

★ Hay fever and asthma (Ferreira, 2013)

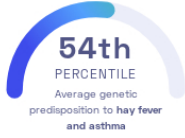
Manuel A. R. Ferreira, et al.  
Journal of Allergy and Clinical Immunology

Lungs Allergy

STUDY SUMMARY

The same genetic variants are associated with hay fever and asthma.

YOUR RESULT



STUDY DESCRIPTION

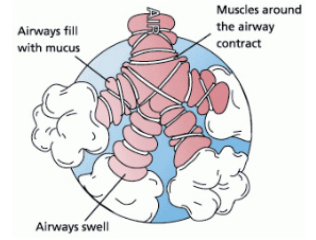
Asthma is a condition in which your airways produce extra mucus and constrict, making it difficult to breathe. Hay fever is also known as seasonal allergies. Common symptoms include watery eyes, sneezing, and a runny nose. Previous studies have determined that asthma is often associated with hay fever. Therefore, this study attempted to find genetic variants that are associated with both diseases by performing a meta-analysis of these previous studies. 6,686 people diagnosed with asthma and hay fever were compared with 14,091 people who had neither disease. The study found that genetic variants associated with asthma and hay fever are also linked to *eczema* and multiple autoimmune diseases.

DID YOU KNOW?

According to numerous studies, exposure to antigens (a substance that induces an immune response) during childhood decreases the risk of developing allergies later in life.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to hay fever and asthma we summed up the effects of genetic variants that were linked to hay fever and asthma 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 hay fever and asthma. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to hay fever and asthma. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to hay fever and asthma. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for hay fever and asthma to be 1.93**. 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 hay fever and asthma is in the **54th percentile**. This means that it is higher than the polygenic scores 54% of people. We consider this to be an **average genetic predisposition to hay fever and asthma**. 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	EFFECT SIZE	VARIANT FREQUENCY	SIGNIFICANCE
rs9273373_G	A / G	0.22 (↑)	54%	4.00 x 10 <sup>-14</sup>
rs4833095_T	T / T	0.18 (↑)	74%	5.00 x 10 <sup>-12</sup>
rs1438673_C	T / T	0.15 (-)	49%	3.00 x 10 <sup>-11</sup>
rs10197862_A	A / A	0.22 (↑)	85%	4.00 x 10 <sup>-11</sup>
rs2155219_T	G / G	0.15 (-)	48%	5.00 x 10 <sup>-11</sup>
rs7212938_G	G / T	0.15 (↑)	46%	4.00 x 10 <sup>-10</sup>
rs1837253_C	T / C	0.16 (↑)	71%	1.00 x 10 <sup>-9</sup>
rs72699186_T	A / A	0.23 (-)	15%	2.00 x 10 <sup>-9</sup>
rs7009110_T	T / C	0.13 (↑)	36%	4.00 x 10 <sup>-9</sup>
rs17294280_G	A / G	0.17 (↑)	23%	4.00 x 10 <sup>-9</sup>
rs62026376_C	C / C	0.16 (↑)	72%	1.00 x 10 <sup>-8</sup>