (0)	-	0.081	68:02	0.495 (0.148-1.657)	0.245	0
-	-	-	-	-	-	69:01	-	0.317	-
-	-	1 (1.031%)	0 (0)	-	0.316	74:03	-	0.317	-

enszel test. CI = confidence interval. Upper and lower limits represent 95 intervals. Cases and controls are matched for country,

Table S10. Association of HLA-C alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQ and HLA-DP alleles.

HLA-C allele	White imputed (N=490)				Asian imputed (N=452)				Asian typed	
	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)
01:02	10 (4.082%)	15 (6.122%)	1.533 (0.675-3.482)	0.305	46 (20.354%)	50 (22.124%)	1.112 (0.708-1.745)	0.646	5 (29.412%)	6 (35.294%)
02:02	16 (6.531%)	16 (6.531%)	1.000 (0.488-2.048)	1	2 (0.885%)	4 (1.770%)	2.018 (0.366-11.130)	0.411	-	-
03:02	0 (0)	1 (0.408%)	-	0.317	15 (6.637%)	12 (5.310%)	0.789 (0.361-1.725)	0.552	-	-
03:03	23 (9.388%)	8 (3.265%)	0.326 (0.143-0.744)	0.005	63 (27.876%)	61 (26.991%)	0.957 (0.633-1.446)	0.833	7 (41.176%)	5 (29.412%)
03:04	21 (8.571%)	19 (7.755%)	0.897 (0.469-1.713)	0.741	44 (19.469%)	45 (19.912%)	1.028 (0.647-1.635)	0.906	3 (17.647%)	6 (35.294%)
04:01	32 (13.061%)	47 (19.184%)	1.580 (0.969-2.577)	0.065	26 (11.504%)	23 (10.177%)	0.872 (0.481-1.579)	0.65	1 (5.882%)	3 (17.647%)
04:03	-	-	-	-	1 (0.442%)	0 (0)	-	0.317	-	-
05:01	37 (15.102%)	34 (13.878%)	0.906 (0.548-1.499)	0.7	5 (2.212%)	4 (1.770%)	0.796 (0.211-3.005)	0.736	-	-
06:02	34 (13.878%)	35 (14.286%)	1.034 (0.622-1.721)	0.897	41 (18.142%)	36 (15.929%)	0.855 (0.523-1.397)	0.532	2 (11.765%)	0 (0)
07:01	58 (23.673%)	45 (18.367%)	0.725 (0.468-1.123)	0.149	3 (1.327%)	8 (3.540%)	2.728 (0.714-10.417)	0.127	-	-
07:02	135 (55.102%)	148 (60.408%)	1.243 (0.868-1.780)	0.234	64 (28.319%)	67 (29.646%)	1.067 (0.710-1.602)	0.756	1 (5.882%)	2 (11.765%)
07:04	4 (1.633%)	6 (2.449%)	1.513 (0.421-5.428)	0.523	6 (2.655%)	3 (1.327%)	0.493 (0.122-1.997)	0.312	1 (5.882%)	1 (5.882%)
08:01	1 (0.408%)	0 (0)	-	0.317	62 (27.434%)	51 (22.566%)	0.771 (0.503-1.182)	0.232	5 (29.412%)	4 (23.529%)
08:02	10 (4.082%)	12 (4.898%)	1.210 (0.513-2.856)	0.663	0 (0)	1 (0.442%)	-	0.317	-	-
08:03	-	-	-	-	-	-	-	-	1 (5.882%)	0 (0)
12:02	1 (0.408%)	3 (1.224%)	3.025 (0.312-29.282)	0.315	13 (5.752%)	7 (3.097%)	0.524 (0.205-1.338)	0.17	-	-
12:03	34 (13.878%)	38 (15.510%)	1.139 (0.690-1.880)	0.61	6 (2.655%)	8 (3.540%)	1.346 (0.459-3.942)	0.587	-	-
14:02	9 (3.673%)	2 (0.816%)	0.216 (0.046-1.009)	0.033	21 (9.292%)	26 (11.504%)	1.269 (0.692-2.329)	0.441	5 (29.412%)	2 (11.765%)
14:03	0 (0)	1 (0.408%)	-	0.317	5 (2.212%)	3 (1.327%)	0.595 (0.140-2.518)	0.476	1 (5.882%)	1 (5.882%)
15:02	12 (4.898%)	14 (5.714%)	1.177 (0.533-2.599)	0.687	19 (8.407%)	13 (5.752%)	0.665 (0.320-1.381)	0.271	0 (0)	2 (11.765%)
15:05	1 (0.408%)	0 (0)	-	0.317	0 (0)	3 (1.327%)	-	0.082	-	-
16:01	18 (7.347%)	6 (2.449%)	0.317 (0.123-0.812)	0.012	-	-	-	-	-	-
16:02	2 (0.816%)	3 (1.224%)	1.506 (0.249-9.094)	0.653	-	-	-	-	-	-
17:01	2 (0.816%)	3 (1.224%)	1.506 (0.249-9.094)	0.653	-	-	-	-	-	-

Association of HLA-C alleles with narcolepsy in individuals matched for HLA-DRB1, HLA-DQ and HLA-DP alleles. P values calculated with χ2 test and Maentel Hae HLA-DRB1, HLA-DQ and HLA-DP genotypes.

Table S10. continued

d (N=34)		White typed (N=194)				Meta-analysis			
OR (CI)	P	N controls (carrier freq)	N cases (carrier freq)	OR (CI)	P	Allele	OR (CI)	P	P heterogeneity
1.309 (0.310-5.533)	0.714	6 (6.186%)	4 (4.124%)	0.652 (0.178-2.388)	0.516	01:02	1.148 (0.797-1.651)	0.459	0.739
-	-	4 (4.124%)	8 (8.247%)	2.090 (0.608-7.185)	0.233	02:02	1.291 (0.727-2.295)	0.383	0.513
-	-	-	-	-	-	03:02	0.859 (0.400-1.846)	0.697	0
0.595 (0.144-2.467)	0.473	6 (6.186%)	7 (7.216%)	1.180 (0.382-3.647)	0.774	03:03	0.771 (0.552-1.078)	0.127	0.116
2.545 (0.516-12.546)	0.244	13 (13.402%)	8 (8.247%)	0.581 (0.229-1.472)	0.248	03:04	0.956 (0.681-1.342)	0.796	0.443
3.429 (0.319-36.828)	0.287	11 (11.340%)	14 (14.433%)	1.319 (0.566-3.071)	0.52	04:01	1.286 (0.917-1.803)	0.144	0.394
-	-	-	-	-	-	04:03	-	0.317	-
-	-	16 (16.495%)	11 (11.340%)	0.648 (0.284-1.478)	0.3	05:01	0.823 (0.547-1.238)	0.351	0.792
-	0.145	7 (7.216%)	10 (10.309%)	1.478 (0.538-4.057)	0.446	06:02	0.958 (0.689-1.333)	0.801	0.606
-	-	33 (34.021%)	24 (24.742%)	0.638 (0.342-1.190)	0.156	07:01	0.774 (0.550-1.088)	0.14	0.146
2.133 (0.175-26.033)	0.545	60 (61.856%)	62 (63.918%)	1.092 (0.610-1.956)	0.766	07:02	1.157 (0.907-1.475)	0.24	0.902
1.000 (0.057-17.411)	1	1 (1.031%)	5 (5.155%)	5.217 (0.598-45.513)	0.097	07:04	1.256 (0.583-2.705)	0.56	0.323
0.738 (0.160-3.414)	0.697	-	-	-	-	08:01	0.754 (0.500-1.136)	0.177	0.916
-	-	4 (4.124%)	6 (6.186%)	1.533 (0.419-5.612)	0.516	08:02	1.377 (0.679-2.791)	0.374	0.737
-	0.31	-	-	-	-	08:03	-	0.317	-
-	-	0 (0)	3 (3.093%)	-	0.081	12:02	0.926 (0.430-1.994)	0.845	0.116
-	-	6 (6.186%)	12 (12.371%)	2.141 (0.769-5.959)	0.138	12:03	1.302 (0.862-1.967)	0.21	0.553
0.320 (0.053-1.949)	0.203	1 (1.031%)	2 (2.062%)	2.021 (0.180-22.664)	0.561	14:02	0.878 (0.533-1.448)	0.611	0.1
1.000 (0.057-17.411)	1	-	-	-	-	14:03	0.830 (0.250-2.756)	0.761	0.638
-	0.145	2 (2.062%)	2 (2.062%)	1.000 (0.138-7.246)	1	15:02	0.936 (0.565-1.550)	0.797	0.558
-	-	-	-	-	-	15:05	3.000 (0.313-28.766)	0.317	-
-	-	4 (4.124%)	3 (3.093%)	0.742 (0.162-3.407)	0.7	16:01	0.394 (0.179-0.867)	0.017	0.351
-	-	1 (1.031%)	1 (1.031%)	1.000 (0.062-16.219)	1	16:02	1.337 (0.297-6.020)	0.704	0.809
-	-	-	-	-	-	17:01	1.506 (0.249-9.094)	0.653	1

