

11/2021

## ★ Irritable bowel syndrome (Eijsbouts, 2021)

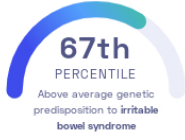
Chris Eijsbouts, et al.  
Nature Genetics

Stomach Intestines

### STUDY SUMMARY

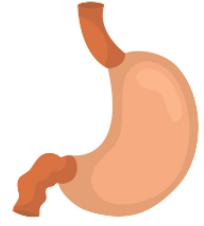
This report is based on a study that discovered 6 genetic variants associated with irritable bowel syndrome.

### YOUR RESULT



### STUDY DESCRIPTION

Irritable bowel syndrome (IBS) is a chronic condition that can cause abdominal cramping, bloating, and a change in bowel habits. Some people with the disorder have constipation, others have diarrhea, and some go back and forth between the two. Although IBS can cause a great deal of discomfort, it does not harm the intestines. Overall, IBS is a common condition thought to affect between 10 and 16% of people in the United States. This genome-wide association study of over 486,000 individuals of European ancestry sought to better understand how genetics affect an individual's predisposition to developing IBS. Researchers identified 6 regions of the genome associated with IBS, including many previously connected to anxiety. Genes located in these regions, including NCAM1, CADM2, and PHF2, suggest a deep connection between the brain and the gut.



IBS can cause extreme distress in the stomach and bowels.

### DID YOU KNOW?

While food affects everyone differently, for those with IBS, certain culinary culprits appear to be especially problematic, including alcohol, caffeine, dairy, and fried foods.

### YOUR DETAILED RESULTS

To calculate your genetic predisposition to irritable bowel syndrome we summed up the effects of genetic variants that were linked to irritable bowel syndrome 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 irritable bowel syndrome. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to irritable bowel syndrome. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to irritable bowel syndrome. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for irritable bowel syndrome to be 0.25**. 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 irritable bowel syndrome is in the **67th percentile**. This means that it is higher than the polygenic scores 67% of people. We consider this to be an **above average genetic predisposition to irritable bowel syndrome**. 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	GENE	EFFECT SIZE	VARIANT FREQUENCY	SIGNIFICANCE
rs2738155_C	G / C	BAG6	0.05 (↑)	48%	$3.88 \times 10^{-10}$
rs1248826_A	A / C	CADM2	0.05 (↑)	33%	$1.20 \times 10^{-9}$
rs10156602_A	A / G	PHF2, FAM120AOS	0.04 (↑)	63%	$4.36 \times 10^{-9}$
rs7106434_T	T / C	NCAM1	0.04 (↑)	41%	$3.19 \times 10^{-8}$
rs9513519_A	A / A	DOCK9	0.04 (↑)	62%	$3.09 \times 10^{-8}$