

## ★ Carbohydrate consumption (Meddens, 2020)

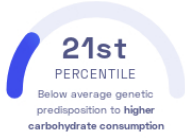
S. Fleur W. Meddens, et al.  
Molecular Psychiatry

Diet

### STUDY SUMMARY

Identification of 13 genetic variants associated with carbohydrate consumption.

### YOUR RESULT



### STUDY DESCRIPTION

Carbohydrates (carbs) are found in many foods, both healthy and unhealthy, that we regularly consume. The body breaks down carbs into glucose, a sugar that is used as an energy source. There are two types of carbohydrates: simple and complex. Simple carbs include white bread and soda. They are rapidly broken down, leading to a spike in blood sugar. Examples of complex carbs are whole-grain bread and oatmeal. Unlike simple carbs, complex carbohydrates are broken down slowly, leading to a gradual and stable increase in blood sugar. A diet high in simple carbs and low in complex carbs has been linked to diseases such as diabetes and heart disease. The genome-wide association study examined over 260,000 individuals of European ancestry and discovered 13 genetic variants associated with the intake of carbs, some of which also appear to influence the consumption of protein and fats.

### DID YOU KNOW?

Fiber is a type of carbohydrate, but the body cannot actually break it down into glucose. Though not broken down, fiber still plays an important role in supporting digestion. A diet high in fiber has also been associated with improved heart health and increased longevity. High fiber foods include beans, lentils, and broccoli.

### YOUR DETAILED RESULTS

To calculate your genetic predisposition to higher carbohydrate consumption we summed up the effects of genetic variants that were linked to higher carbohydrate consumption 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 higher carbohydrate consumption. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to higher carbohydrate consumption. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to higher carbohydrate consumption. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for higher carbohydrate consumption to be -0.01**. 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 higher carbohydrate consumption is in the **21st percentile**. This means that it is higher than the polygenic scores 21% of people. We consider this to be a **below average genetic predisposition to higher carbohydrate consumption**. 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 <sup>Ⓞ</sup>	YOUR GENOTYPE <sup>Ⓞ</sup>	EFFECT SIZE <sup>Ⓞ</sup>	VARIANT FREQUENCY <sup>Ⓞ</sup>	SIGNIFICANCE <sup>Ⓞ</sup>
rs838144_T	C / T	-0.02 (↓)	63%	$3.26 \times 10^{-17}$
rs10510554_T	T / C	0.02 (↑)	47%	$2.94 \times 10^{-12}$
rs429358_T	T / T	-0.03 (↓)	86%	$3.49 \times 10^{-12}$
rs1104608_C	G / C	0.02 (↑)	47%	$1.74 \times 10^{-10}$
rs7190396_T	T / G	0.02 (↑)	58%	$2.39 \times 10^{-10}$
rs7012637_A	G / A	0.02 (↑)	45%	$4.68 \times 10^{-10}$
rs8097672_A	A / A	0.02 (↑)	78%	$1.95 \times 10^{-9}$
rs36123991_T	G / G	0.02 (-)	12%	$8.24 \times 10^{-9}$
rs10206338_A	A / A	-0.02 (↓)	63%	$1.52 \times 10^{-8}$
rs10433500_A	A / A	0.02 (↑)	55%	$1.96 \times 10^{-8}$
rs10962121_T	T / T	-0.01 (↓)	38%	$3.40 \times 10^{-8}$
rs2472297_T	C / C	-0.02 (-)	17%	$3.73 \times 10^{-8}$
rs9987289_A	A / G	-0.03 (↓)	13%	$4.64 \times 10^{-8}$