REUTERS

Scientists find gene linked to alcohol consumption

By [**Kate Kelland**](http://blogs.reuters.com/search/journalist.php?edition=uk&n=kate.kelland&)

**LONDON** | Mon Apr 4, 2011 8:39pm BST

LONDON(Reuters) - Scientists have identified a gene that appears to play a role in regulating how much alcohol people drink and say their finding could help the search for more effective treatments for alcoholism and binge drinking.

In a study of more than 47,000 people, an international team of scientists found that people who have a rarer version of a gene called AUTS2 drink on average 5 percent less alcohol than people with the more common version.

Market Report

The AUTS2 gene, also known as called "autism susceptibility candidate 2" has previously been linked to autism and attention deficit hyperactivity disorder (ADHD), but its actual function is not clear, the researchers said.

"Of course there are a lot of factors that affect how much alcohol a person drinks, but we know...that genes play an important role," said Paul Elliott of Imperial College London, who was part of the team conducting the study.

"The difference this particular gene makes is only small, but by finding it we've opened up a new area of research."

According to the World Health Organization, harmful use of alcohol results in 2.5 million deaths a year globally.

It is the world's third largest risk factor for causing diseases such as neuropsychiatric disorders like alcoholism and epilepsy, as well as cardiovascular disease, cirrhosis of the liver and various forms of cancer.

Gunter Schumann from the Institute of Psychiatry at King's College London said combining genetic studies and behavioral data should help scientists better understand the biological basis of why people drink, some of them to excess.

"This is an important first step toward the development of individually targeted prevention and treatments for alcohol abuse and addiction," he said.

In their study, published in the Proceedings of the National Academy of Sciences (PNAS) journal, the team analyzed DNA samples from over 26,000 volunteers to search for genes that appeared to affect alcohol consumption, and then checked their findings in another 21,000 people. The volunteers answered questionnaires to report how much alcohol they drank.

After identifying AUTS2, the scientists analyzed how active the gene was in samples of donated brain tissue. They found that people with the version of the gene linked to lower alcohol consumption had higher activity of the gene.

The researchers also looked at strains of mice that had been selectively bred according to how much alcohol they drink voluntarily, and found there were differences in the AUTS2 gene activity levels among different breeds.

In another part of the study using flies, the researchers found that blocking the effect of a fruit fly version of the same gene made the flies less sensitive to alcohol. This suggests AUTS2 seems to be involved in regulation of alcohol intake in a number of different species, they said.

(Editing by [Elizabeth Fullerton](http://blogs.reuters.com/search/journalist.php?edition=uk&n=elizabeth.fullerton&))

**Mail online**

# That’s enough for me: Scientists discover gene that influences drinking habits

By [Daily Mail Reporter](http://www.dailymail.co.uk/home/search.html?s=y&authornamef=Daily+Mail+Reporter)  
**UPDATED:** 09:33, 5 April 2011

A gene that influences drinking habits has been discovered by scientists.

Researchers found that people with a rarer version of the gene consume, on average, 5 per cent less alcohol than those with the more common variety.

The gene, known as AUTS2, has previously been linked to autism and attention deficit hyperactivity disorder. Its normal function is not known.

AUTS2 is most active in parts of the brain associated with 'reward' mechanisms that respond to pleasurable stimuli.

Until now only one gene, controlling the breakdown of alcohol in the liver, was known to have a significant impact on drinking.

But scientists believe other genes must play an active role in determining desire for alcohol.

Professor Paul Elliott, from the School of Public Health at Imperial College London, said: 'Of course, there are a lot of factors that affect how much alcohol a person drinks, but we know from twin studies that genes play an important role.

'The difference that this particular gene makes is only small, but by finding it we've opened up a new area of research into the biological mechanisms that control drinking.'

The scientists analysed DNA samples from more than 26,000 volunteers in search of genes that appear to affect alcohol consumption.

They then checked their findings against results from another 21,000 people.

The version of the gene associated with lower levels of drinking was more active, according to the research reported in the journal Proceedings of the National Academy of Sciences.

Further research on mice showed variations in AUTS2 activity in different animals that drank more or less alcohol.

The scientists also found that blocking the effects of a related gene in fruit flies made the insects less alcohol-sensitive.

Co-author Professor Gunter Schumann, from the Institute of Psychiatry at King's College London, said: 'In this study we combine genetic studies with investigations of animal behaviour.

'Since people drink alcohol for very different reasons, understanding the particular behaviour influenced by the gene identified helps us better understand the biological basis of these reasons.

'This is an important first step towards the development of individually targeted prevention and treatments for alcohol abuse and addiction.'

Read more: <http://www.dailymail.co.uk/sciencetech/article-1373333/That-s-Scientists-discover-gene-influences-drinking-habits.html#ixzz21SI184sC>

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Daily Mirror

05/04/2011

Unnamed journalist

**Boozing ‘in**

**your genes’**

**HOW much you like a jar**

**could be down to DNA.**

**Two versions of the same**

**“booze” gene was responsible**

**for some people**

**drinking 5% less explain**

**bingeing and addiction.**

**They said: “It’s a first**

**, a study**

**of 47,000 people showed.**

**Scientists from London’s**

**Imperial and King’s**

**colleges said the gene**

**AUTS2 could**

**step towards prevention.”**

**(link to page - http://www.ukpressonline.co.uk/ukpressonline/getDocument/DMir\_2011\_04\_05\_016?fileType=PDF&#search="gene%20auts2")**