

10/2019

☆ Aortic calcification (Malhotra, 2019)

Rajeev Malhotra, et al.
Nature Genetics

Vasculature

STUDY SUMMARY

Identification of 2 novel genetic variants associated with aortic calcification.

STUDY DESCRIPTION



The aorta is one of the main arteries in the heart that helps pump blood to the rest of the body. However, plaque called 'calum deposits' can build up around the aorta, resulting in a reduction of blood flow. This process characterizes aortic calcification, a condition that can be an indicator for a variety of other cardiovascular diseases. To gain a better understanding of genetic factors that contribute to aortic calcification, this study analyzed the genomes of over 17,000 individuals of European, African American, and Hispanic American ancestry. Two genetic variants, in HDAC9 and RAP1GAP genes, were discovered. The product of the HDAC9 gene regulates the packaging of DNA inside the cell which controls the activity of other genes. Low expression of the HDAC9 gene was associated with low aortic calcification.

DID YOU KNOW?

To reduce plaque buildup that leads to aortic calcification, doctors suggest eating a healthy diet with low saturated fats, exercising regularly, maintaining a healthy weight, practicing good dental hygiene, as well as abstaining from alcohol and drug consumption.

YOUR DETAILED RESULTS

The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to aortic calcification. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to aortic calcification. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to aortic calcification. 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 [ⓘ]	COMMENTS	EFFECT SIZE [ⓘ]	VARIANT FREQUENCY [ⓘ]	SIGNIFICANCE [ⓘ]
rs57301765_A 	G / A	HDAC9	6.07 (↑)	17%	1.30×10^{-9}
rs4664975_C 	C / T	RAP1GAP	5.55 (↑)	34%	2.80×10^{-8}