

★ Asthma-COPD overlap syndrome (John, 2021)

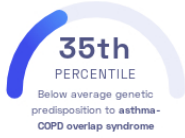
Catherine John, et al.
Chest

Inflammation Lungs

STUDY SUMMARY

This report is based on a study that discovered 8 novel genetic variants associated with asthma-COPD overlap syndrome.

YOUR RESULT



STUDY DESCRIPTION

Asthma is a long-term disease of the lungs. It causes the airways to get inflamed and narrow, which makes it hard to breathe. Chronic obstructive pulmonary disease (COPD) describes a collection of lung diseases that cause breathing problems due to an obstructed airflow. Most people with asthma will not develop COPD, and many people with COPD don't experience asthma. However, some people are susceptible to developing both diseases at once. This condition, known as asthma-COPD overlap syndrome, can seriously affect an individual's ability to breathe, with symptoms worse than either asthma or COPD alone. To discover genetic variants that may contribute to an individual's susceptibility to developing asthma-COPD overlap syndrome, this study examined over 48,000 individuals of European ancestry. The researchers identified 8 genetic variants that have not been described

previously. One such variant was located inside the TSLP gene which encodes a protein that plays a role in inflammation. The variant has previously been associated with asthma, suggesting asthma and asthma-COPD overlap syndrome may have related causes.

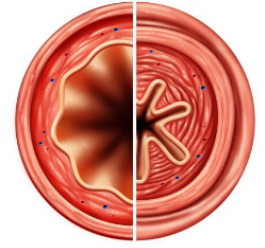
DID YOU KNOW?

An average person can breathe 13 pints of air every minute.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to asthma-COPD overlap syndrome we summed up the effects of genetic variants that were linked to asthma-COPD overlap syndrome 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 asthma-COPD overlap syndrome. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to asthma-COPD overlap syndrome. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to asthma-COPD overlap syndrome. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for asthma-COPD overlap syndrome to be 0.28**. 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 asthma-COPD overlap syndrome is in the **35th percentile**. This means that it is higher than the polygenic scores 35% of people. We consider this to be a **below average genetic predisposition to asthma-COPD overlap syndrome**. 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 [Ⓞ]
rs9273410_A NEW	C / C	HLA-DQB1	0.18 (-)	45%	9.19×10^{-28}
rs1837253_C NEW	T / T	TSLP	0.15 (-)	74%	1.63×10^{-18}
rs3749833_C NEW	T / T	C6orf56	0.11 (-)	26%	9.37×10^{-12}
rs16903574_G NEW	C / C	FAM105A	0.18 (-)	8%	3.80×10^{-10}
rs6787279_C NEW	T / T	IL17RD	-0.12 (-)	17%	7.87×10^{-9}
rs2584662_C NEW	A / A	PHB	-0.08 (-)	42%	2.21×10^{-8}



The bronchial tubes become constricted during asthma.