

Mutant gene linked to ADHD

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(PhysOrg.com) -- In a recent study published in *Nature Medicine*, Dr. Eunjin Kim from the Korea Advanced Institute of Science and Technology uncovers a genetic fault that triples the chances of a child having ADHD (Attention Deficit Hyperactivity Disorder). Their research identifies the gene GIT1 (G protein-coupled receptor kinase-interacting protein - 1) and the fact that a mutation changing just one letter in the code affects a brain protein that works to balance inhibition and excitability.

ADHD is a common childhood disorder which leaves children with difficulty paying attention and staying focused. They find it difficult to control behavior and tend to be over-active. The current treatment for ADHD is with stimulant medication. While the idea of treating hyperactivity with a stimulant may sound the opposite of what you would think, the stimulant actually has a calming effect on children with ADHD. The most common treatment currently used is the medication Ritalin.

The researchers, led by Kim, examined different parts of [genetic code](#) that affect brain neurons. When they identified GIT1, they studied the gene within 388 Korean children, 192 of which had ADHD. It was here they discovered that GIT1 was a key component of ADHD. They moved to testing on mice, and found that when the GIT1 gene was affected, the mice exhibited ADHD traits such as hyperactivity. The researchers administered Ritalin to the mice and their symptoms went back to normal.

The faulty section of DNA was found in a gene that previous research had found no function for. Researchers hope that further study with this mutant gene and possible others may lead to the development of new drugs to directly target [ADHD](#).

More information: The *Nature Medicine* report will be available at [dx.doi.org/10.1038/nm2330](https://doi.org/10.1038/nm2330)

ADHD info: [www.nimh.nih.gov/health/public ... complete-index.shtml](http://www.nimh.nih.gov/health/public...complete-index.shtml)

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