nszel test. CI = confidence interval. Upper and lower limits represent 95 intervals. Cases and controls are matched for country, ethnicity and

Table S11. Stepwise analysis of HLA-DRB1, HLA-DQA1 and HLA-DQB1 alleles in ImmunoChip sample.

CHR	Allele	OR	P
6	DRB1*15:01	23.26	0
6	DRB1*01:01	0.3632	1.56E-12
6	DRB1*13:01	0.2146	1.78E-11
6	DRB1*07:01	0.6726	2.55E-05
6	DRB1*16:01	1.822	0.0004445
6	DRB1*11:01	1.413	0.000246
6	DRB1*11:04	1.637	0.005235
6	DRB1*15:02	0.2302	0.01478
6	DRB1*08:02	15.65	0.01725
6	DRB1*04:07	1.792	0.01959
6	DRB1*08:01	1.517	0.01623

CHR	Allele	OR	P
6	DQA1*01:02	10.41	0
6	DQA1*05:05	1.718	1.31E-13
6	DQA1*01:03	0.2888	1.23E-09
6	DQA1*01:01	0.4117	1.10E-11
6	DQA1*03:03	1.435	0.000721
6	DQA1*04:01	1.645	0.001555
6	DQA1*03:01	1.345	0.005048
6	DQA1*05:09	5.118	0.02143

CHR	Allele	OR	P
6	DQB1*06:02	26.62	0
6	DQB1*03:01	1.697	2.08E-14
6	DQB1*05:01	0.46	7.57E-10
6	DQB1*06:03	0.2735	1.28E-09
6	DQB1*05:02	2.209	1.08E-06
6	DQB1*02:02	0.7384	0.007824
6	DQB1*06:01	0.3006	0.0233
6	DQB1*04:02	1.423	0.03455
6	DQB1*06:04	1.371	0.03494
6	DQB1*03:02	1.279	0.0377

Stepwise analysis of HLA-DRB1, HLA-DQA1 and HLA-DQB1 alleles in ImmunoChip sample. HLA-DQB1*06:02 homozygous individuals removed from analysis.

Table S12. Stepwise analysis of HLA-DRB1, HLA-DQA1 and HLA-DQB1 alleles in Chinese sample.

CHR	HLA-allele	OR	P
6	DRB1*15:01	7.908	3.13E-250
6	DRB1*08:03	0.3865	0.0006992
6	DRB1*13:01	0.2684	0.002199
6	DRB1*12:02	1.555	0.00445
6	DRB1*14:03	0.07686	0.01583

CHR	HLA-allele	OR	P
6	DQB1*06:02	9.293	2.95E-265
6	DQB1*06:03	0.2581	0.002661
6	DQB1*03:01	1.261	0.04883
6	DQB1*03:02	1.631	0.03339
6	DQB1*05:02	1.603	0.03201

CHR	HLA-allele	OR	P
6	DQA1*01:02	5.89	1.47E-205
6	DQA1*01:03	0.41	3.71E-07
6	DQA1*06:01	1.55	0.001138
6	DQA1*05:05	1.49	0.001291
6	DQA1*05:03	0.2011	0.01092
6	DQA1*01:01	0.5389	0.03131

Stepwise analysis of HLA-DRB1, HLA-DQA1 and HLA-DQB1 alleles in Chinese sample. HLA-DQB1*06:02 homozygous individuals removed from analysis.

Table S13. Association of HLA alleles with narcolepsy in the White sample after conditioning for all significant HLA-DRB1, HLA-DQA1 and HLA-DQB1 loci.

