

☆ Fibromuscular dysplasia (Georges, 2021)

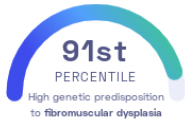
Adrien Georges, et al.
Nature Communications

Vasculature

STUDY SUMMARY

This report is based on a study that discovered 4 genetic variants associated with fibromuscular dysplasia.

YOUR RESULT



STUDY DESCRIPTION

The body's vasculature is a complex network of highways that deliver blood and other nutrients to all corners of the body. In particular, the vasculature consists of arteries and veins. Arteries carry oxygen-rich blood from the heart to the body's tissues, while veins return the blood to the heart. For some, the body's arteries can narrow or bulge, potentially causing a block or reduction in blood flow to the organs. This condition, known as fibromuscular dysplasia (FMD), can eventually lead to dizziness, chronic headaches, numbness, vision changes, and other issues. While it appears to affect women more often than men, research on the genetics of FMD is scarce. This genome-wide association study of more than 8,600 individuals of European ancestry identified 4 regions of the genome associated with FMD. Many genes located in these regions have been previously associated with the heart and vasculature. For example, LPR1 has



Veins and arteries make up our vasculature.




previously been connected to an individual's pulse pressure and propensity for experiencing migraines, among others.

DID YOU KNOW?

Obesity can take a toll on the vasculature. Studies suggest that every pound of fat requires about one extra mile of blood vessels. That extra distance places more stress on the heart, causing it to have to work harder.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to fibromuscular dysplasia we summed up the effects of genetic variants that were linked to fibromuscular dysplasia 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 fibromuscular dysplasia. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to fibromuscular dysplasia. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to fibromuscular dysplasia. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for fibromuscular dysplasia to be 2.17**. 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 fibromuscular dysplasia is in the **91st percentile**. This means that it is higher than the polygenic scores 91% of people. We consider this to be a **high genetic predisposition to fibromuscular dysplasia**. 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 [ⓘ]	GENE [ⓘ]	EFFECT SIZE [ⓘ]	VARIANT FREQUENCY [ⓘ]	SIGNIFICANCE [ⓘ]
rs9349379_A	A / A	PHACTR1	0.36 (↑)	63%	5.00×10^{-16}
rs11172113_T 	T / T	LRP1	0.29 (↑)	62%	8.00×10^{-7}
rs7301666_T 	T / T	LIMA1	0.25 (↑)	45%	3.00×10^{-6}
rs2681492_T 	T / T	ATP2B1	0.36 (↑)	84%	2.00×10^{-5}