

Supplementary Table 1. Results of association test of SNPs in melatonin pathway genes with bipolar patients' seasonality and circadian preference

Gene	CHR	SNP	Global seasonality score						
			BETA	SE	L95	U95	STAT	p	Corr_p
<i>MTNR1a</i>	4	rs28611030	-0.1829	0.5059	-1.175	0.8087	-0.3616	0.7179	1
<i>MTNR1a</i>	4	rs7440284	1.31	1.096	-0.8379	3.458	1.195	0.2328	1
<i>MTNR1a</i>	4	rs1800884	-0.8667	2.011	-4.807	3.074	-0.4311	0.6667	1
<i>MTNR1a</i>	4	rs34532313	-0.3995	0.4184	-1.22	0.4205	-0.9549	0.3404	1
<i>MTNR1a</i>	4	rs116952947	-0.7398	1.319	-3.326	1.846	-0.5608	0.5754	1
<i>MTNR1a</i>	4	rs6820205	-0.02435	0.7066	-1.409	1.361	-0.03445	0.9725	1
<i>MTNR1a</i>	4	rs13140444	-0.2099	0.4264	-1.046	0.6259	-0.4921	0.623	1
<i>MTNR1a</i>	4	rs149982127	-0.6026	1.621	-3.779	2.574	-0.3718	0.7103	1
<i>MTNR1a</i>	4	rs4862706	-0.08323	0.7111	-1.477	1.311	-0.117	0.9069	1
<i>MTNR1a</i>	4	rs1800885	1.631	1.092	-0.5098	3.772	1.493	0.1364	1
<i>MTNR1a</i>	4	rs76691596	-0.9735	0.8534	-2.646	0.6991	-1.141	0.2548	1
<i>MTNR1a</i>	4	rs6858707	-0.3562	0.4357	-1.21	0.4979	-0.8174	0.4143	1
<i>MTNR1a</i>	4	rs13131052	-0.372	0.5011	-1.354	0.6101	-0.7424	0.4584	1
<i>MTNR1b</i>	11	rs75715438	-0.868	1.349	-3.512	1.776	-0.6435	0.5204	1
<i>MTNR1b</i>	11	rs75153006	-0.2996	1.069	-2.394	1.795	-0.2803	0.7794	1
<i>MTNR1b</i>	11	rs4753426	0.268	0.4385	-0.5915	1.127	0.6111	0.5416	1
<i>MTNR1b</i>	11	rs10830963	-0.5603	0.4121	-1.368	0.2473	-1.36	0.1749	1
<i>MTNR1b</i>	11	rs3781637	0.01138	0.5948	-1.154	1.177	0.01914	0.9847	1
<i>MTNR1b</i>	11	rs148736119	-1.685	1.468	-4.563	1.193	-1.147	0.2521	1
<i>MTNR1b</i>	11	rs76309303	0.3733	1.888	-3.327	4.074	0.1977	0.8434	1
<i>MTNR1b</i>	11	rs1447350	0.3156	0.4405	-0.5478	1.179	0.7164	0.4743	1
<i>MTNR1b</i>	11	rs12225378	1.401	0.7534	-0.07611	2.877	1.859	0.06397	1
<i>MTNR1b</i>	11	rs1447352	0.3297	0.4396	-0.5319	1.191	0.7501	0.4538	1
<i>AANAT</i>	17	rs495055	-0.9056	0.823	-2.519	0.7074	-1.1	0.272	1
<i>AANAT</i>	17	rs9896887	0.6683	0.4223	-0.1595	1.496	1.582	0.1146	1
<i>AANAT</i>	17	rs116879618	2.368	1.012	0.3842	4.352	2.34	0.01993	0.6777
<i>AANAT</i>	17	rs77537806	1.533	1.444	-1.297	4.363	1.062	0.2891	1
<i>AANAT</i>	17	rs3744044	1.698	2.017	-2.254	5.651	0.8422	0.4003	1
<i>ASMT</i>	25	rs17149149	1.191	1.49	-1.729	4.112	0.7994	0.4246	1
<i>ASMT</i>	25	rs62593301	0.6348	0.5105	-0.3656	1.635	1.244	0.2145	1
<i>ASMT</i>	25	rs28675287	-0.3121	0.4563	-1.206	0.5823	-0.6839	0.4946	1
<i>ASMT</i>	25	rs4521942	0.05253	0.8588	-1.631	1.736	0.06117	0.9513	1
<i>ASMT</i>	25	rs4639690	0.8284	0.4455	-0.0447	1.702	1.86	0.06388	1
<i>ASMT</i>	25	rs4933063	-0.4273	0.451	-1.311	0.4567	-0.9473	0.3442	1

