

## ★ Healthspan (Timmers, 2020)

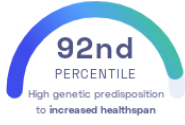
Paul Timmers, et al.  
Nature Communications

Aging

### STUDY SUMMARY

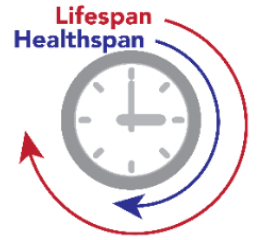
Identification of 10 genetics variants associated with healthspan, or the number of years in good health.

#### YOUR RESULT



#### STUDY DESCRIPTION

Aging is an inevitable part of life. While we may all want to live longer, we don't want our final years to be defined by sickness. Though many people are familiar with "lifespan", or the length of time that someone lives, fewer are familiar with the term "healthspan". Healthspan refers to the length of time that an individual lives in good health, free of chronic diseases commonly associated with aging. These include heart disease, Alzheimer's disease, diabetes, and various forms of cancer. While the average lifespan in the United States is about 79 years, the average healthspan is only 63 years. To identify genetic factors associated with healthspan, this genome-wide association study examined over 300,000 individuals of European ancestry. The study found 10 genetic variants, that influence not only healthspan but also parental lifespan and longevity.



The average healthspan is unfortunately much shorter than the average lifespan.

#### DID YOU KNOW?

Dietary choices earlier in life matter for healthy aging. Maintaining healthy body weight and meeting nutritional requirements lessens the risk of many chronic diseases.

#### YOUR DETAILED RESULTS

To calculate your genetic predisposition to increased healthspan we summed up the effects of genetic variants that were linked to increased healthspan 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 healthspan. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to increased healthspan. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to increased healthspan. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for increased healthspan to be 0.36**. 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 healthspan is in the **92nd percentile**. This means that it is higher than the polygenic scores 92% of people. We consider this to be a **high genetic predisposition to increased healthspan**. 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_T	T / T	0.01 (↑)	85%	$1.00 \times 10^{-126}$
rs10455872_A	A / A	0.06 (↑)	93%	$4.00 \times 10^{-30}$
rs7859727_C	C / C	0.03 (↑)	51%	$4.00 \times 10^{-18}$
rs61905747_A <sup>NEW</sup>	A / A	0.03 (↑)	82%	$4.00 \times 10^{-10}$
rs6511720_T	G / G	0.01 (-)	12%	$4.00 \times 10^{-9}$
rs12830425_G <sup>NEW</sup>	T / T	0.04 (-)	7%	$8.00 \times 10^{-9}$
rs1159806_T <sup>NEW</sup>	A / A	0.01 (-)	35%	$1.00 \times 10^{-8}$
rs4783780_A	A / C	0.02 (↑)	53%	$1.00 \times 10^{-8}$
rs2643826_C <sup>NEW</sup>	C / C	0.02 (↑)	56%	$4.00 \times 10^{-8}$
rs17499404_A <sup>NEW</sup>	A / A	0.02 (↑)	54%	$4.00 \times 10^{-8}$