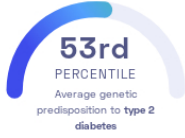


STUDY SUMMARY

Identification of a novel genetic locus associated with risk of developing type 2 diabetes.

YOUR RESULT



STUDY DESCRIPTION

Glucose, also known as blood sugar, is found in many common foods. Insulin, a *hormone* produced by the pancreas, helps the cells of the body to intake glucose from the blood and utilize it as a source of energy. Type 2 diabetes occurs when the pancreas does not produce enough insulin, or the cells of the body do not respond to insulin. This results in high blood sugar levels that can cause damage to the nerves, blood vessels, kidneys, and other organs. While environmental factors, in particular diet, are risk factors for type 2 diabetes, a susceptibility can also be inherited. This multi-ethnic genome-wide study of over 71,000 individuals identified a novel locus associated with risk of developing type 2 diabetes, bringing the total number of known loci to 10. The new variant is near the APOE gene, which helps transport fats in the blood. APOE has been previously associated with multiple other disorders, including Alzheimer's disease.

DID YOU KNOW?

It is estimated that 80% of all cases of type 2 diabetes can be prevented by adopting a healthier lifestyle. This can be achieved through a combination of dietary changes (such as less saturated fats and more fiber) and increased physical activity.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to type 2 diabetes we summed up the effects of genetic variants that were linked to type 2 diabetes 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 type 2 diabetes. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to type 2 diabetes. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to type 2 diabetes. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for type 2 diabetes to be 1.12**. 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 type 2 diabetes is in the **53rd percentile**. This means that it is higher than the polygenic scores 53% of people. We consider this to be an **average genetic predisposition to type 2 diabetes**. 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 [Ⓞ]
rs34872471_C	T / C	0.27 (↑)	28%	6.40×10^{-53}
rs11927381_C	T / T	0.13 (-)	33%	3.00×10^{-14}
rs849134_A	A / G	0.11 (↑)	53%	6.40×10^{-13}
rs13266634_C	C / C	0.11 (↑)	70%	1.40×10^{-11}
rs7766070_A	C / C	0.11 (-)	27%	1.90×10^{-11}
rs10811661_T	T / T	0.13 (↑)	82%	2.30×10^{-10}
rs9273401_G	A / A	0.15 (-)	11%	1.80×10^{-9}
rs3768321_T	G / G	0.12 (-)	19%	2.40×10^{-9}
rs157582_C ★	C / C	0.12 (↑)	77%	2.80×10^{-9}
rs9687833_A	G / G	0.11 (-)	20%	2.90×10^{-9}