CHR	HLA allele	OR	SE	CI lower	CI upper	P
6	A*01:01	0.8487	0.07669	0.7303	0.9864	0.03247
6	A*02:01	0.9863	0.05457	0.8862	1.098	0.7998
6	A*02:02	2.499	0.6819	0.6567	9.512	0.1792
6	A*02:05	1.385	0.258	0.8354	2.297	0.2066
6	A*02:06	0.7225	1.044	0.09339	5.59	0.7555
6	A*03:01	0.9203	0.06446	0.8111	1.044	0.1975
6	A*11:01	1.278	0.1009	1.048	1.557	0.01519
6	A*23:01	0.9631	0.191	0.6624	1.4	0.8441
6	A*24:02	1.079	0.08268	0.9178	1.269	0.3565
6	A*25:01	1.481	0.1286	1.151	1.905	0.002266
6	A*26:01	1.035	0.1613	0.7548	1.421	0.8289
6	A*29:01	2.384	0.3784	1.136	5.006	0.02164
6	A*29:02	0.6403	0.1601	0.4679	0.8763	0.005353
6	A*30:01	0.9455	0.2355	0.596	1.5	0.812
6	A*30:02	1.275	0.2514	0.7791	2.088	0.3334
6	A*30:04	0.7842	0.7877	0.1675	3.672	0.7576
6	A*31:01	1.191	0.1549	0.8791	1.613	0.2594
6	A*32:01	0.8661	0.1361	0.6633	1.131	0.2909
6	A*33:01	1.492	0.3271	0.786	2.833	0.221
6	A*33:03	0.6979	0.547	0.2389	2.039	0.5109
6	A*66:01	0.7431	0.5094	0.2738	2.017	0.56
6	A*68:01	1.065	0.1489	0.7957	1.426	0.6711
6	A*68:02	1.125	0.3182	0.6032	2.099	0.7106
6	A*69:01	0.6592	0.6643	0.1793	2.424	0.5304
6	B*07:02	0.781	0.06409	0.6888	0.8855	0.0001147
6	B*07:05	0.7957	0.4444	0.333	1.901	0.6072
6	B*08:01	0.9794	0.1074	0.7935	1.209	0.8461
6	B*13:02	0.8576	0.1935	0.5868	1.253	0.4272
6	B*14:01	1.243	0.2695	0.7329	2.108	0.4198
6	B*14:02	1.208	0.195	0.8244	1.77	0.3322
6	B*15:01	0.7796	0.129	0.6054	1.004	0.05365
6	B*15:03	0.966	1.045	0.1245	7.494	0.9736
6	B*15:16	3.147	0.774	0.6903	14.35	0.1385
6	B*15:17	0.4931	0.5064	0.1828	1.33	0.1626
6	B*18:01	1.428	0.09475	1.186	1.72	0.0001686
6	B*27:05	1.088	0.1515	0.8085	1.464	0.5781
6	B*35:01	1.484	0.1212	1.17	1.882	0.001122
6	B*35:02	1.207	0.2384	0.7562	1.925	0.4309
6	B*35:03	1.952	0.1712	1.395	2.73	9.377e-05
6	B*35:08	0.8022	0.3698	0.3886	1.656	0.5513
6	B*37:01	0.7761	0.2241	0.5002	1.204	0.2582
6	B*38:01	0.7926	0.2214	0.5136	1.223	0.2939
6	B*39:01	1.293	0.2143	0.8494	1.967	0.2309
6	B*39:06	0.3791	0.4762	0.1491	0.964	0.04165
6	B*40:01	0.3898	0.5617	0.1296	1.172	0.09349
6	B*40:02	0.7336	0.4271	0.3176	1.694	0.4682
6	B*41:01	3.462	0.8505	0.6537	18.33	0.1443
6	B*44:02	0.9016	0.09695	0.7456	1.09	0.2853
6	B*44:03	0.7247	0.1498	0.5403	0.9721	0.03163
6	B*49:01	0.9065	0.2086	0.6023	1.364	0.638
6	B*50:01	1.924	0.2316	1.222	3.029	0.00473
6	B*51:01	1.553	0.1016	1.273	1.896	1.449e-05
6	B*52:01	1.868e-06	426.1	0	inf	0.9753
6	B*55:01	0.8691	0.1977	0.59	1.28	0.4778
6	B*57:01	0.7114	0.7972	0.1491	3.394	0.6692
6	C*01:02	1.554	0.1461	1.167	2.069	0.002546
6	C*02:02	1.084	0.1233	0.8511	1.38	0.5145
6	C*02:10	0.3061	1.667	0.01166	8.037	0.4777
6	C*03:02	0.6249	0.7194	0.1526	2.56	0.5135
6	C*03:03	0.7101	0.1318	0.5485	0.9193	0.009368
6	C*03:04	0.7307	0.1139	0.5844	0.9135	0.005891
6	C*04:01	1.427	0.08721	1.203	1.693	4.517e-05
6	C*05:01	0.8469	0.09813	0.6988	1.027	0.09048
6	C*06:02	0.92	0.1015	0.754	1.122	0.4111
6	C*07:01	0.9696	0.08082	0.8275	1.136	0.7024
6	C*07:02	0.8166	0.06283	0.722	0.9237	0.001266
6	C*07:04	1.099	0.2042	0.7368	1.64	0.6427
6	C*08:02	1.243	0.1595	0.9094	1.7	0.1723

6	C*08:03	19.7	2.488	0.1501	2585	0.231
6	C*12:02	2.266	0.4131	1.009	5.093	0.0476
6	C*12:03	1.461	0.09512	1.213	1.76	6.731e-05
6	C*14:02	1.481	0.2119	0.9774	2.243	0.06401
6	C*14:03	3.799	1.419	0.2354	61.3	0.3469
6	C*15:02	1.313	0.1542	0.9704	1.776	0.07751
6	C*15:04	5.276	1.679	0.1964	141.7	0.3219
6	C*15:05	0.9966	0.4031	0.4523	2.196	0.9932
6	C*16:01	0.6468	0.1769	0.4573	0.9149	0.0138
6	C*16:02	1.36	0.3539	0.6797	2.721	0.3849
6	C*16:04	1.094	0.5987	0.3384	3.537	0.8805
6	C*17:01	0.9211	0.2989	0.5128	1.655	0.7834
6	DPA1*01:03	1.116	0.06299	0.9864	1.263	0.08129
6	DPA1*02:01	1.145	0.06444	1.009	1.299	0.03606
6	DPA1*02:02	0.7973	0.2273	0.5107	1.245	0.3188
6	DPB1*01:01	0.9922	0.1365	0.7594	1.296	0.9543
6	DPB1*02:01	1.386	0.07428	1.198	1.603	1.137e-05
6	DPB1*02:02	1.168	0.3179	0.6265	2.178	0.6248
6	DPB1*03:01	0.9592	0.08587	0.8106	1.135	0.6275
6	DPB1*04:01	1.053	0.05186	0.9513	1.166	0.3182
6	DPB1*04:02	0.4703	0.1051	0.3827	0.5779	7.155e-13
6	DPB1*05:01	1.428	0.1424	1.08	1.888	0.01231
6	DPB1*06:02	0.5576	1.124	0.06155	5.051	0.6034
6	DPB1*09:01	0.9128	0.3065	0.5006	1.664	0.7659
6	DPB1*10:01	0.6425	0.2414	0.4003	1.031	0.06686
6	DPB1*104:01	0.9423	0.223	0.6086	1.459	0.7898
6	DPB1*11:01	1.013	0.2197	0.6587	1.559	0.9519
6	DPB1*13:01	0.844	0.22	0.5484	1.299	0.4405
6	DPB1*14:01	1.104	0.2143	0.7254	1.68	0.6441
6	DPB1*15:01	1.46	0.2902	0.8264	2.578	0.1926
6	DPB1*16:01	1.059	0.3316	0.5531	2.029	0.8618
6	DPB1*17:01	1.282	0.2466	0.7905	2.078	0.3141
6	DPB1*19:01	0.5048	0.4355	0.215	1.185	0.1165
6	DQA1*01:04	0.9095	0.217	0.5944	1.392	0.662
6	DQA1*01:05	0.3269	0.8942	0.05666	1.886	0.2112
6	DQA1*02:01	1.435	0.8456	0.2735	7.526	0.6695
6	DQA1*03:02	0.6735	0.3958	0.31	1.463	0.318
6	DQA1*05:01	1.226	0.1914	0.8427	1.785	0.2864
6	DQA1*05:03	1.153	1.006	0.1604	8.284	0.8876
6	DQA1*06:01	0.7245	1.19	0.07027	7.469	0.7866
6	DQB1*02:01	1.246	0.1915	0.8558	1.813	0.2514
6	DQB1*03:03	0.7586	0.3317	0.396	1.453	0.4049
6	DQB1*03:04	0.4021	1.283	0.03255	4.967	0.4775
6	DQB1*05:03	0.8861	0.2171	0.579	1.356	0.5775
6	DQB1*06:09	1.169	0.8045	0.2415	5.656	0.8463
6	DRB1*01:02	1.437	0.6393	0.4106	5.032	0.5704
6	DRB1*01:03	0.2797	0.7546	0.06373	1.227	0.09134
6	DRB1*03:01	1.215	0.1805	0.8529	1.731	0.2808
6	DRB1*04:01	1.035	0.1712	0.74	1.448	0.8402
6	DRB1*04:02	1.344	0.3161	0.7231	2.496	0.3502
6	DRB1*04:03	1.601	0.5086	0.5908	4.337	0.3549
6	DRB1*04:04	0.8316	0.1951	0.5673	1.219	0.3445
6	DRB1*04:05	1.101	0.5146	0.4015	3.018	0.852
6	DRB1*04:06	1.654	1.197	0.1585	17.26	0.6741
6	DRB1*04:08	0.8774	0.5994	0.271	2.841	0.8273
6	DRB1*08:03	0.7012	1.182	0.06919	7.107	0.7639
6	DRB1*08:04	2.035	0.7762	0.4445	9.319	0.3599
6	DRB1*09:01	0.6664	0.3951	0.3072	1.446	0.3043
6	DRB1*10:01	0.2695	0.8206	0.05397	1.346	0.1101
6	DRB1*11:02	0.5131	0.7789	0.1115	2.362	0.3916
6	DRB1*11:03	2.656	0.6742	0.7084	9.956	0.1474
6	DRB1*12:01	1.249	0.2886	0.7096	2.199	0.4406
6	DRB1*13:02	0.686	0.6094	0.2078	2.265	0.5362
6	DRB1*13:03	1.024	0.2999	0.5691	1.844	0.9359
6	DRB1*14:01	0.8805	0.2163	0.5763	1.345	0.556
6	DRB1*16:02	1.441	0.985	0.209	9.936	0.7106

