

Supplementary Table 18. Bonferroni significant results of gene-based association analyses for the GWAS meta-analysis of AUDIT total scores

Gene name	Z score	P value	expression	icted	perfo	IPs used	(covarian	Ps model	rain tissue
RFC1	-6.77	1.25E-11	0.12	0.22	4.26E-07	54	54	54	hemisphere
LRRC37A2	-6.13	8.87E-10	0.22	0.64	1.46E-34	32	40	40	cerebellum
RP11-259G18.3	-6.06	1.32E-09	0.23	0.61	7.25E-26	48	65	65	hemisphere
SPPL2C	-5.94	2.85E-09	0.06	0.36	5.43E-15	26	38	38	cerebellum
LRRC37A2	-5.91	3.43E-09	0.34	0.69	9.54E-34	36	49	49	hemisphere
RP11-259G18.1	-5.91	3.48E-09	0.21	0.16	8.92E-06	36	41	41	rontal cortex
RP11-707O23.5	-5.89	3.93E-09	0.10	0.50	1.92E-17	13	22	22	ippocampus
CRHR1-IT1	-5.88	4.13E-09	0.07	0.29	1.63E-09	15	24	24	rontal cortex
DND1P1	-5.85	4.87E-09	0.01	0.46	3.42E-19	5	10	10	caudate
PLEKHM1	5.83	5.66E-09	0.31	0.56	1.02E-28	35	45	45	cerebellum
ARL17A	-5.82	5.86E-09	0.25	0.60	4.74E-31	29	37	37	cerebellum
LRRC37A4P	5.79	6.85E-09	0.47	0.62	1.07E-27	323	332	332	hemisphere
DND1P1	-5.79	7.11E-09	0.02	0.32	2.66E-09	10	19	19	ypothalamus
RP11-707O23.5	-5.77	7.79E-09	0.09	0.55	7.83E-27	9	16	16	cerebellum
MAPT	5.77	8.09E-09	0.05	0.08	1.56E-03	13	16	16	cerebellum
CRHR1-IT1	-5.76	8.55E-09	0.07	0.49	1.10E-17	13	24	24	putamen
LRRC37A4P	5.74	9.60E-09	0.14	0.36	3.49E-15	411	428	428	ypothalamus
RP11-259G18.2	-5.74	9.69E-09	0.17	0.55	1.87E-19	33	39	39	ir cingulate cortex
SPPL2C	-5.73	9.79E-09	0.04	0.26	1.20E-08	18	41	41	hemisphere
RP11-259G18.1	-5.73	9.98E-09	0.10	0.37	2.04E-13	24	47	47	cortex
RP11-259G18.1	-5.73	1.03E-08	0.26	0.56	1.29E-27	38	44	44	cerebellum
RP11-259G18.2	-5.72	1.08E-08	0.04	0.48	6.68E-15	13	20	20	ypothalamus
ZNF513	-5.71	1.10E-08	0.10	0.10	1.38E-03	30	31	31	ir cingulate cortex
DND1P1	-5.71	1.13E-08	0.05	0.35	6.60E-12	21	27	27	hemisphere
RP11-259G18.3	-5.70	1.19E-08	0.12	0.41	1.74E-13	27	35	35	rontal cortex
RP11-259G18.2	-5.68	1.36E-08	0.10	0.51	1.18E-23	31	38	38	cerebellum
LRRC37A4P	5.67	1.44E-08	0.32	0.57	2.09E-23	19	23	23	us accumbens
FMNL1	5.67	1.47E-08	0.20	0.39	7.77E-15	27	28	28	hemisphere
RP11-259G18.2	-5.66	1.54E-08	0.07	0.53	3.17E-17	11	23	23	putamen
RP11-707O23.5	-5.65	1.58E-08	0.12	0.59	4.17E-26	19	36	36	cortex
RP11-259G18.3	-5.64	1.66E-08	0.23	0.51	1.40E-19	17	24	24	us accumbens
RP11-707O23.5	-5.64	1.68E-08	0.02	0.44	1.11E-15	6	18	18	rontal cortex
LRRC37A4P	5.64	1.73E-08	0.35	0.65	6.55E-32	359	375	375	cortex
RP11-707O23.5	-5.64	1.74E-08	0.09	0.48	1.30E-19	12	22	22	us accumbens
