

# New genetic candidates for irritable bowel syndrome discovered

May 4 2010

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Most people associate serotonin with brain neurology, but over 95 percent of the body's serotonin occurs in the gastrointestinal tract, which has a complex neuronal circuit that has been called "the second brain" of the body. Now a Mayo Clinic research team has identified a number of genetic variants in serotonin genes that impact irritable bowel syndrome or IBS. The findings are being presented today at Digestive Disease Week 2010 in New Orleans.

IBS is one of the most common chronic disorders of the digestive tract. It can cause years of discomfort or pain and altered bowel habits, limit a person's personal and professional life, and cost millions nationally in medical costs and loss of time from work or school.

"It's been known that some drugs that alter serotonin levels in the body also have an effect on motility, thus prompting IBS-like symptoms, but the genetic and [molecular mechanism](#) for IBS was unclear," says Yuri Saito, M.D., Mayo Clinic gastroenterologist and presenter of the study. "A number of studies had looked at a few polymorphisms and a handful of genes."

The Mayo team used high throughput technology to study nearly 400 tagged single-nucleotide polymorphisms (SNPs) in over 20 serotonin-related genes.

Using a familiar analogy, Dr. Saito says, "Rather than sending out a few patrol cars to look for culprits by rounding up 'the usual suspects,' we

launched a genetic dragnet that took an objective, unbiased look at a broader range of possibilities." They found a number of previously unknown IBS associations. The conclusion: Many more serotonin-related SNPs were implicated in IBS than first thought. The implicated genes relate to [serotonin](#) synthesis, metabolism and receptors. The researchers also found IBS may be caused by multiple genes -- not just one or a few -- and there may be distinct as well as overlapping molecular mechanisms that cause diarrhea and constipation, two major symptoms of IBS.

The findings offer future researchers specific targets for drug development or other therapies to combat IBS.

Provided by Mayo Clinic

Citation: New genetic candidates for irritable bowel syndrome discovered (2010, May 4) retrieved 23 April 2024 from <https://medicalxpress.com/news/2010-05-genetic-candidates-bowel-syndrome.html>

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