Association of HLA alleles with narcolepsy in the White sample after conditioning for all significant HLA-DRB1, HLA-DQA1 and HLA-DQB1 loci. HLA-DQB1*06:02 homozygous individuals are removed from analysis.

Table S14. Association of HLA alleles with narcolepsy in the Chinese sample after
conditioning for all significant HLA-DRB1, HLA-DQA1, HLA-DQB1 loci and SNPs
associating with before vs. after 2009

HLA allele	OR	SE	Ci lower	Ci upper	P
A*01:01	0.9357	0.2274	0.5992	1.461	0.7703
A*02:01	0.7552	0.1203	0.5965	0.9559	0.01957
A*02:03	2.875	1.006	0.4003	20.65	0.2938
A*02:05	0.4275	0.7595	0.09647	1.894	0.2632
A*02:06	1.126	0.1568	0.8281	1.531	0.4495
A*02:07	1.665	0.2234	1.074	2.579	0.02252
A*03:01	0.7509	0.2085	0.499	1.13	0.1695
A*03:02	0.18	0.8845	0.0318	1.019	0.05258
A*11:01	1.387	0.1235	1.089	1.767	0.008133
A*11:02	0.7814	0.7741	0.1714	3.563	0.75
A*23:01	0.6431	1.105	0.07376	5.607	0.6894
A*24:02	1.079	0.113	0.8644	1.346	0.5022
A*24:03	0.4002	1.009	0.0554	2.891	0.364
A*26:01	0.8442	0.252	0.5151	1.383	0.5015
A*29:01	1.059	0.515	0.3859	2.906	0.9113
A*30:01	0.8888	0.2143	0.584	1.353	0.5822
A*30:02	0.1445	1.631	0.005909	3.535	0.2357
A*30:04	6.977	3.293	0.01099	4430	0.5552
A*31:01	0.8589	0.2193	0.5588	1.32	0.4879
A*32:01	0.9441	0.43	0.4064	2.193	0.8935
A*33:01	1.611	1.123	0.1782	14.56	0.6713
A*33:03	0.8693	0.2337	0.5498	1.374	0.5489
A*34:01	0.1508	1.544	0.007313	3.111	0.2206
A*68:01	0.8308	0.4291	0.3583	1.926	0.6658
B*07:02	0.8116	0.1924	0.5566	1.183	0.2781
B*07:05	3.56	0.7907	0.7557	16.77	0.1083
B*08:01	0.6706	0.5099	0.2469	1.821	0.4331
B*13:01	0.7602	0.252	0.4639	1.246	0.2766
B*13:02	0.9691	0.2297	0.6179	1.52	0.8913
B*14:02	2.559	1.065	0.3173	20.64	0.3777
B*15:01	1.1	0.161	0.8022	1.508	0.5543
B*15:02	1.095	0.3608	0.5397	2.22	0.8021
B*15:07	0.7998	1.233	0.07129	8.973	0.8563
B*15:11	1.02	0.2975	0.5694	1.828	0.9463
B*15:17	29.6	2.091	0.4916	1783	0.1052
B*15:18	0.9739	0.2685	0.5754	1.648	0.9216
B*15:25	3.342	2.112	0.0532	209.9	0.5679
B*15:35	1.964	1.074	0.2393	16.12	0.5297
B*18:01	0.4779	0.4595	0.1942	1.176	0.1081
B*27:04	0.8578	0.5919	0.2689	2.737	0.7956
B*27:05	0.4677	0.5358	0.1637	1.337	0.156
B*35:01	0.8922	0.1775	0.6301	1.263	0.5206
B*35:02	0.6874	0.9295	0.1112	4.25	0.6868
B*35:03	1.619	0.5563	0.5443	4.818	0.3861
B*35:05	3.632	2.854	0.01352	975.6	0.6513
B*35:08	4.818	3.304	0.007427	3126	0.6341
B*37:01	1.195	0.3668	0.5824	2.453	0.6268
B*38:01	0.5854	0.4657	0.235	1.458	0.2502
B*38:02	0.7874	0.3433	0.4018	1.543	0.4862
B*39:01	0.5454	0.4077	0.2453	1.213	0.1371
B*40:01	1.094	0.1659	0.7905	1.515	0.5871
B*40:02	0.6742	0.2666	0.3998	1.137	0.1392
B*40:06	1.505	0.2085	1	2.265	0.04978
B*41:01	0.4234	1.004	0.05918	3.03	0.3921
B*44:02	0.7239	0.4758	0.2849	1.839	0.4971
B*44:03	0.7603	0.3559	0.3784	1.527	0.4412
B*45:01	12.29	4.18	0.003404	4.44E+04	0.5483
B*46:01	1.125	0.1914	0.7731	1.637	0.538
B*48:01	0.9727	0.2659	0.5776	1.638	0.9172
B*49:01	1.205	0.9184	0.1991	7.288	0.8393
B*50:01	1.678	0.5467	0.5748	4.901	0.3435
B*51:01	1.385	0.1912	0.952	2.015	0.08865
B*51:02	1.007	0.3872	0.4714	2.151	0.9855
B*52:01	1.235	0.3347	0.6408	2.38	0.5285
B*54:01	1.164	0.2466	0.7177	1.887	0.5384
B*55:02	1.621	0.4477	0.6739	3.898	0.2808
B*56:01	1.071	1.252	0.09201	12.46	0.9566
B*57:01	0.4325	0.4932	0.1645	1.137	0.08927
B*58:01	0.9431	0.3065	0.5172	1.72	0.8485
B*67:01	0.384	0.3336	0.1997	0.7384	0.004118
B*81:01	3.125	0.7869	0.6685	14.61	0.1476
C*01:02	1.158	0.1475	0.8669	1.546	0.3213
C*02:02	0.7002	0.57	0.2291	2.14	0.5318
C*03:02	0.9428	0.3065	0.5171	1.719	0.8477
C*03:03	1.025	0.1339	0.7883	1.333	0.8541
C*03:04	0.7819	0.1558	0.5762	1.061	0.1143
C*04:01	0.957	0.2033	0.6425	1.425	0.8289
C*04:03	0.8573	0.7548	0.1953	3.763	0.8383
C*05:01	0.6749	0.4234	0.2944	1.548	0.3531

