

Autism shares gene expression pathways with schizophrenia and bipolar disorder

Gene expression patterns in the brains of people with autism are similar to those of people who have schizophrenia or bipolar disorder, according to a large study of postmortem brain tissue. The findings appear [Feb. 8] in *Science*.

All three conditions show an activation of genes in star-shaped brain cells called astrocytes, and suppression of genes that function at synapses, the junctions between neurons. The autism brains also show a unique increase in the expression of genes specific to immune cells called microglia.

“This study demonstrates for the first time that [gene expression] can be used to robustly define cross-disorder phenotypes that are shared and distinct,” says lead investigator Daniel Geschwind, professor of neurology, psychiatry and human genetics at the University of California, Los Angeles. “And these phenotypes are related to the molecular and cellular pathways that likely have gone awry.”

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The analysis revealed that autism, schizophrenia and bipolar brains show low levels of gene expression in three modules characteristic of neurons.

Two of these modules are important for neuronal communication; the other one is involved in the function of mitochondria, which generate energy for cells.

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“This is starting to pinpoint some of the common pathways,” says Tomasz Nowakowski, assistant professor of anatomy at the University of California, San Francisco, who was not involved in the study.

Read full, original post: [Autism Shares Brain Signature with Schizophrenia and Bipolar Disorder](#)