

# ☆ Gastroesophageal reflux disease (An, 2019)

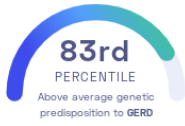
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Nature Communications

Stomach Cancer

## STUDY SUMMARY

Identification of 25 genetic loci that are associated with an increased risk of gastroesophageal reflux disease.

### YOUR RESULT



### STUDY DESCRIPTION

Gastroesophageal reflux disease (GERD) occurs when stomach acid flows up into the esophagus, or food pipe. This acid irritates the lining of the esophagus, and over time can lead to an increased risk of esophageal cancer. While nearly a third of an individual's risk of developing GERD is believed to be heritable, no genetic loci that are linked to GERD have been identified to date. This genome-wide association study of more than 385,000 individuals of primarily European ancestry found 25 genetic variants that correlate with an increased risk of developing GERD. Of these, over 90% also correlate with an increased risk of esophageal cancer.

### DID YOU KNOW?

Lying down immediately after eating may trigger GERD symptoms. Wait 2 to 3 hours after eating before taking that nap!

### YOUR DETAILED RESULTS

To calculate your genetic predisposition to GERD we summed up the effects of genetic variants that were linked to GERD 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 GERD. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to GERD. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to GERD. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for GERD to be 0.00**. 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 GERD is in the **83rd percentile**. This means that it is higher than the polygenic scores 83% of people. We consider this to be an **above average genetic predisposition to GERD**. 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> |
|----------------------|----------------------------|--------------------------|--------------------------------|---------------------------|
| rs34796998_C         | C / G                      | -0.04 (↓)                | 60%                            | 2.98 × 10 <sup>-11</sup>  |
| rs4362541_A          | A / T                      | 0.04 (↑)                 | 19%                            | 3.38 × 10 <sup>-10</sup>  |
| rs10940767_T         | T / A                      | -0.04 (↓)                | 46%                            | 3.45 × 10 <sup>-10</sup>  |
| rs7652188_T          | C / C                      | 0.04 (-)                 | 22%                            | 3.76 × 10 <sup>-10</sup>  |
| rs809955_G           | G / G                      | 0.04 (↑)                 | 63%                            | 4.69 × 10 <sup>-10</sup>  |
| rs4676893_A          | A / T                      | 0.04 (↑)                 | 31%                            | 5.24 × 10 <sup>-10</sup>  |
| rs1363119_A          | A / A                      | 0.04 (↑)                 | 45%                            | 5.81 × 10 <sup>-10</sup>  |
| rs9266237_G          | G / C                      | -0.04 (↓)                | 37%                            | 1.46 × 10 <sup>-9</sup>   |
| rs7609078_G          | G / A                      | 0.04 (↑)                 | 63%                            | 2.54 × 10 <sup>-9</sup>   |
| rs12974777_C         | C / C                      | 0.04 (↑)                 | 63%                            | 6.92 × 10 <sup>-9</sup>   |
| rs597808_A           | A / G                      | 0.03 (↑)                 | 48%                            | 1.33 × 10 <sup>-8</sup>   |
| rs1937450_T          | G / G                      | -0.03 (-)                | 46%                            | 1.63 × 10 <sup>-8</sup>   |
| rs11171710_G         | G / G                      | -0.03 (↓)                | 55%                            | 1.80 × 10 <sup>-8</sup>   |
| rs12706746_G         | A / A                      | -0.03 (-)                | 67%                            | 1.98 × 10 <sup>-8</sup>   |
| rs11901649_G         | G / G                      | 0.03 (↑)                 | 55%                            | 2.14 × 10 <sup>-8</sup>   |
| rs4721096_T          | C / C                      | -0.04 (-)                | 18%                            | 2.24 × 10 <sup>-8</sup>   |
| rs7763910_A          | G / G                      | -0.04 (-)                | 41%                            | 2.41 × 10 <sup>-8</sup>   |
| rs10242223_A         | A / G                      | 0.03 (↑)                 | 33%                            | 2.54 × 10 <sup>-8</sup>   |
| rs72771256_G         | G / A                      | 0.04 (↑)                 | 80%                            | 2.96 × 10 <sup>-8</sup>   |
| rs1297211_C          | G / G                      | 0.03 (-)                 | 49%                            | 3.64 × 10 <sup>-8</sup>   |
| rs7613875_C          | C / C                      | -0.03 (↓)                | 45%                            | 3.67 × 10 <sup>-8</sup>   |
| rs10228350_A         | A / T                      | -0.03 (↓)                | 57%                            | 3.87 × 10 <sup>-8</sup>   |
| rs12792379_G         | G / G                      | -0.04 (↓)                | 78%                            | 3.91 × 10 <sup>-8</sup>   |
| rs74652506_C         | C / C                      | -0.05 (↓)                | 87%                            | 4.16 × 10 <sup>-8</sup>   |
| rs7282609_A          | A / A                      | -0.03 (↓)                | 69%                            | 4.18 × 10 <sup>-8</sup>   |