Gene	CHR	SNP	Seasonality					
			OR	L95	U95	STAT	p	Corr_p
<i>MTNR1a</i>	4	rs28611030	0.9325	0.6278	1.385	-0.3465	0.729	1
<i>MTNR1a</i>	4	rs7440284	2.161	0.9415	4.961	1.818	0.06912	1
<i>MTNR1a</i>	4	rs1800884	0.6488	0.1222	3.444	-0.5079	0.6115	1
<i>MTNR1a</i>	4	rs34532313	0.9737	0.7041	1.346	-0.1614	0.8718	1
<i>MTNR1a</i>	4	rs116952947	1.266	0.4625	3.463	0.4585	0.6466	1
<i>MTNR1a</i>	4	rs6820205	1.206	0.7007	2.075	0.6756	0.4993	1
<i>MTNR1a</i>	4	rs13140444	0.9299	0.6688	1.293	-0.4321	0.6657	1
<i>MTNR1a</i>	4	rs149982127	0.6773	0.1733	2.647	-0.5602	0.5753	1
<i>MTNR1a</i>	4	rs4862706	1.151	0.6671	1.986	0.5053	0.6133	1
<i>MTNR1a</i>	4	rs1800885	2.522	1.088	5.847	2.157	0.03104	1
<i>MTNR1a</i>	4	rs76691596	1.049	0.5437	2.025	0.1435	0.8859	1
<i>MTNR1a</i>	4	rs6858707	0.8168	0.5808	1.149	-1.163	0.2446	1
<i>MTNR1a</i>	4	rs13131052	1.002	0.6799	1.477	0.01137	0.9909	1
<i>MTNR1b</i>	11	rs75715438	0.7747	0.2595	2.313	-0.4575	0.6473	1
<i>MTNR1b</i>	11	rs75153006	0.9617	0.4186	2.21	-0.09201	0.9267	1
<i>MTNR1b</i>	11	rs4753426	1.046	0.7433	1.473	0.2603	0.7946	1
<i>MTNR1b</i>	11	rs10830963	0.8204	0.5936	1.134	-1.199	0.2304	1
<i>MTNR1b</i>	11	rs3781637	1.15	0.7292	1.813	0.6005	0.5481	1
<i>MTNR1b</i>	11	rs148736119	0.4459	0.1179	1.686	-1.19	0.234	1
<i>MTNR1b</i>	11	rs76309303	1.714	0.4179	7.034	0.7484	0.4542	1
<i>MTNR1b</i>	11	rs1447350	1.073	0.7636	1.508	0.4056	0.685	1
<i>MTNR1b</i>	11	rs12225378	1.332	0.7484	2.37	0.9745	0.3298	1
<i>MTNR1b</i>	11	rs1447352	1.069	0.7609	1.502	0.3855	0.6999	1
<i>AANAT</i>	17	rs495055	0.6822	0.3487	1.335	-1.117	0.2641	1
<i>AANAT</i>	17	rs9896887	1.207	0.8696	1.677	1.126	0.2602	1
<i>AANAT</i>	17	rs116879618	5.034	2.043	12.41	3.512	0.0004442	0.0151
<i>AANAT</i>	17	rs77537806	2.419	0.8014	7.304	1.567	0.1171	1
<i>AANAT</i>	17	rs3744044	2.405	0.521	11.1	1.125	0.2608	1
<i>ASMT</i>	25	rs17149149	0.9623	0.3036	3.05	-0.06523	0.948	1
<i>ASMT</i>	25	rs62593301	1.169	0.7905	1.729	0.7821	0.4342	1
<i>ASMT</i>	25	rs28675287	1.035	0.7283	1.47	0.1907	0.8488	1
<i>ASMT</i>	25	rs4521942	0.7296	0.3653	1.457	-0.8935	0.3716	1
<i>ASMT</i>	25	rs4639690	1.414	1	1.999	1.962	0.04972	1
<i>ASMT</i>	25	rs4933063	0.8903	0.6259	1.266	-0.6465	0.518	1

