

Potential genetic prostate cancer variation found

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Scientists have linked a common genetic variation to the development of prostate cancer, according to a study published Monday.

The variation occurs in a gene known for its role in prostate function, according to researchers at the US National Cancer Institute (NCI), who now believe a small change in the gene's DNA impacts the risk of [prostate cancer](#).

Previous studies have identified a region of chromosome 10 that is involved in prostate cancer risk. But the NCI study, published in the [Proceedings of the National Academy of Sciences](#), went further by explaining the biological mechanism that makes the risk more elevated for some individuals.

"This important finding about biological function associated with prostate cancer risk demonstrates the power of genome-wide association studies to provide new and unexpected insights into the genetic underpinnings of cancer etiology," said Joseph Fraumeni, director of the NCI Division of Cancer Epidemiology and Genetics.

Differences in individuals' DNA sequencing have been linked to an increased risk of certain diseases, including prostate cancer.

Now researchers have investigated how the most common type of these genetic variations -- a single-nucleotide polymorphism (SNP) -- could be related to developing prostate cancer and the functioning of the MSMB

gene.

The MSMB gene produces a protein which is a potential indicator of the cancer and may also suppress tumors.

Two recent studies have identified SNP gene variations located in a region of chromosome 10 that plays a role in the expression of MSMB gene.

Previous studies had found that MSMB expression progressively declines as prostate cancer develops from its early to late stages.

For the new study, the researchers found a strong association of the SNP with prostate cancer.

They came to their conclusion after comparing a region of chromosome 10 that included the SNP variation and MSMB in blood samples from 6,118 men with prostate cancer and 6,105 men without the cancer.

Prostate cancer, the second leading cause of cancer deaths in men in the United States, is also the most common cancer in men after skin cancer.

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