Table S14. continued

C*06:02	0.9116	0.175	0.6469	1.285	0.5967
C*07:01	2.514	0.5229	0.902	7.005	0.07795
C*07:02	0.8241	0.1263	0.6435	1.056	0.1256
C*07:04	0.7121	0.4004	0.3249	1.561	0.3964
C*08:01	1.251	0.139	0.953	1.643	0.1065
C*08:02	2.526	1.055	0.3196	19.97	0.3797
C*08:03	19.85	3.559	0.01856	2.12E+04	0.4011
C*12:02	0.9168	0.3273	0.4827	1.741	0.7908
C*12:03	0.4683	0.3382	0.2414	0.9086	0.02487
C*14:02	1.388	0.2128	0.9148	2.106	0.1232
C*14:03	0.4978	0.554	0.1681	1.475	0.208
C*15:02	1.279	0.2147	0.8395	1.948	0.2523
C*15:05	2.831	0.8527	0.5321	15.06	0.2224
C*16:02	6.374	2.074	0.1094	371.5	0.3719
C*17:01	0.4529	1.418	0.02812	7.294	0.5764
DPA1*01:03	0.681	0.1011	0.5586	0.8302	0.0001446
DPA1*02:01	0.7567	0.195	0.5163	1.109	0.153
DPA1*02:02	0.6519	0.09862	0.5374	0.7909	1.44E-05
DPA1*04:01	5.441	2.858	0.02008	1475	0.5534
DPB1-01:01	5.389	1.852	0.143	203.1	0.363
DPB1-02:01	1.139	0.102	0.9321	1.391	0.2037
DPB1-02:02	1.029	0.2533	0.6263	1.69	0.9102
DPB1-03:01	0.6982	0.2174	0.4559	1.069	0.09837
DPB1-04:01	0.7761	0.1494	0.5791	1.04	0.08973
DPB1-04:02	0.379	0.2251	0.2438	0.5892	1.64E-05
DPB1-05:01	1.353	0.09713	1.118	1.637	0.001857
DPB1-09:01	0.7403	0.485	0.2861	1.915	0.5352
DPB1-09:02	1.211	0.4379	0.5133	2.857	0.6621
DPB1-104:01	2.326	0.8916	0.4051	13.35	0.3439
DPB1-13:01	0.9734	0.3351	0.5047	1.877	0.9359
DPB1-14:01	0.7021	0.2821	0.4039	1.221	0.2101
DPB1-17:01	0.7955	0.2693	0.4693	1.349	0.3956
DPB1-19:01	0.4859	0.6379	0.1392	1.697	0.2579
DPB1-26:01	1.123	1.228	0.1011	12.48	0.9247
DQA1*01:04	2.693	0.4816	1.048	6.92	0.03971
DQA1*01:05	1.045	0.5784	0.3363	3.246	0.9398
DQA1*02:01	1.05	0.2263	0.674	1.637	0.8285
DQA1*03:01	3.975	1.769	0.124	127.5	0.4354
DQA1*03:02	0.6977	0.2209	0.4525	1.076	0.1032
DQA1*03:03	1.143	0.2753	0.6661	1.96	0.6282
DQA1*04:01	0.8414	0.6118	0.2536	2.791	0.7777
DQA1*05:01	0.8577	0.5556	0.2887	2.549	0.7824
DQA1*05:08	1.329	0.7483	0.3066	5.761	0.7037
DQB1*02:01	0.9369	0.6681	0.2529	3.47	0.9222
DQB1*02:02	1.173	0.2344	0.7407	1.857	0.4968
DQB1*03:03	0.6456	0.2191	0.4202	0.9918	0.04577
DQB1*04:01	1.347	0.311	0.7319	2.477	0.3387
DQB1*04:02	0.7455	0.5565	0.2505	2.219	0.5976
DQB1*05:01	1.331	0.5469	0.4557	3.887	0.6012
DQB1*05:03	1.986	0.508	0.7338	5.374	0.1768
DQB1*06:01	0.4377	0.7295	0.1048	1.829	0.2574
DQB1*06:04	1.275	0.6092	0.3865	4.209	0.6897
DQB1*06:09	1.596	0.6104	0.4825	5.28	0.4437
DRB1*01:01	0.326	0.8846	0.05757	1.846	0.2051
DRB1*01:02	11.69	1.722	0.3997	341.7	0.1535
DRB1*03:01	0.7128	0.6531	0.1982	2.564	0.6042
DRB1*04:01	0.8701	0.7143	0.2145	3.529	0.8455
DRB1*04:02	0.3168	1.441	0.01882	5.333	0.4249
DRB1*04:03	2.061	0.5346	0.723	5.877	0.176
DRB1*04:05	1.257	0.3044	0.692	2.282	0.4529
DRB1*04:06	0.8167	0.5448	0.2808	2.376	0.7101
DRB1*04:10	0.4152	1.398	0.02683	6.427	0.5295
DRB1*07:01	1.043	0.2259	0.67	1.624	0.8518
DRB1*08:02	0.6625	0.5706	0.2165	2.027	0.4705
DRB1*09:01	0.7271	0.2203	0.4722	1.12	0.1481
DRB1*10:01	1.108	0.552	0.3754	3.268	0.8531
DRB1*11:01	0.8148	0.3513	0.4092	1.622	0.5598
DRB1*11:04	0.353	0.7235	0.08549	1.457	0.15
DRB1*12:01	0.9808	0.3399	0.5039	1.909	0.9546
DRB1*13:02	3.378	1.22	0.3091	36.92	0.3184
DRB1*13:12	4.497	1.782	0.1369	147.7	0.3988
DRB1*14:01	0.9879	0.5521	0.3348	2.915	0.9824
DRB1*14:04	2.33	0.6677	0.6297	8.625	0.2051
DRB1*14:05	2.546	0.6122	0.7671	8.453	0.1268
DRB1*14:54	0.5249	0.9873	0.0758	3.635	0.5138
DRB1*15:02	6.786	0.8794	1.211	38.04	0.02944
DRB1*16:02	0.8912	0.6702	0.2396	3.315	0.8636

Association of HLA alleles with narcolepsy in the Chinese sample after conditioning for all significant HLA-DRB1, HLA-DQA1, HLA-DQB1 loci and SNPs associating with before vs. after 2009. HLA-DQB1*06:02 homozygous individuals are removed from

Table S15. Association of HLA alleles with narcolepsy in the White sample after conditioning for all significant HLA-DRB1, HLA-DQA1, HLA-DQB1, HLA-DPA1 and HLA-DPB1 loci.

