

NEWS

Video: Connecting astrocytes to autism

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The great majority of researchers studying the neuroscience of autism focus on neurons, brain cells that pass messages to each other via chemical and electrical signals. That makes sense, as many genes linked to the disorder function at the **synapse**, or junction between neurons.

But neurons make up just ten percent of cells in the human brain. The rest, called glia — from the Greek word for glue — were for decades thought of simply as support cells for neurons.

In the past few years, however, researchers have discovered that glia play a direct role in cell communication and are involved in many brain disorders, including **autism-related syndromes**.

Take, for example, the star-shaped glia called astrocytes, which wrap themselves around synapses. In 2005, **Ben Barres**'s team at Stanford University showed that developing neurons must be **in the presence of astrocytes** (or the chemicals they secrete) in order to form synapses. "Glia are literally acting as an on/off switch for synapse formation," Barres says.

SFARI.org sat down with Barres on Saturday morning at the **2012 Society for Neuroscience annual meeting** in New Orleans. Barres talked about a new project in which he and colleague **Ricardo Dolmetsch** are studying **astrocytes in culture by reprogramming stem cells** from children with autism.