

8/2019

## ★ Longevity (Deelen, 2019)

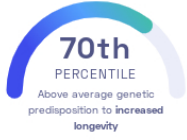
Joris Deelen, et al.  
Nature Communications

Aging

### STUDY SUMMARY

Identification of multiple genetic variants associated with human longevity.

#### YOUR RESULT



#### STUDY DESCRIPTION

The average human lifespan has increased significantly over the past two centuries. However, genetic factors that determine human longevity are not well understood. Using a novel grouping strategy by country, sex, and birth-year, this study examined 10,000 people who have lived longer than their peers and identified multiple genetic variants associated with a longer lifespan. One such variant is in the ApoE gene, which plays an important role in maintaining healthy levels of fats within the body by transporting them in the bloodstream. Furthermore, this study identified genetic links between health and longevity, revealing that human longevity is correlated with decreased risk of coronary artery disease and type 2 diabetes.

#### DID YOU KNOW?

According to a 2011 study, 15 minutes of exercise a day may lead to an increase in life expectancy.

#### YOUR DETAILED RESULTS

To calculate your genetic predisposition to increased longevity we summed up the effects of genetic variants that were linked to increased longevity 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 increased longevity. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to increased longevity. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to increased longevity. By adding up the effect sizes of the highlighted variants we calculated your polygenic score for increased longevity 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 increased longevity 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 increased longevity**. 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>
rs429358_C	T / T	-0.51 (-)	13%	$1.00 \times 10^{-61}$
rs7412_T	C / C	0.23 (-)	9%	$1.70 \times 10^{-12}$
rs2069837_G	A / A	-0.11 (-)	9%	$1.40 \times 10^{-8}$