NEWS

Genetics: Two families link new gene to autism

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Stick together: A protein that may connect neurons in the brain is mutated in two families with autism and learning disability.

Researchers have narrowed down a genetic region associated with autism to one protein, **cadherin 8**, that helps bind cells together, according to a study published online in October in the *Journal of Medical Genetics*. This is the first time CDH8, the gene that encodes this protein, has been associated with autism.

The chromosomal region 16q21 has been linked to both autism and learning disability, and has a 96 percent chance of containing an autism-linked gene, previous reports have found.

In the new study, researchers found a mutation in CDH8 — one of only five potential genes in this region — in three brothers with autism, but not in their four unaffected siblings, suggesting a strong association with the disorder.

Looking at 80 Italian children with learning disability, the same team identified a mutation in CDH8 in one individual. The child's father and brother also have the mutation and a history of learning impairment. The family does not show any signs of autism, however, suggesting that CDH8 may be primarily associated with learning disability.

The team did not find any mutations in CDH8 in 5,023 controls without autism or learning disability, culled from other studies.

Other members of the cadherin family, **CDH9 and CDH10**, have also been linked to autism. Cadherins help bind neurons together and can regulate the connections, called synapses, between neurons. Several proteins that **function at the synapse** are implicated in autism.

CDH8 is also likely to function in the brain. The researchers found evidence of CDH8 gene expression in the cerebral cortex of fetal brains, the same region in which CDH10 is expressed.