

☆ Barrett's esophagus (Schroder, 2022)

Julia Schröder, et al.

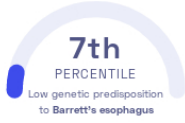
Gut

Mouth Stomach

STUDY SUMMARY

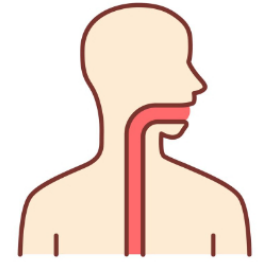
This report is based on a study that discovered 18 genetic variants associated with Barrett's esophagus.

YOUR RESULT



STUDY DESCRIPTION

The esophagus is a muscular tube that transports saliva, liquids, and food from the mouth to the stomach. Barrett's esophagus is a condition that can develop in which the lining of the esophagus becomes damaged by stomach acid, causing it to thicken and become inflamed. Because of this tissue damage, individuals with Barrett's Esophagus have a 30-125 times greater risk of developing esophageal cancer. This genome-wide association study examined over 49,000 individuals of European ancestry and identified 18 genetic variants associated with Barrett's esophagus. Among the genes linked to Barrett's esophagus were TMOD1 and GDF7. TMOD1 plays a role in maintaining attachments that allow a cell to maintain its shape, and GDF7 has an important function in the development of the nervous system.



The esophagus connects the mouth to the stomach.

DID YOU KNOW?

Men develop Barrett's esophagus twice as often as women.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to Barrett's esophagus we summed up the effects of genetic variants that were linked to Barrett's esophagus 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 Barrett's esophagus. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to Barrett's esophagus. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to Barrett's esophagus. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for Barrett's esophagus to be -0.85**. 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 Barrett's esophagus is in the **7th percentile**. This means that it is higher than the polygenic scores 7% of people. We consider this to be a **low genetic predisposition to Barrett's esophagus**. 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 [⊙]
rs622217_T NEW	C / C	SLC22A3	0.13 (-)	51%	5.35×10^{-14}
rs72760500_A NEW	G / G	NNT	0.25 (-)	6%	3.15×10^{-13}
rs3072_T NEW	C / C	GDF7	-0.11 (-)	63%	3.51×10^{-11}
rs7170896_A NEW	T / T	ALDH1A2	-0.11 (-)	45%	3.63×10^{-11}
rs7045553_T NEW	T / T	TMOD1	-0.11 (↓)	40%	2.00×10^{-10}
rs35631104_G NEW	GA / G	NR2F2	0.12 (↑)	25%	4.19×10^{-10}
rs146917555_A NEW	A / A	SATB2	-0.10 (↓)	42%	1.76×10^{-9}
rs13124203_A NEW	A / A	SPRY1	-0.13 (↓)	82%	3.09×10^{-9}
rs3950627_A NEW	A / A	FOXP1	-0.10 (↓)	53%	4.65×10^{-9}
rs199528105_G NEW	TGATGATGATG / TGATGATGATG	FOXP1	0.12 (-)	5%	8.49×10^{-9}
rs42202_A NEW	G / G	ADAMTS16	0.19 (-)	8%	9.08×10^{-9}
rs270111_A NEW	G / A	TBX5	-0.10 (↓)	44%	1.11×10^{-8}
rs848092_A NEW	G / G	SLC25A21	0.10 (-)	34%	1.76×10^{-8}
rs199620551_T NEW	G / G	CRTC1	-0.09 (-)	53%	4.33×10^{-8}
rs311642_A NEW	G / G	ARL15	0.12 (-)	16%	4.14×10^{-8}