

8/2020

★ Male breast cancer (Maguire, 2020)

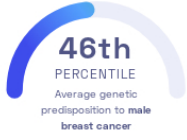
Sarah Maguire, et al.
Journal of the National Cancer Institute

Breasts Cancer

STUDY SUMMARY

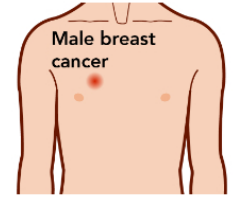
Discovery of 3 novel regions of the genome associated with male breast cancer.

YOUR RESULT



STUDY DESCRIPTION

Breast cancer is a disease where cells in the breast grow out of control. Though breast cancer is commonly considered a disease that only affects females, males can also be diagnosed with breast cancer. In all, roughly 1 in 800 males will be diagnosed with breast cancer during their life. While many aspects of female and male breast cancer are similar, it is not well understood whether both types of breast cancer share the same genetic risk factors. This genome-wide association study examined nearly 7,000 individuals of European ancestry to better understand the genetic factors associated with breast cancer in males. The study identified 3 novel genomic regions associated with the disease. Notably, these regions have also been linked to the risk of breast cancer in females.



Although breast cancer is much more common in women, men can develop it as well.

DID YOU KNOW?

Male breast cancer is typically diagnosed at later stages than breast cancer in females. Many men do not realize that the condition can affect them, and as a result, do not seek medical treatment as quickly when symptoms arise.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to male breast cancer we summed up the effects of genetic variants that were linked to male breast cancer 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 male breast cancer. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to male breast cancer. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to male breast cancer. By adding up the effect sizes of the highlighted variants we calculated your polygenic score for male breast cancer to be **0.81**. 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 male breast cancer is in the **46th percentile**. This means that it is higher than the polygenic scores 46% of people. We consider this to be an **average genetic predisposition to male breast cancer**. 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
rs1022979_A	T / T	0.47 (-)	19%	1.53×10^{-16}
rs78540526_T	C / C	0.48 (-)	6%	1.06×10^{-11}
rs35850695_A	G / A	0.34 (†)	22%	1.67×10^{-11}
rs3757322_G	T / T	0.23 (-)	34%	6.23×10^{-9}
rs9383938_T	G / G	0.47 (-)	11%	1.63×10^{-8}
rs2183271_C	T / C	0.20 (†)	40%	2.69×10^{-7}
rs4407020_G	T / G	0.27 (†)	27%	4.51×10^{-7}