HLA-allele	OR	SE	Ci lower	Ci upper	P
A*01:01	0.8588	0.07712	0.7383	0.9989	0.04839
A*02:01	0.9812	0.05525	0.8805	1.093	0.7307
A*02:02	2.4	0.6769	0.6368	9.046	0.1959
A*02:05	1.442	0.2594	0.8671	2.397	0.1585
A*02:06	0.643	1.072	0.0787	5.254	0.6803
A*03:01	0.9281	0.06509	0.817	1.054	0.2518
A*11:01	1.282	0.1018	1.05	1.565	0.01459
A*23:01	0.9239	0.1927	0.6333	1.348	0.6814
A*24:02	1.067	0.08357	0.9059	1.257	0.4367
A*25:01	1.499	0.1294	1.163	1.932	0.001749
A*26:01	1.039	0.1626	0.7557	1.429	0.8125
A*29:01	2.499	0.3776	1.192	5.239	0.0153
A*29:02	0.6362	0.1608	0.4642	0.8719	0.004913
A*30:01	0.936	0.2378	0.5873	1.492	0.7809
A*30:02	1.248	0.2524	0.7609	2.047	0.3801
A*30:04	0.609	0.8207	0.1219	3.042	0.5456
A*31:01	1.226	0.1566	0.9023	1.667	0.1924
A*32:01	0.8518	0.1371	0.6511	1.114	0.2421
A*33:01	1.453	0.3287	0.7627	2.766	0.2561
A*33:03	0.6343	0.5535	0.2144	1.877	0.4109
A*66:01	0.7804	0.5094	0.2875	2.118	0.6264
A*68:01	1.067	0.1495	0.7958	1.43	0.6659
A*68:02	1.113	0.3226	0.5915	2.095	0.7394
A*69:01	0.6637	0.6727	0.1776	2.48	0.5422
B*07:02	0.7762	0.06455	0.684	0.8809	8.702e-05
B*07:05	0.887	0.4443	0.3713	2.119	0.7872
B*08:01	0.99	0.1079	0.8013	1.223	0.9262
B*13:02	0.8609	0.1952	0.5872	1.262	0.4431
B*14:01	1.283	0.2739	0.7499	2.195	0.3631
B*14:02	1.092	0.1981	0.7403	1.609	0.6583
B*15:01	0.7977	0.1293	0.6191	1.028	0.08047
B*15:03	1.017	1.047	0.1308	7.907	0.9873
B*15:16	3.496	0.7791	0.7593	16.1	0.1082
B*15:17	0.5273	0.5127	0.193	1.44	0.2119
B*18:01	1.455	0.09545	1.207	1.755	8.427e-05
B*27:05	1.123	0.1533	0.8314	1.517	0.4496
B*35:01	1.518	0.1219	1.195	1.927	0.0006199
B*35:02	1.077	0.2433	0.6684	1.735	0.7608
B*35:03	1.961	0.1732	1.397	2.754	0.0001006
B*35:08	0.8243	0.3728	0.397	1.712	0.6042
B*37:01	0.7532	0.2254	0.4842	1.171	0.2084
B*38:01	0.7616	0.2239	0.4911	1.181	0.2239
B*39:01	1.284	0.2161	0.8403	1.961	0.2482
B*39:06	0.3702	0.4801	0.1445	0.9487	0.03849
B*40:01	0.4157	0.5596	0.1388	1.245	0.1167
B*40:02	0.7545	0.4333	0.3228	1.764	0.5157
B*41:01	3.413	0.8661	0.6249	18.64	0.1564
B*44:02	0.9083	0.0979	0.7497	1.1	0.3258
B*44:03	0.7157	0.1509	0.5325	0.962	0.02662
B*49:01	0.9046	0.2107	0.5986	1.367	0.6339
B*50:01	1.863	0.2342	1.177	2.948	0.007926
B*51:01	1.514	0.1028	1.238	1.852	5.445e-05
B*52:01	1.674e-06	423.5	0	inf	0.9749
B*55:01	0.8815	0.1982	0.5978	1.3	0.5244
B*57:01	0.7505	0.7977	0.1572	3.584	0.719
C*01:02	1.514	0.1479	1.133	2.023	0.005044
C*02:02	1.108	0.1245	0.8684	1.415	0.4083
C*02:10	0.2976	1.644	0.01185	7.47	0.4611
C*03:02	0.6124	0.7238	0.1482	2.53	0.498
C*03:03	0.7294	0.1323	0.5628	0.9453	0.01709
C*03:04	0.7316	0.115	0.584	0.9166	0.006576
C*04:01	1.42	0.08808	1.195	1.687	6.892e-05
C*05:01	0.861	0.09886	0.7094	1.045	0.1301
C*06:02	0.9123	0.1024	0.7465	1.115	0.3699

Table S15. continued

C*07:01	0.9927	0.08135	0.8464	1.164	0.9279
C*07:02	0.814	0.0633	0.719	0.9215	0.00115
C*07:04	1.087	0.207	0.7248	1.632	0.6856
C*08:02	1.17	0.1621	0.8516	1.608	0.3325
C*08:03	15.67	2.27	0.183	1342	0.2255
C*12:02	2.006	0.4135	0.8921	4.512	0.09222
C*12:03	1.461	0.09588	1.211	1.763	7.685e-05
C*14:02	1.402	0.2149	0.9202	2.137	0.1157
C*14:03	4.104	1.316	0.3112	54.12	0.2833
C*15:02	1.278	0.156	0.9416	1.736	0.1154
C*15:04	4.315	1.68	0.1602	116.2	0.3842
C*15:05	1.074	0.402	0.4886	2.362	0.8587
C*16:01	0.6542	0.1775	0.462	0.9263	0.01679
C*16:02	1.342	0.3592	0.6639	2.714	0.4124
C*16:04	0.9458	0.6036	0.2897	3.088	0.9265
C*17:01	0.921	0.2995	0.512	1.656	0.7834
DPB1-01:01	0.9963	0.1382	0.7599	1.306	0.9789
DPB1-02:02	1.088	0.3192	0.582	2.034	0.7917
DPB1-03:01	0.9458	0.08786	0.7962	1.124	0.5263
DPB1-04:01	1.028	0.06597	0.9035	1.17	0.6738
DPB1-06:02	0.5678	1.127	0.06231	5.174	0.6156
DPB1-09:01	0.8961	0.3086	0.4894	1.641	0.7223
DPB1-104:01	0.9295	0.2247	0.5984	1.444	0.745
DPB1-11:01	0.9916	0.2209	0.6431	1.529	0.9695
DPB1-13:01	0.8519	0.2216	0.5517	1.315	0.4696
DPB1-14:01	1.084	0.2158	0.7103	1.655	0.708
DPB1-15:01	1.408	0.2926	0.7934	2.498	0.2423
DPB1-16:01	1.086	0.3321	0.5663	2.082	0.8043
DPB1-17:01	1.276	0.2485	0.7837	2.076	0.3274
DPB1-19:01	0.4897	0.4385	0.2073	1.157	0.1035
DQA1*01:04	0.8648	0.2186	0.5634	1.327	0.5063
DQA1*01:05	0.3363	0.9054	0.05702	1.983	0.2287
DQA1*02:01	1.451	0.8242	0.2884	7.297	0.6517
DQA1*03:02	0.7132	0.399	0.3263	1.559	0.3969
DQA1*05:01	1.261	0.1929	0.8638	1.84	0.2298
DQA1*05:03	0.9721	1.009	0.1345	7.027	0.9776
DQA1*05:09	0	2048	0	inf	0.3233
DQA1*06:01	0.679	1.201	0.06451	7.147	0.7472
DQB1*02:01	1.284	0.1931	0.8792	1.874	0.1959
DQB1*03:03	0.7853	0.3336	0.4084	1.51	0.4689
DQB1*03:04	0.4197	1.285	0.03382	5.209	0.4993
DQB1*05:03	0.8453	0.2186	0.5507	1.297	0.4419
DQB1*06:09	1.078	0.816	0.2179	5.337	0.9263
DRB1*01:02	1.272	0.6389	0.3636	4.449	0.7067
DRB1*01:03	0.3493	0.7556	0.07942	1.536	0.1639
DRB1*03:01	1.253	0.1822	0.8765	1.79	0.2162
DRB1*04:01	1.103	0.1726	0.7864	1.547	0.5704
DRB1*04:02	1.204	0.3209	0.642	2.259	0.5626
DRB1*04:03	1.566	0.5152	0.5706	4.299	0.3838
DRB1*04:04	0.828	0.1965	0.5634	1.217	0.3368
DRB1*04:05	0.999	0.5155	0.3637	2.744	0.9984
DRB1*04:06	1.4	1.207	0.1314	14.91	0.7805
DRB1*04:08	0.8462	0.6015	0.2603	2.751	0.7813
DRB1*08:03	0.6663	1.193	0.06436	6.899	0.7335
DRB1*08:04	1.757	0.7876	0.3753	8.227	0.4741
DRB1*09:01	0.7024	0.398	0.322	1.532	0.3747
DRB1*10:01	0.277	0.831	0.05433	1.412	0.1223
DRB1*11:02	0.5362	0.7817	0.1159	2.482	0.4253
DRB1*11:03	2.643	0.6666	0.7155	9.762	0.1449
DRB1*12:01	1.254	0.2921	0.7075	2.223	0.4382
DRB1*13:02	0.6482	0.6136	0.1947	2.158	0.4798
DRB1*13:03	0.925	0.3034	0.5104	1.677	0.7973
DRB1*14:01	0.8403	0.2179	0.5483	1.288	0.4246
DRB1*16:02	1.521	0.9991	0.2146	10.78	0.6749

