

A Genome-wide study of blood pressure in African Americans
accounting for gene-smoking interaction

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Supplementary Table 1. The summary of SNP main effects and SNP×Smoking interaction effects in HyperGEN and GENOA AAs

SNP	Chr	Position (GRCh37/hg19)	Band	Allele [#]	MAF	Overlapping Gene	Location	HyperGEN SNP beta coefficient	HyperGEN SNP P-value	GENOA SNP beta coefficient	GENOA SNP P-value	HyperGEN P SNP×Smoking	GENOA P SNP×Smoking
rs11158609	14	24688814	q12	G/A	0.079	<i>NEDD8</i>	intronic	-8.12	3.95×10 ⁻⁵	-0.09	0.954	1.20×10 ⁻⁵	0.050
rs8078051	17	72251240	q25.1	G/A	0.142	<i>TTYH2</i>	intronic	4.39	4.19×10 ⁻³	0.88	0.480	8.50×10 ⁻⁷	0.890
rs3817779	6	166905534	q27	T/C	0.136	<i>RPS6KA2</i>	intronic	-1.54	0.287	NA	NA	8.92×10 ⁻⁸	NA
rs11726022	4	188170467	q35.2	G/A	0.149		intergenic	7.63	2.85×10 ⁻⁷	-1.46	0.306	0.0830	0.355
rs1596724	4	32555853	p15.1	T/C	0.107		intergenic	-6.02	5.79×10 ⁻⁴	2.28	0.085	3.77×10 ⁻⁵	0.467
rs1792738	18	53845164	q21.31	G/A	0.091		intergenic	2.76	0.130	-1.84	0.241	3.23×10 ⁻⁷	0.423
rs8065772	17	64842925	q24.2	T/C	0.126		intergenic	-5.23	6.52×10 ⁻⁵	-0.81	0.451	5.37×10 ⁻⁴	0.065
rs1157477	18	73850510	q23	G/A	0.200	<i>LOC339298</i>	intronic	4.44	5.37×10 ⁻³	0.16	0.904	7.43×10 ⁻⁶	0.132
rs4906269	14	103362017	q32.32	C/A	0.389	<i>TRAF3</i>	intronic	1.98	0.063	NA	NA	9.14×10 ⁻⁷	NA
rs1862746	16	60462358	q21	C/A	0.413		intergenic	-2.71	0.013	-0.09	0.923	5.61×10 ⁻⁶	0.076
rs1862745	16	60462336	q21	T/C	0.416		intergenic	-2.70	0.013	0.09	0.924	6.33×10 ⁻⁶	0.197
rs1012264	2	208115003	q33.3	G/A	0.346		intergenic	4.49	1.24×10 ⁻⁴	-0.36	0.703	6.56×10 ⁻⁴	0.859
rs1028885	6	25434518	p22.2	G/A	0.421	<i>LRRC16A</i>	intronic	-6.25	1.94×10 ⁻⁵	-0.27	0.836	5.12×10 ⁻³	0.272
rs639709	5	103311439	q21.2	G/C	0.153		intergenic	4.19	8.39×10 ⁻⁵	0.20	0.827	1.18×10 ⁻³	0.991

[#]: the first allele is the effect allele, and the second allele is the reference allele.

SNP P-value: the P-value of the test for SNP main effect

P SNP×Smoking: the p-value of the 1df test for SNP×Smoking

Supplementary Table 2. The sensitivity analysis of the 2df joint test for SNP×Smoking interaction effects using alternative blood pressure adjustments for antihypertensive medications.

SNP	Band	Overlapping Gene	Location	HyperGEN *P _{adj1}	HyperGEN *P _{adj2}	HyperGEN *P _{adj3}
rs11158609	q12	<i>NEDD8</i>	intronic	9.80×10^{-9}	1.08×10^{-6}	6.09×10^{-7}
rs8078051	q25.1	<i>TTYH2</i>	intronic	6.28×10^{-8}	4.71×10^{-7}	5.17×10^{-7}
rs3817779	q27	<i>RPS6KA2</i>	intronic	2.42×10^{-7}	3.53×10^{-7}	3.29×10^{-7}
rs11726022	q35.2		intergenic	3.14×10^{-7}	7.44×10^{-7}	8.39×10^{-7}
rs1596724	p15.1		intergenic	4.06×10^{-7}	3.02×10^{-6}	7.31×10^{-6}
rs1792738	q21.31		intergenic	4.93×10^{-7}	1.03×10^{-6}	7.47×10^{-7}
rs8065772	q24.2		intergenic	6.44×10^{-7}	2.45×10^{-7}	3.27×10^{-7}
rs1157477	q23	<i>LOC339298</i>	intronic	6.66×10^{-7}	1.01×10^{-6}	8.15×10^{-7}
rs4906269	q32.32	<i>TRAF3</i>	intronic	7.53×10^{-7}	2.67×10^{-5}	2.61×10^{-5}
rs1862746	q21		intergenic	1.16×10^{-6}	1.16×10^{-5}	4.19×10^{-6}
rs1862745	q21		intergenic	1.29×10^{-6}	1.43×10^{-5}	4.66×10^{-6}
rs1012264	q33.3		intergenic	1.50×10^{-6}	7.78×10^{-6}	1.09×10^{-5}
rs1028885	p22.2	<i>LRRC16A</i>	intronic	1.64×10^{-6}	6.70×10^{-6}	6.26×10^{-6}
rs639709	q21.2		intergenic	1.72×10^{-6}	9.10×10^{-5}	4.33×10^{-5}

* P_{adj1}: for subjects taking antihypertensive medications, we added the mean effect of each drug category to SBP and DBP as described in the Methods section.

* P_{adj2}: for subjects taking antihypertensive medications, we added 10 and 5 mmHg to observed SBP and DBP respectively.

* P_{adj3}: for subjects taking antihypertensive medications, we added 15 and 10 mmHg to observed SBP and DBP respectively.