

NEWS

Researchers look for overlap in expression of autism genes

BY EMILY SINGER

16 OCTOBER 2012

Target, cerebellum: Combining information from databases of gene expression and autism candidate genes points to the cerebellum (yellow.)

Target, cerebellum: Combining information from databases of gene expression and autism candidate genes points to the cerebellum (yellow.)

An analysis of the expression patterns of 26 autism candidate genes identifies 4 genes whose expression coincides in a part of the cerebellum, according to research presented Monday at the **2012 Society for Neuroscience annual meeting** in New Orleans.

Partha Mitra, professor of neuroscience and theoretical biology at Cold Spring Harbor Laboratory in New York, and his collaborators started with a subset of genes identified as autism risk genes in **AutDB**, a curated database. AutDB was developed by **MindSpec, Inc.** and licensed to the **Simons Foundation**, SFARI.org's parent organization, as **SFARI Gene**.

Using **gene expression data** from the **Allen Mouse Brain Atlas**, the researchers looked for spatial overlaps in the expression patterns of these genes.

Overall, they found that the expression pattern of the autism-linked genes is more similar than that of 3,000 other genes in the brain atlas.

In particular, the researchers found four autism-linked genes — **PTCHD1**, **GALNT13**, **DPP6** and **ASTN2** — whose expression patterns overlap significantly in part the cerebellum, a brain region that regulates movement and other functions. The cerebellum has also been **implicated in autism**.

Using this approach to home in on specific brain regions may help link autism genes to neural mechanisms, Mitra says. Two Yale University researchers, **Matthew State** and **Nenad Sestan**, have **proposed a similar approach**.

The researchers identified a network of other genes, which are not included in AutDB, that also share this expression profile. Mitra says he hopes other researchers will begin to explore these genes for a possible link to autism.

For more reports from the 2012 Society for Neuroscience annual meeting, please [click here](#).