

Supplementary Table 12. Expression and splicing quantitative trait locus effects for MS severity variants

MS severity lead variant	Regulated gene	QTL study	Tissue	Molecular trait Ensembl stable ID	QTL type	QTL variant	QTL position ^a	PIP	r ²
rs10191329	ZNF638	GTEX_v8	Adipose_Subcutaneous	ENSG00000075292.18	expression	rs13384155	2:71452575	0.103	0.846
rs10191329	ZNF638	GTEX_v8	Artery_Aorta	ENSG00000281195.1	expression	rs13406110	2:71458399	0.326	0.670
rs10191329	ZNF638	GTEX_v8	Artery_Aorta	ENSG00000281195.1	expression	rs12617620	2:71458788	0.232	0.670
rs10191329	ZNF638	GTEX_v8	Artery_Aorta	ENSG00000281195.1	expression	rs10166070	2:71459207	0.271	0.658
rs10191329	ZNF638	FUSION	muscle_naive	ENSG00000075292.grp_1.contained.ENST00000492262	splicing	rs2419077	2:71421295	0.734	0.477
rs10191329	ZNF638	FUSION	muscle_naive	ENST00000492262	splicing	rs2419077	2:71421295	0.915	0.477
rs10191329	ZNF638	GTEX_v8	skin_not_sun_exposed	ENSG00000075292.grp_2.downstream.ENST00000410075	splicing	rs2419077	2:71421295	0.999	0.477
rs10191329	ZNF638	GTEX_v8	skin_not_sun_exposed	ENSG00000075292.grp_2.downstream.ENST00000494621	splicing	rs2419077	2:71421295	0.999	0.477
rs10191329	ZNF638	GTEX_v8	skin_sun_exposed	ENSG00000075292.grp_2.downstream.ENST00000410075	splicing	rs2419077	2:71421295	0.999	0.477
rs10191329	ZNF638	GTEX_v8	skin_sun_exposed	ENSG00000075292.grp_2.downstream.ENST00000494621	splicing	rs2419077	2:71421295	0.999	0.477
rs10191329	ZNF638	GTEX_v8	skin_sun_exposed	ENST00000410075	splicing	rs2419077	2:71421295	0.997	0.477
rs10191329	ZNF638	GTEX_v8	thyroid	ENST00000488126	splicing	rs2419077	2:71421295	0.972	0.477
rs10191329	ZNF638	ROSMAP	brain_naive	ENST00000417778	splicing	rs11126331	2:71443986	0.539	0.392
rs10191329	ZNF638	BrainSeq	brain	ENSG00000075292.grp_1.contained.ENST00000493576	splicing	rs13397663	2:71410567	0.169	0.328
rs10191329	ZNF638	GTEX_v8	breast	ENST00000491843	splicing	rs1458870	2:71277979	0.205	0.328
rs10191329	ZNF638	GTEX_v8	lung	ENST00000491843	splicing	rs6742950	2:71219739	0.155	0.316
rs10191329	ZNF638	GTEX_v8	lung	ENST00000491843	splicing	rs2216372	2:71226030	0.155	0.316
rs10191329	ZNF638	GTEX_v8	skin_sun_exposed	ENST00000488126	splicing	rs6742950	2:71219739	0.105	0.316
rs10191329	ZNF638	GTEX_v8	lung	ENST00000491843	splicing	rs763713	2:71221325	0.155	0.307
rs10191329	ZNF638	GTEX_v8	skin_sun_exposed	ENST00000488126	splicing	rs763713	2:71221325	0.105	0.307
rs10191329	ZNF638	GTEX_v8	blood	ENSG00000075292.grp_1.contained.ENST00000491843	splicing	rs6745436	2:71290495	0.109	0.303
rs10191329	ZNF638	Schmiedel_2018	2018_Th2_memory	ENSG00000281195	expression	rs2419078	2:71421365	0.531	0.300
rs10191329	ZNF638	ROSMAP	brain_naive	ENSG00000075292.grp_1.contained.ENST00000488126	splicing	rs7578166	2:71402911	0.574	0.292
rs10191329	ZNF638	GTEX_v8	Thyroid	ENSG00000075292.18	expression	rs4852780	2:71392981	0.143	0.287
rs10191329	ZNF638	ROSMAP	brain_naive	ENSG00000075292.grp_1.contained.ENST00000488126	splicing	rs4852780	2:71392981	0.146	0.287
rs10191329	ZNF638	GTEX_v8	brain_cerebellum	ENST00000488126	splicing	rs4852780	2:71392981	0.188	0.287
rs10191329	ZNF638	GTEX_v8	Artery_Aorta	ENSG00000075292.18	expression	rs4852777	2:71307031	0.117	0.274
rs10191329	ZNF638	GTEX_v8	Adipose_Subcutaneous	ENSG00000075292.18	expression	rs4852777	2:71307031	0.303	0.274
rs10191329	ZNF638	GTEX_v8	Thyroid	ENSG00000075292.18	expression	rs4852777	2:71307031	0.296	0.274
rs10191329	ZNF638	GTEX_v8	Nerve_Tibial	ENSG00000075292.18	expression	rs4852777	2:71307031	0.170	0.274
rs10191329	ZNF638	GTEX_v8	esophagus_mucosa	ENSG00000075292.grp_1.contained.ENST00000460310	splicing	rs3771382	2:71332315	0.118	0.263
rs10191329	ZNF638	GTEX_v8	esophagus_mucosa	ENST00000460310	splicing	rs3771382	2:71332315	0.127	0.263
rs10191329	ZNF638	GTEX_v8	skin_not_sun_exposed	ENSG00000075292.grp_1.contained.ENST00000487638	splicing	rs2125500	2:71207699	0.118	0.262
rs10191329	ZNF638	GTEX_v8	Artery_Tibial	ENSG00000075292.18	expression	rs2287326	2:71331977	0.263	0.261
rs10191329	ZNF638	GTEX_v8	esophagus_muscularis	ENSG00000075292.grp_1.contained.ENST00000460310	splicing	rs4852252	2:71312171	0.268	0.259
rs10191329	ZNF638	GTEX_v8	esophagus_muscularis	ENST00000460310	splicing	rs4852252	2:71312171	0.177	0.259
rs10191329	ZNF638	GTEX_v8	Artery_Tibial	ENSG00000075292.18	expression	rs72839781	2:71342248	0.300	0.257
rs10191329	ZNF638	GTEX_v8	Artery_Tibial	ENSG00000075292.18	expression	rs3771371	2:71400409	0.167	0.257
rs10191329	ZNF638	GTEX_v8	Artery_Aorta	ENSG00000075292.18	expression	rs3771371	2:71400409	0.110	0.257
rs10191329	ZNF638	GTEX_v8	Artery_Tibial	ENSG00000075292.18	expression	rs67817805	2:71386348	0.155	0.256
rs10191329	ZNF638	GTEX_v8	adipose_subcutaneous	ENST00000491843	splicing	rs6546692	2:71430887	0.136	0.254

^a Chromosome:position (base pair, GRCh38). QTL variants with above the predefined correlation threshold ($r^2 > 0.6$) are bolded.

PIP, posterior inclusion probability; QTL, quantitative trait locus