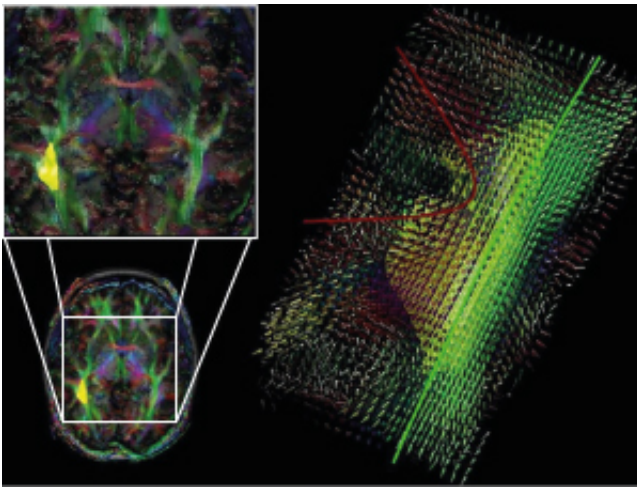


Researchers identify over 100 locations on the human genome associated with schizophrenia risk

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A large number of the schizophrenia-associated genes identified in the study are enriched in the brain, while some are connected with the immune system. Credit: Sim Kang, Institute of Mental Health

An international consortium has combined data from 150,000 people around the globe to shed light on genetic risk factors for schizophrenia, a debilitating psychotic disorder.

A*STAR researchers, and their collaborators at the Institute of Mental Health (IMH) in Singapore, contributed to the study by the Schizophrenia Working Group of the Psychiatric Genomics Consortium,

which lead to the discovery of 108 regions in the human genome where genetic variations may influence the risk of developing [schizophrenia](#).

Schizophrenia is a distressing psychological disorder, which predominantly affects young people and can run in families. However, there has been limited progress in uncovering the [genetic risk factors](#) associated with schizophrenia despite numerous international studies. Consequently, the development of new antipsychotic compounds have been hampered by a lack of pathophysiological understanding.

"The schizophrenia research community recognized recently that the only way to make a real genetic breakthrough was to perform a large-scale genomic study, combining numerous samples from different nationalities around the world," explains study investigator Jianjun Liu of the A*STAR Genome Institute of Singapore. "It was a real challenge for scientists to give up their own individual studies and join a large collaborative effort. But, like many others, we now believe this is the only way to achieve significant results."

The consortium brought together genetic data collected from over 150,000 people across the globe, around 37,000 of whom were known schizophrenia sufferers. The researchers uncovered 128 schizophrenia associations at 108 regions on the [human genome](#), 83 of which had not previously been reported in connection with schizophrenia. Many of the genes pinpointed can be found in the brain, but some are linked to tissues that play an important role in immunity (see image). This adds considerable weight to the speculation that schizophrenia is somehow connected to a defective immune system.

The team at A*STAR and IMH offered a unique dataset to the project, as Liu explains: "Our sample was one of the few samples from Asia and the only one from the Southeast Asian region. We recruited about 1,000 [schizophrenia patients](#) and 1,000 healthy controls. A*STAR's high-

throughput genotyping platform, and computational expertise, were invaluable in helping us perform whole genome analysis on all of these samples."

More information: "Schizophrenia Working Group of the Psychiatric Genomics Consortium. Biological insights from 108 schizophrenia-associated genetic loci." *Nature* 511, 421–427 (2014).

[dx.doi.org/10.1038/nature13595](https://doi.org/10.1038/nature13595)

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