LRRC37A4P	5.63	1.78E-08	0.37	0.53	3.58E-28	433	438	438	cerebellum
LRRC37A4P	5.62	1.88E-08	0.38	0.55	3.55E-20	38	44	44	ippocampus
ARHGAP27	-5.62	1.93E-08	0.10	0.19	1.27E-06	23	27	27	us accumbens
ARL17A	-5.60	2.14E-08	0.15	0.29	2.77E-10	22	29	29	us accumbens
RP11-259G18.2	-5.58	2.35E-08	0.01	0.40	3.86E-13	5	13	13	rontal cortex
LRRC37A2	-5.58	2.41E-08	0.52	0.60	2.84E-29	71	79	79	caudate
RP11-259G18.1	-5.57	2.48E-08	0.06	0.13	3.07E-04	24	25	25	ypothalamus
NTN5	5.56	2.70E-08	0.02	0.08	4.23E-03	9	9	9	hemisphere
LRRC37A4P	5.56	2.73E-08	0.53	0.61	1.13E-23	54	56	56	rontal cortex
MAMSTR	5.55	2.88E-08	0.03	0.13	2.26E-04	18	18	18	ypothalamus
RP11-259G18.3	-5.54	2.95E-08	0.31	0.57	1.98E-21	67	72	72	ir cingulate cortex
NTN5	5.54	3.08E-08	0.05	0.07	9.16E-03	5	5	5	ypothalamus
RP11-259G18.3	-5.54	3.08E-08	0.11	0.33	6.89E-17	36	56	56	caudate
CRHR1-IT1	-5.49	3.96E-08	0.12	0.47	4.14E-19	15	31	31	caudate
DND1P1	-5.48	4.17E-08	0.05	0.38	1.65E-12	15	24	24	rontal cortex
RP11-259G18.2	-5.48	4.33E-08	0.24	0.51	9.70E-20	41	45	45	ippocampus
FUT2	5.46	4.75E-08	0.02	0.05	2.11E-02	9	9	9	us accumbens
LRRC37A4P	5.44	5.31E-08	0.41	0.65	6.54E-33	20	26	26	caudate
RP11-360F5.3	-5.43	5.71E-08	0.16	0.25	2.31E-10	47	47	47	cerebellum
LRRC37A2	-5.42	5.80E-08	0.24	0.67	1.12E-33	33	42	42	cortex
LRRC37A4P	5.42	5.94E-08	0.21	0.55	3.90E-18	35	43	43	putamen
RP11-259G18.3	-5.41	6.26E-08	0.07	0.58	7.78E-30	33	44	44	cerebellum
SPPL2C	-5.41	6.27E-08	0.05	0.10	1.47E-03	9	10	10	rontal cortex
LRRC37A	-5.40	6.76E-08	0.21	0.51	2.93E-23	20	23	23	cerebellum
FMNL1	5.40	6.77E-08	0.21	0.29	7.06E-13	373	374	374	cerebellum
RP11-360F5.3	-5.39	6.86E-08	0.07	0.17	8.48E-06	26	26	26	cortex
DND1P1	-5.39	7.04E-08	0.14	0.57	1.76E-25	24	36	36	cortex
RP11-707O23.5	-5.37	7.80E-08	0.12	0.49	2.94E-16	25	33	33	putamen
CRHR1-IT1	-5.36	8.22E-08	0.18	0.40	1.56E-14	19	25	25	cortex
FAM180B	-5.36	8.28E-08	0.01	0.05	2.51E-02	13	13	13	hemisphere

CRHR1-IT1	-5.35	8.99E-08	0.11	0.27	2.01E-08	16	28	28	ypothalamus
PLEKHM1	5.33	9.69E-08	0.32	0.57	6.87E-23	30	38	38	temisphere
ARL17A	-5.32	1.02E-07	0.25	0.41	2.15E-16	22	23	23	caudate
LRRC37A2	-5.32	1.03E-07	0.13	0.51	3.58E-18	22	32	32	rontal cortex
RP11-798G7.8	-5.32	1.04E-07	0.20	0.28	5.11E-10	23	29	29	temisphere
RP11-707O23.5	-5.31	1.09E-07	0.16	0.56	3.93E-23	17	33	33	temisphere
RP11-259G18.3	-5.31	1.13E-07	0.23	0.60	8.86E-28	57	70	70	cortex
