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Systolic blood pressure (UK Biobank Cardiometabolic Traits Consortium Blood Pressure Working Group, 2017)

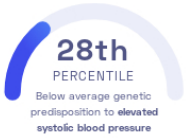
The UK Biobank Cardio-metabolic Traits Consortium Blood Pressure Working Group, et al.
Nature Genetics

Vasculature | Heart

STUDY SUMMARY

Identification of 32 novel genetic variants associated with high blood pressure.

YOUR RESULT



STUDY DESCRIPTION

High blood pressure contributes to many diseases, especially cardio*vascular* conditions such as heart attack and stroke. Genetic factors are thought to play a role in determining a person's risk of developing high blood pressure. This genome-wide association study examined over 140,000 individuals of European ancestry to identify genetic variants associated with high blood pressure. The study identified 107 variants, of which 32 were novel. Most of these genetic variants were in or near genes that are active in *vascular* tissues.

DID YOU KNOW?

Exercising regularly, maintaining a healthy weight, as well as reducing sodium and caffeine intake can help prevent high blood pressure.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to elevated systolic blood pressure we summed up the effects of genetic variants that were linked to elevated systolic blood pressure in the study that this report is based on. These variants can be found in the table below. The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to elevated systolic blood pressure. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to elevated systolic blood pressure. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to elevated systolic blood pressure. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for elevated systolic blood pressure to be 0.94**. To determine whether your score is high or low, we compared it to the scores of 5,000 other Nebula Genomics users. We found that your polygenic score for elevated systolic blood pressure is in the **28th percentile**. This means that it is higher than the polygenic scores 28% of people. We consider this to be a **below average genetic predisposition to elevated systolic blood pressure**. However, please note that genetic predispositions do not account for important non-genetic factors like lifestyle. Furthermore, the genetics of most traits has not been fully understood yet and many associations between traits and genetic variants remain unknown. For additional explanations, click on the column titles in the table below and visit our Nebula Library tutorial.

VARIANT	YOUR GENOTYPE	EFFECT SIZE	VARIANT FREQUENCY	SIGNIFICANCE
rs112184198_A	G / G	-0.66 (–)	10%	3.60×10^{-18}
rs55780018_T	T / C	-0.39 (↓)	54%	5.90×10^{-16}
rs10922502_A	G / G	-0.38 (–)	62%	2.20×10^{-15}
rs13112725_C	G / C	0.43 (↑)	76%	1.50×10^{-14}
rs3820068_A	A / G	0.42 (↑)	81%	1.10×10^{-12}
rs11643209_T	T / T	-0.34 (↓)	42%	1.80×10^{-12}
rs13238550_A	G / A	0.33 (↑)	40%	1.90×10^{-12}
rs35199222_A	G / A	0.32 (↑)	45%	5.20×10^{-12}
rs6595838_A	G / A	0.34 (↑)	30%	7.60×10^{-12}
rs9859176_T	C / T	0.32 (↑)	40%	1.30×10^{-11}
rs13420463_A	A / G	0.36 (↑)	77%	7.00×10^{-11}
rs6911827_T	C / C	0.30 (–)	45%	2.00×10^{-10}
rs9888615_T	C / C	-0.32 (–)	29%	3.50×10^{-10}
rs6487543_A	A / A	0.30 (↑)	77%	6.30×10^{-10}
rs8016306_A	A / A	0.34 (↑)	80%	3.70×10^{-9}
rs10059921_T	G / G	-0.53 (–)	8%	4.00×10^{-9}
rs78648104_T	T / T	-0.48 (↓)	92%	1.30×10^{-8}
rs1011018_A	G / G	-0.33 (–)	20%	1.50×10^{-8}
rs9549328_T	C / C	0.32 (–)	23%	1.50×10^{-8}
rs7562_T	T / T	0.26 (↑)	52%	1.90×10^{-8}
rs12941318_T	T / T	-0.27 (↓)	49%	2.50×10^{-8}
rs894344_A	A / A	-0.26 (↓)	60%	3.20×10^{-8}
rs2467099_T	C / T	-0.31 (↓)	22%	3.30×10^{-8}