

S5 Table. Functional annotation of 43 FADS variants using 3DSNP.

<i>rsID*</i>	<i>Position</i>	<i>Score (original list)</i>	<i>3D interacting genes</i>	<i>Closest gene</i>	<i>Enhancer</i>	<i>Promoter</i>	<i>TFBS</i>	<i>Motif</i>	<i>Leading SNP</i>	<i>Score</i>	<i>LD_r[‡]</i>	<i>3D interacting genes</i>	<i>Closest gene</i>
rs174599	chr11:61621555	12.13	<i>TMEM258</i> and other 10	<i>FADS2</i>	19				rs5792235	218.8	0.83	<i>TMEM258</i> and other 10	<i>FADS2</i>
rs174601	chr11:61623139	11.69	<i>TMEM258</i> and other 10	<i>FADS2</i>	19		1		rs5792235	218.8	0.82	<i>TMEM258</i> and other 10	<i>FADS2</i>
rs556656	chr11:61622904	11.9	<i>TMEM258</i> and other 10	<i>FADS2</i>	19		1		rs6591659	211.0	1	<i>TMEM258</i> and other 10	<i>FADS2, FADS1, MIR1908</i>
rs191972868	chr11:61644759	8.1	<i>TMEM258</i> and other 10	<i>FADS3</i>	4		1	2	rs369849285	186.4	0.86	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs115905177	chr11:61647381	12.88	<i>TMEM258</i> and other 10	<i>FADS3, MIR6746</i>	21				rs145747072	184.9	1	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs174635	chr11:61647426	16.57	<i>TMEM258</i> and other 10	<i>FADS3, MIR6746</i>	26	2			rs174466	138.9	0.94	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs174634	chr11:61647386	13.96	<i>TMEM258</i> and other 10	<i>FADS3, MIR6746</i>	21			1	rs174466	138.9	0.95	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs174454	chr11:61650746	8.83	<i>TMEM258</i> and other 10	<i>FADS3</i>	13		1		rs174466	138.9	0.9	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs741887	chr11:61690706	68.67	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>	71	6	12		rs739789	135.1	0.93	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>
rs2521561	chr11:61685988	40.49	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>	51	4	3		rs739789	135.1	0.95	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>
rs2727258	chr11:61690182	37.89	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>	22	3	14	10	rs739789	135.1	0.8	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>
rs2524288	chr11:61686335	20.3	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>	31	2	1		rs739789	135.1	0.95	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>
rs117518711	chr11:61688014	24.99	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>	11	1	20		rs375339708	130.0	1	<i>RAB31L1</i> and other 10	<i>RAB31L1</i>

rs74957100	chr11:61686073	24.52	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	36	2			rs375339708	130.0	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs12292968	chr11:61642294	26.68	<i>TMEM258</i> and other 10	<i>FADS3</i>	23		2	9	rs73491300	114.0	1	<i>RAB3IL1</i> and other 10	<i>BEST1</i>
rs174570†	chr11:61597211	96.67	<i>TMEM258</i> and other 10	<i>FADS2</i>	34	64			rs174570	96.7	1	<i>TMEM258</i> and other 10	<i>FADS2</i>
rs77071864	chr11:61690419	59.72	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	68	9	2		rs7927548	82.0	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs78243280	chr11:61688921	9.93	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	16				rs7927548	82.0	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs741888	chr11:61690543	73.61	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	68	9	3	10	rs741888	73.6	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs2524287	chr11:61684549	63.74	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	21	49	2	2	rs2524287	63.7	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs12420625	chr11:61690404	62.86	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	68	9	4	2	rs12420625	62.9	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs77229376	chr11:61685790	51.42	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	51	19	3		rs77229376	51.4	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs7930349	chr11:61649210	23.62	<i>TMEM258</i> and other 10	<i>FADS3</i>	35		2		rs77229376	51.4	0.82	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs187943834	chr11:61687925	48.7	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	13	2	35	3	rs187943834	48.7	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs78156005	chr11:61685949	40.07	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	51	4	3		rs78156005	40.1	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs116672159	chr11:61648112	23.93	<i>TMEM258</i> and other 10	<i>FADS3</i>	22	2		8	rs76656467	25.4	0.96	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs116139751	chr11:61653163	13.88	<i>TMEM258</i> and other 10	<i>FADS3</i>	23				rs76656467	25.4	0.92	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs7942717	chr11:61647287	12.98	<i>TMEM258</i> and other 10	<i>FADS3, MIR6746</i>	21				rs76656467	25.4	0.83	<i>TMEM258</i> and other 10	<i>FADS3</i>
rs190738753	chr11:61690078	20.64	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>	22	3	10		rs190738753	20.6	1	<i>RAB3IL1</i> and other 10	<i>RAB3IL1</i>
rs7115739	chr11:61641716	18.9	<i>TMEM258</i> and other 10	<i>FADS3</i>	22		9		rs7115739	18.9	1	<i>TMEM258</i> and other 10	<i>FADS3</i>

