

07/2009

☆ Glioma (Shete, 2009)

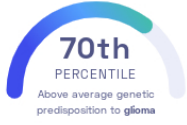
Sanjay Shete, et al.
Nature Genetics

Cancer Brain

STUDY SUMMARY

Identification of 5 risk variants associated with the development of gliomas.

YOUR RESULT

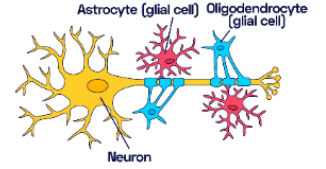


STUDY DESCRIPTION

Glial cells are found in the brain, spine, and other parts of the nervous system. The function of the glial cells is to protect and support the nervous system. Gliomas are a form of cancer that result from the uncontrolled growth of glial cells. To identify risk variants for glioma, this study examined the genetic information of over 11,000 individuals of Western European ancestry. Five variants associated with gliomas were discovered. The variants were linked to genes that play a role in maintaining genomic stability. Together, the identified variants may explain between 7 and 14% of the heritable risk of developing gliomas.

DID YOU KNOW?

Age, exposure to radiation and family history are the main risk factors for developing gliomas.



The function of glial cells is to support nerve cells.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to glioma we summed up the effects of genetic variants that were linked to glioma 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 glioma. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to glioma. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to glioma. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for glioma to be 1.16**. 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 glioma is in the **70th percentile**. This means that it is higher than the polygenic scores 70% of people. We consider this to be an **above average genetic predisposition to glioma**. 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 [Ⓞ]
rs4295627_G	T / T	0.31 (-)	17%	2.34 x 10 ⁻¹⁸
rs2736100_C	C / A	0.24 (↑)	51%	1.50 x 10 ⁻¹⁷
rs4977756_G	G / G	0.22 (↑)	40%	7.24 x 10 ⁻¹⁶
rs6010620_G	G / G	0.25 (↑)	23%	2.62 x 10 ⁻¹²
rs498872_A	G / G	0.17 (-)	31%	1.07 x 10 ⁻⁸