conditioning for all significant HLA-DRB1, HLA-DQA1, HLA-DQB1, HLA-DPA1 and HLA-DPB1 loci. HLA-DQB1*06:02 homozygous individuals are removed from analysis.

Table S16. Association of HLA alleles with narcolepsy in the Chinese sample after conditioning for all significant HLA-DRB1, HLA-DQA1, HLA-DQB1, HLA-DPA1 and HLA-DPB1 loci and SNPs associating with before vs. after 2009

Allele	OR	SE	Ci lower	Ci upper	P
A-01:01	1.014	0.2325	0.6426	1.599	0.9537
A-02:01	0.7387	0.123	0.5805	0.9402	0.01384
A-02:03	4.919	1.107	0.5622	43.04	0.15
A-02:05	0.5512	0.7673	0.1225	2.48	0.4375
A-02:06	1.093	0.1597	0.7996	1.495	0.576
A-02:07	1.558	0.2263	0.9999	2.427	0.05006
A-03:01	0.871	0.213	0.5737	1.322	0.5167
A-03:02	0.2324	0.8894	0.04067	1.328	0.1009
A-11:01	1.378	0.1271	1.074	1.768	0.01166
A-11:02	0.7744	0.7927	0.1638	3.662	0.7471
A-23:01	0.6146	1.145	0.06512	5.8	0.6708
A-24:02	1.037	0.1153	0.8276	1.3	0.7502
A-24:03	0.3746	1.042	0.04858	2.888	0.346
A-26:01	0.7988	0.2577	0.482	1.324	0.3833
A-29:01	1.131	0.5183	0.4094	3.123	0.8126
A-30:01	0.9645	0.231	0.6132	1.517	0.8756
A-30:02	0.1442	1.629	0.005917	3.514	0.2346
A-30:04	10.6	3.376	0.01419	7921	0.4843
A-31:01	0.856	0.2237	0.5522	1.327	0.4869
A-32:01	0.9367	0.4376	0.3973	2.209	0.8812
A-33:01	1.562	1.145	0.1658	14.72	0.6967
A-33:03	0.9294	0.2376	0.5834	1.481	0.7581
A-34:01	0.1272	1.551	0.006078	2.661	0.1838
A-68:01	0.8345	0.4377	0.3539	1.968	0.6792
B-07:02	1.033	0.2039	0.6929	1.541	0.8723
B-07:05	3.538	0.8085	0.7254	17.26	0.1181
B-08:01	0.7337	0.5147	0.2676	2.012	0.5474
B-13:01	0.7044	0.2559	0.4265	1.163	0.1708
B-13:02	1.11	0.2517	0.6775	1.817	0.6796
B-14:02	2.28	1.093	0.2678	19.41	0.4507
B-15:01	1.043	0.1637	0.7564	1.437	0.7992
B-15:02	1.309	0.3671	0.6373	2.687	0.4637
B-15:07	0.6043	1.242	0.053	6.89	0.685
B-15:11	1.008	0.301	0.559	1.819	0.9779
B-15:17	23.87	2.261	0.284	2007	0.1606
B-15:18	0.9795	0.2757	0.5706	1.681	0.9402
B-15:25	3.087	2.12	0.04845	196.6	0.5949
B-15:35	1.895	1.068	0.2336	15.37	0.5495
B-18:01	0.646	0.4784	0.253	1.65	0.361
B-27:04	0.8864	0.6138	0.2662	2.952	0.8443
B-27:05	0.4739	0.5456	0.1626	1.381	0.1711
B-35:01	0.8336	0.1852	0.5799	1.198	0.3258
B-35:02	0.537	0.9412	0.08488	3.397	0.5089
B-35:03	1.885	0.5596	0.6294	5.644	0.2574
B-35:05	2.543	3.053	0.006405	1010	0.7598
B-35:08	5.223	3.726	0.00352	7751	0.6573
B-37:01	1.066	0.3747	0.5116	2.222	0.864
B-38:01	0.6804	0.4763	0.2675	1.731	0.4189
B-38:02	0.7919	0.3531	0.3964	1.582	0.5089
B-39:01	0.5171	0.4175	0.2282	1.172	0.1142
B-40:01	1.053	0.1698	0.7546	1.468	0.7627
B-40:02	0.6124	0.2722	0.3592	1.044	0.07156
B-40:06	1.379	0.2113	0.9115	2.087	0.1281
B-41:01	0.3769	1.008	0.05222	2.72	0.3332
B-44:02	0.7318	0.482	0.2845	1.882	0.5172
B-44:03	0.8624	0.3639	0.4227	1.76	0.6842
B-45:01	11.88	4.355	0.002333	6.05E+04	0.5699
B-46:01	0.9556	0.1961	0.6507	1.403	0.8167
B-48:01	0.9399	0.2723	0.5512	1.603	0.8198
B-49:01	1.257	0.9696	0.1879	8.407	0.8136
B-50:01	1.883	0.5479	0.6435	5.513	0.2479
B-51:01	1.412	0.1938	0.9661	2.065	0.07477
B-51:02	1.09	0.4147	0.4834	2.456	0.8361
B-52:01	1.518	0.351	0.7627	3.02	0.2347
B-54:01	1.198	0.2542	0.7278	1.971	0.4779
B-55:02	1.308	0.4491	0.5426	3.155	0.5494
B-56:01	1.014	1.239	0.08951	11.49	0.9909
B-57:01	0.5252	0.5054	0.1951	1.414	0.2026
B-58:01	0.9986	0.3107	0.5431	1.836	0.9965
B-67:01	0.3749	0.3386	0.1931	0.7279	0.003755
B-81:01	2.499	0.7842	0.5373	11.62	0.2429
C-01:02	1.044	0.1514	0.7759	1.405	0.7763
C-02:02	0.7586	0.5762	0.2452	2.347	0.6315
C-03:02	0.9984	0.3107	0.5431	1.836	0.9959
C-03:03	0.9598	0.1371	0.7337	1.256	0.7645