rs174450	chr11:61641541	14.94	<u>TMEM258</u> and other 10	<u>FADS3</u>	15		8	1	rs174626	18.2	0.86	<u>TMEM258</u> and other 10	
rs11230827	chr11:61687453	17.6	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>	21	4	7		rs11230827	17.6	1	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>
rs76133863	chr11:61687129	15.85	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>	24	3	1		rs76133863	15.9	1	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>
rs11501631	chr11:61622729	13.52	<u>TMEM258</u> and other 10	<u>FADS2</u>	19			2	rs11501631	13.5	1	<u>TMEM258</u> and other 10	<u>FADS2</u>
rs74771917	chr11:61627959	13.51	<u>TMEM258</u> and other 10	<u>FADS2</u>	19	1	4		rs74771917	13.5	1	<u>TMEM258</u> and other 10	<u>FADS2</u>
rs3168072	chr11:61631509	6.99	<u>TMEM258</u> and other 10	<u>FADS2</u>	1			1	rs74771917	13.5	0.97	<u>TMEM258</u> and other 10	<u>FADS2</u>
rs182008711	chr11:61621622	11.86	<u>TMEM258</u> and other 10	<u>FADS2</u>	18			1	rs182008711	11.9	1	<u>TMEM258</u> and other 10	<u>FADS2</u>
rs73487492	chr11:61621610	11.76	<u>TMEM258</u> and other 10	<u>FADS2</u>	18			1	rs73487492	11.8	1	<u>TMEM258</u> and other 10	<u>FADS2</u>
rs116985542	chr11:61689274	11.66	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>	17			1	rs116985542	11.7	1	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>
rs74626285	chr11:61651170	11.06	<u>TMEM258</u> and other 10	<u>FADS3</u>	18				rs74626285	11.1	1	<u>TMEM258</u> and other 10	<u>FADS3</u>
rs174602†	chr11:61624413	7.96	<u>TMEM258</u> and other 10	<u>FADS2</u>	3		1	2	rs174602	8.0	1	<u>TMEM258</u> and other 10	<u>FADS2</u>
rs73491252	chr11:61688704	7.71	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>	11				rs73491252	7.7	1	<u>RAB3IL1</u> and other 10	<u>RAB3IL1</u>
rs12577276	chr11:61632309	6.86	<u>TMEM258</u> and other 10	<u>FADS2</u>				1	rs12577276	6.9	1	<u>TMEM258</u> and other 10	<u>FADS2</u>

The underlined SNPs in red font are proxies ($r^2 > 0.8$) for the original 43 SNPs. They have been identified by 3DSNP as having higher functionality score than the original SNP.

*137 release

†SNPs with the highest level of evidence (strongest interaction signals) from the six candidate SNPs from Fumagalli *et al.*, *Science*, 2015

‡ r^2 with original SNP

3D - 3 dimensional; LD - linkage disequilibrium; TFBS - transcription factor binding site.