Gene	CHR	SNP	CSM score						
			BETA	SE	L95	U95	STAT	p	Corr_p
<i>MTNR1a</i>	4	rs28611030	-0.2944	0.7092	-1.684	1.096	-0.4151	0.6784	1
<i>MTNR1a</i>	4	rs7440284	-0.7819	1.529	-3.779	2.215	-0.5113	0.6095	1
<i>MTNR1a</i>	4	rs1800884	1.883	2.754	-3.515	7.281	0.6839	0.4946	1
<i>MTNR1a</i>	4	rs34532313	0.8086	0.5777	-0.3236	1.941	1.4	0.1626	1
<i>MTNR1a</i>	4	rs116952947	1.015	1.803	-2.519	4.549	0.563	0.5738	1
<i>MTNR1a</i>	4	rs6820205	1.712	0.9601	-0.1702	3.593	1.783	0.07564	1
<i>MTNR1a</i>	4	rs13140444	0.7178	0.5884	-0.4354	1.871	1.22	0.2234	1
<i>MTNR1a</i>	4	rs149982127	0.2831	2.305	-4.234	4.801	0.1228	0.9023	1
<i>MTNR1a</i>	4	rs4862706	1.347	0.9733	-0.5608	3.254	1.384	0.1674	1
<i>MTNR1a</i>	4	rs1800885	-0.09966	1.534	-3.106	2.907	-0.06496	0.9482	1
<i>MTNR1a</i>	4	rs76691596	2.006	1.161	-0.2701	4.282	1.727	0.08509	1
<i>MTNR1a</i>	4	rs6858707	0.1663	0.6045	-1.018	1.351	0.2752	0.7834	1
<i>MTNR1a</i>	4	rs13131052	0.5981	0.6907	-0.7557	1.952	0.8659	0.3872	1
<i>MTNR1b</i>	11	rs75715438	4.513	1.834	0.9186	8.108	2.461	0.0144	0.4897
<i>MTNR1b</i>	11	rs75153006	-2.809	1.458	-5.668	0.04895	-1.926	0.05496	1
<i>MTNR1b</i>	11	rs4753426	0.698	0.6114	-0.5003	1.896	1.142	0.2545	1
<i>MTNR1b</i>	11	rs10830963	0.1129	0.5731	-1.01	1.236	0.197	0.8439	1
<i>MTNR1b</i>	11	rs3781637	0.9874	0.8182	-0.6162	2.591	1.207	0.2284	1
<i>MTNR1b</i>	11	rs148736119	-2.785	2.118	-6.936	1.366	-1.315	0.1895	1
<i>MTNR1b</i>	11	rs76309303	0.4917	2.586	-4.576	5.56	0.1902	0.8493	1
<i>MTNR1b</i>	11	rs1447350	0.9266	0.6041	-0.2573	2.111	1.534	0.126	1
<i>MTNR1b</i>	11	rs12225378	1.63	1.044	-0.417	3.676	1.561	0.1196	1
<i>MTNR1b</i>	11	rs1447352	0.9073	0.6067	-0.2819	2.096	1.495	0.1358	1
<i>AANAT</i>	17	rs495055	-1.189	1.13	-3.405	1.026	-1.052	0.2936	1
<i>AANAT</i>	17	rs9896887	-0.8427	0.579	-1.977	0.2921	-1.455	0.1466	1
<i>AANAT</i>	17	rs116879618	-1.04	1.39	-3.765	1.685	-0.748	0.455	1
<i>AANAT</i>	17	rs77537806	0.4633	1.987	-3.43	4.357	0.2332	0.8157	1
<i>AANAT</i>	17	rs3744044	-1.358	2.767	-6.783	4.066	-0.4909	0.6238	1
<i>ASMT</i>	25	rs17149149	2.308	2.122	-1.852	6.468	1.087	0.2777	1
<i>ASMT</i>	25	rs62593301	0.1082	0.6999	-1.264	1.48	0.1546	0.8773	1
<i>ASMT</i>	25	rs28675287	0.4612	0.6286	-0.7708	1.693	0.7337	0.4637	1
<i>ASMT</i>	25	rs4521942	-0.138	1.191	-2.472	2.196	-0.1159	0.9078	1
<i>ASMT</i>	25	rs4639690	-0.2563	0.6189	-1.469	0.9567	-0.4142	0.6791	1
<i>ASMT</i>	25	rs4933063	-0.6132	0.6175	-1.823	0.5971	-0.993	0.3215	1

CHR: chromosome, SNP: single nucleotide polymorphism, SE: standard error, L95: lower limit of 95% confidence interval, U95: upper limit of 95% confidence interval STAT: statistica value, Corr_p: corrected p-value, CSM: Composite Scale of Morningness