

# Gene linked to schizophrenia may reduce cancer risk

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People who inherit a specific form of a gene that puts them on a road to schizophrenia may be protected against some forms of cancer, according to a new study by scientists at The Feinstein Institute for Medical Research.

The MET proto-oncogene is activated in a variety of tumor malignancies. The gene has recently also been linked to [autism](#) and has a role in neurodevelopment, which is why Katherine E. Burdick, PhD and her colleagues decided to look for a relationship between MET and schizophrenia in their large sample of patients. Such an association may help explain the family-based data that suggest that inheriting an enhanced risk for schizophrenia reduces one's chances of developing cancer.

In a study published in the [American Journal of Psychiatry](#), Dr. Burdick and colleagues examined the relationship between 21 single-nucleotide polymorphisms (SNPs) in MET and schizophrenia in 173 patients and 137 normal volunteers. They found that several varieties of MET influenced the risk for schizophrenia, as well as general cognitive ability. The authors were able to replicate their findings in a second sample of 107 patients and 112 healthy volunteers. "The results add to the growing evidence suggesting an intriguing relationship between cancer-related [genes](#) and schizophrenia susceptibility," the scientists wrote.

It remains unclear exactly how the gene actually may increase the risk for schizophrenia while protecting against some forms of cancer.

However, evidence from research on MET in autism provides some insight. Specifically, it is known that MET is activated (increased activity) when tumors develop and can increase the chance that [cancer cells](#) multiply and infiltrate other tissue.

The activation of MET during normal neurodevelopment is critical to ensure that neurons grow and migrate to position themselves correctly in the human cortex. In autism, it appears that while the brain is developing, reduced MET activity results in structural and functional changes in the brain that may increase a person's risk for developing the disorder. The Feinstein investigators speculate that the same risk-inducing mechanism may be at play in its link to [schizophrenia](#).

Provided by North Shore-Long Island Jewish Health System

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