

1/2020

★ Atrial fibrillation (Okubo, 2020)

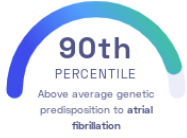
Yousaku Okubo, et al.
Heart Rhythm

Heart

STUDY SUMMARY

Prediction of atrial fibrillation risk using 5 genetic variants.

YOUR RESULT



STUDY DESCRIPTION

Atrial fibrillation (AFib) is an irregular heartbeat that is much faster than normal. It occurs when the two upper chambers of the heart beat out of sync with the lower chambers. This typically causes weakness and shortness of breath. This study sought to combine genetic and clinical factors to predict the risk of AFib in over 1000 individuals of Japanese descent. Confirming previous research, the researchers identified 5 genetic variants associated with AFib. The study determined a 4.92-fold difference in AFib risk between the highest and lowest polygenic scores that were calculated based on these variants. The risk estimate became more accurate if clinical factors were considered as well.

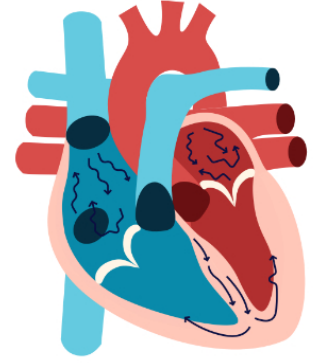
DID YOU KNOW?

The latest iterations of the Apple Watch can detect atrial fibrillation.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to atrial fibrillation we summed up the effects of genetic variants that were linked to atrial fibrillation 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 atrial fibrillation. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to atrial fibrillation. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to atrial fibrillation. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for atrial fibrillation to be 3.31**. 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 atrial fibrillation is in the **90th percentile**. This means that it is higher than the polygenic scores 90% of people. We consider this to be an **above average genetic predisposition to atrial fibrillation**. 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 [Ⓞ]
rs6817105_C	T / T	1.03 (-)	25%	4.84×10^{-13}
rs2106261_T	C / T	0.66 (↑)	25%	3.87×10^{-6}
rs6057225_A	G / A	0.68 (↑)	27%	3.76×10^{-5}
rs3903239_G	G / G	0.52 (↑)	34%	4.24×10^{-5}
rs7698692_A	A / A	0.46 (↑)	79%	2.64×10^{-4}



Atrial fibrillation results in a turbulent blood flow inside the heart.