LRRC37A2	-5.29	1.19E-07	0.28	0.57	1.12E-21	25	33	33	ir cingulate cortex
ARL17A	-5.28	1.28E-07	0.27	0.48	1.33E-18	28	34	34	cortex
DND1P1	-5.28	1.31E-07	0.12	0.42	4.71E-15	17	20	20	aus accumbens
SLC39A13	-5.27	1.38E-07	0.03	0.05	2.66E-02	18	18	18	ir cingulate cortex
CRHR1-IT1	-5.23	1.67E-07	0.15	0.18	4.73E-08	24	26	26	cerebellum
CRHR1-IT1	-5.22	1.79E-07	0.22	0.41	1.04E-12	36	39	39	ippocampus
CRHR1-IT1	-5.21	1.84E-07	0.07	0.39	5.17E-13	21	35	35	ir cingulate cortex
RP11-259G18.2	-5.21	1.86E-07	0.10	0.53	4.86E-23	19	34	34	caudate
ARL17A	-5.21	1.91E-07	0.23	0.35	1.92E-10	39	43	43	putamen
SLC39A13	-5.21	1.93E-07	0.03	0.04	3.35E-02	5	5	5	caudate
RP11-259G18.2	-5.16	2.52E-07	0.20	0.52	1.35E-20	46	57	57	cortex
LRRC37A2	-5.14	2.76E-07	0.41	0.62	1.44E-23	68	79	79	ypothalamus
ARL17A	-5.14	2.76E-07	0.25	0.43	6.96E-14	41	50	50	rontal cortex
ARL17A	-5.12	3.07E-07	0.04	0.38	5.36E-13	24	31	31	ir cingulate cortex
NTN5	5.11	3.26E-07	0.04	0.04	2.28E-02	20	20	20	cortex
PLEKHM1	-5.09	3.51E-07	0.06	0.15	7.31E-05	12	12	12	ir cingulate cortex
RFC1	-5.08	3.80E-07	0.03	0.06	5.63E-03	30	30	30	cerebellum
MTCH2	-5.06	4.22E-07	0.05	0.23	1.36E-07	23	24	24	aus accumbens
LRRC37A2	-4.99	5.91E-07	0.25	0.54	3.04E-18	39	46	46	ippocampus
MTCH2	-4.99	5.99E-07	0.08	0.12	4.08E-04	22	22	22	ir cingulate cortex
LRRC37A17P	4.97	6.76E-07	0.04	0.09	7.74E-04	14	16	16	cerebellum
RP11-259G18.1	-4.97	6.76E-07	0.27	0.32	3.84E-11	34	35	35	aus accumbens
NDUFS3	-4.96	7.09E-07	0.03	0.09	3.89E-04	33	33	33	cerebellum
RPS26P8	-4.95	7.35E-07	0.13	0.28	3.84E-09	18	23	23	temisphere
MTCH2	-4.95	7.50E-07	0.06	0.14	8.06E-05	30	30	30	rontal cortex
RP11-707O23.5	-4.95	7.58E-07	0.27	0.50	4.93E-17	43	50	50	ir cingulate cortex
NDUFS3	-4.94	7.84E-07	0.16	0.12	1.35E-04	51	51	51	temisphere
FUT2	4.93	8.17E-07	0.19	0.15	1.36E-05	41	45	45	caudate
ARL17A	-4.91	9.06E-07	0.57	0.66	1.14E-29	104	117	117	temisphere
PLEKHM1	-4.90	9.37E-07	0.06	0.17	3.04E-06	12	12	12	caudate
RP11-259G18.3	-4.90	9.62E-07	0.11	0.50	9.02E-16	42	47	47	ypothalamus
LRRC37A4P	4.89	9.92E-07	0.30	0.73	1.50E-36	34	40	40	ir cingulate cortex
RP11-707O23.5	-4.89	9.95E-07	0.03	0.39	9.15E-12	18	26	26	ypothalamus
LRRC37A2	-4.89	9.99E-07	0.21	0.57	6.36E-25	25	38	38	aus accumbens
ARL17A	-4.88	1.05E-06	0.24	0.45	6.32E-14	46	52	52	ypothalamus
SULT1A1	4.88	1.06E-06	0.17	0.11	1.00E-03	46	50	50	ippocampus
PLEKHM1	-4.88	1.07E-06	0.05	0.12	2.27E-04	13	13	13	aus accumbens
LRRC37A2	-4.88	1.07E-06	0.25	0.61	3.54E-22	47	56	56	putamen