

CROSS TALK

Can we ‘see’ autism in the brain?

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An autism diagnosis is based on behavior. But identifying a brain signature for the condition could help support diagnosis and even provide an early **biomarker** of the condition.

Knowing autism’s imprints in the brain may also shed light on biological mechanisms and point to targets for treatments. These imprints may be structural features or patterns of brain activity. Researchers can visualize both using magnetic resonance imaging (MRI).

But despite the decades of work, no one has found a characteristic brain structure or pattern of brain activity unique to autism. Brain imaging studies have turned up conflicting results, and few findings have been replicated. We asked five brain-imaging experts what they make of the lack of a solid result in this area. Is there a brain signature unique to autism, and if so, how might researchers find it? Here are their responses.

Evdokia Anagnostou

Senior scientist, Holland Bloorview Kids Rehabilitation Hospital

A look across conditions may reveal brain correlates of behavior

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Christine Wu Nordahl

Associate professor of psychiatry and behavioral sciences, University of California, Davis MIND Institute

We need to study a broader spectrum — and then break it up

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Alessandro Gozzi

Senior Researcher ,the Instituto Italiano di Tecnologia

Mouse models of autism lack common brain features

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Ralph-Axel Müller

Professor of psychology, San Diego State University

Analyses of autism groups have inherent flaws

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Ruth Carper

Associate research professor, San Diego State University

The signature is there but may be hard to see

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