

★ Low-density lipoprotein cholesterol level (Kathiresan, 2008)

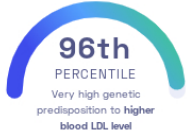
Sekar Kathiresan, et al.
Nature Genetics

Blood

STUDY SUMMARY

Identification of six new genetic variants associated with LDL and HDL cholesterol as well as triglyceride levels in the blood.

YOUR RESULT



STUDY DESCRIPTION

Lipoproteins help transport cholesterol, an essential building block of cells, in the blood. Low-density lipoprotein, LDL, is associated with accumulation of cholesterol in the blood and an increased risk of heart diseases and stroke. However, high-density lipoprotein, HDL, is linked to lower cholesterol levels as it helps remove cholesterol from your bloodstream. This study examined genetic risk factors contributing to cholesterol-related diseases. It examined a cohort of 18,554 individuals of European ancestry and identified 18 genetic variants associated with LDL, HDL, and/or *triglycerides* - a stored-form of fat within the body.

DID YOU KNOW?

To decrease risk of high cholesterol, eat heart-healthy foods (e.g. foods containing Omega-3 fatty acids), exercise, and avoid alcohol.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to higher blood LDL level we summed up the effects of genetic variants that were linked to higher blood LDL level 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 higher blood LDL level. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to higher blood LDL level. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to higher blood LDL level. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for higher blood LDL level to be 0.44**. 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 higher blood LDL level is in the **96th percentile**. This means that it is higher than the polygenic scores 96% of people. We consider this to be a **very high genetic predisposition to higher blood LDL level**. 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 [Ⓞ]
rs4420638_G	A / A	0.19 (-)	16%	1.00×10^{-60}
rs6511720_T	G / G	-0.26 (-)	10%	2.00×10^{-51}
rs11591147_T	NA	-0.47 (-)	1%	2.00×10^{-44}
rs646776_C ^{100%}	T / T	-0.16 (-)	22%	5.00×10^{-42}
rs693_A	A / A	0.12 (↑)	38%	1.00×10^{-21}
rs12654264_T	T / T	0.10 (↑)	39%	1.00×10^{-20}
rs16996148_T ^{100%}	G / G	-0.10 (-)	10%	3.00×10^{-8}

N/A indicates variants that could not be imputed using the 1000 genomes project datasets and variants that have a frequency of < 5%. Your genome was sequenced at 30x/100x coverage and is not imputed. However, to calculate percentiles, we need to compare your data with other users imputed data. To make the data comparable, we need to exclude some of the variants from your data.