Table S16. continued

C-03:04	0.7474	0.1599	0.5464	1.022	0.06853
C-04:01	0.9204	0.2065	0.614	1.38	0.6879
C-04:03	0.8573	0.7659	0.1911	3.847	0.8407
C-05:01	0.7427	0.4265	0.3219	1.713	0.4855
C-06:02	0.9893	0.1853	0.6881	1.422	0.9537
C-07:01	2.81	0.5399	0.9754	8.097	0.05565
C-07:02	0.903	0.1303	0.6995	1.166	0.4333
C-07:04	0.8002	0.4149	0.3549	1.805	0.5912
C-08:01	1.207	0.1416	0.9146	1.593	0.1838
C-08:02	2.257	1.084	0.2695	18.9	0.4528
C-08:03	22.72	2.735	0.1068	4833	0.2534
C-12:02	1.018	0.3398	0.5228	1.981	0.959
C-12:03	0.553	0.3436	0.282	1.084	0.08463
C-14:02	1.381	0.2149	0.9063	2.104	0.1331
C-14:03	0.516	0.5598	0.1723	1.546	0.2372
C-15:02	1.278	0.2172	0.835	1.957	0.2586
C-15:05	2.788	0.8654	0.5113	15.2	0.2361
C-16:02	7.635	2.408	0.06806	856.4	0.3986
C-17:01	0.4004	1.425	0.02454	6.532	0.5205
DPA1-02:01	0.1716	2.83	0.000669	44.01	0.5334
DPA1-04:01	5.828	2.829	0.02276	1492	0.5333
DPB1-01:01	5.512	1.733	0.1846	164.6	0.3247
DPB1-02:02	1.016	0.2837	0.5825	1.771	0.9562
DPB1-03:01	0.9317	0.2442	0.5773	1.504	0.772
DPB1-04:01	1.047	0.1967	0.7121	1.54	0.8147
DPB1-09:01	1.035	0.5263	0.3691	2.905	0.9472
DPB1-09:02	1.199	0.4529	0.4936	2.913	0.6883
DPB1-104:01	3.007	0.9011	0.5141	17.58	0.2218
DPB1-13:01	1.023	0.3454	0.5198	2.013	0.9478
DPB1-14:01	0.786	0.3403	0.4034	1.531	0.4792
DPB1-17:01	1.154	0.3622	0.5673	2.347	0.6928
DPB1-19:01	0.4414	0.6488	0.1238	1.574	0.2075
DPB1-26:01	1.246	1.25	0.1075	14.45	0.8603
DQA1-01:04	2.559	0.4913	0.9769	6.703	0.05583
DQA1-01:05	0.9881	0.5878	0.3122	3.127	0.9837
DQA1-02:01	1.507	0.2564	0.9116	2.49	0.1098
DQA1-03:01	3.592	1.86	0.09377	137.6	0.4918
DQA1-03:02	0.5429	0.2354	0.3422	0.8611	0.009457
DQA1-03:03	1.053	0.2854	0.6019	1.842	0.8563
DQA1-04:01	0.8242	0.6276	0.2409	2.82	0.758
DQA1-05:01	1.021	0.5719	0.3327	3.131	0.9715
DQA1-05:08	1.022	0.7604	0.2304	4.538	0.9767
DQB1-02:01	1.255	0.6842	0.3282	4.796	0.7402
DQB1-02:02	1.719	0.2685	1.016	2.91	0.04356
DQB1-03:03	0.5218	0.2337	0.33	0.825	0.005388
DQB1-04:01	1.14	0.3211	0.6075	2.139	0.6835
DQB1-04:02	0.6949	0.5718	0.2266	2.131	0.5244
DQB1-05:01	1.258	0.5467	0.4307	3.672	0.675
DQB1-05:03	1.788	0.5138	0.6531	4.894	0.2582
DQB1-06:01	0.4241	0.7346	0.1005	1.79	0.2429
DQB1-06:04	1.3	0.6191	0.3864	4.376	0.6715
DQB1-06:09	1.711	0.6214	0.5062	5.785	0.3873
DRB1-01:01	0.4483	0.8979	0.07713	2.605	0.3716
DRB1-01:02	13.06	1.852	0.3463	492.6	0.1653
DRB1-03:01	0.9056	0.6704	0.2434	3.37	0.8824
DRB1-04:01	1.251	0.7288	0.2999	5.219	0.7587
DRB1-04:02	0.4346	1.447	0.02549	7.41	0.5647
DRB1-04:03	2.611	0.5491	0.8901	7.661	0.08048
DRB1-04:05	1.062	0.3147	0.5731	1.968	0.8484
DRB1-04:06	0.5956	0.5574	0.1998	1.776	0.3525
DRB1-04:10	0.5448	1.446	0.03201	9.273	0.6745
DRB1-07:01	1.499	0.2564	0.9069	2.477	0.1144
DRB1-08:02	0.6515	0.5847	0.2071	2.049	0.4636
DRB1-09:01	0.568	0.2346	0.3586	0.8997	0.01593
DRB1-10:01	1.033	0.5616	0.3436	3.105	0.954
DRB1-11:01	0.7438	0.3586	0.3683	1.502	0.4092
DRB1-11:04	0.4709	0.7554	0.1071	2.07	0.3187
DRB1-12:01	0.9315	0.345	0.4737	1.832	0.837
DRB1-13:02	4.064	1.229	0.3657	45.17	0.2538
DRB1-13:12	4.451	1.776	0.137	144.6	0.4006
DRB1-14:01	1.096	0.5688	0.3593	3.341	0.8723
DRB1-14:04	2.863	0.6748	0.7628	10.75	0.1191
DRB1-14:05	1.812	0.6194	0.5383	6.102	0.337
DRB1-14:54	0.4508	0.9986	0.06367	3.191	0.4249
DRB1-15:02	7.583	0.9131	1.266	45.4	0.02651
DRB1-16:02	0.7475	0.6789	0.1976	2.828	0.6682

Association of HLA alleles with narcolepsy in the Chinese sample after conditioning for all significant HLA-DRB1, HLA-DQA1, HLA-DQB1, HLA-DPA1 and HLA-DPB1 loci and SNPs associating with before vs. after 2009. HLA-DQB1*06:02 homozygous individuals are removed from analysis.