

Gene involved in predisposition to alcohol consumption identified

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An international team of researchers has identified a novel gene involved in differences in alcohol consumption, according to a new study published online the week of April 4-8 in the *Proceedings of the National Academy of Sciences*.

The study advances our understanding of the [genetic mechanisms](#) that influence alcohol drinking behavior.

Study contributors Danielle M. Dick, Ph.D., associate professor in the Department of Psychiatry in the Virginia Commonwealth University School of Medicine, and Fazil A. Aliev, Ph.D., a research associate at the Virginia Institute for Psychiatric and Behavioral Genetics at VCU, analyzed data from one of the samples presented in the study. The study included 12 population-based samples of European ancestry and included nearly 48,000 individuals.

According to Dick, this paper represents a large collaborative effort across the scientific community to combine samples where information about [alcohol consumption](#) had been collected and genome-wide analyses had been conducted, enabling the team to identify a novel gene involved in differences in drinking patterns, known as AUTS2. Furthermore, the team followed up this finding in animal models to corroborate the involvement of this gene in alcohol-related outcomes.

Dick can comment on how genetic and environmental factors influence [alcohol dependence](#) and related behaviors.

Dick, who joined VCU in 2007, examines how genetic and environmental factors come together to impact the development of alcohol dependence and related problems. Since 2000, she has been working with a multi-disciplinary, multi-site team of researchers through the Collaborative Study on the Genetics of Alcoholism, to identify specific genes involved in the predisposition to alcohol dependence.

In other work, through Finnish twin studies, Dick is examining the importance of genetic and environmental influences changes across development and how environmental risk factors, such as lifestyle, family, friends, influence and interaction with genetic predispositions for potential problems.

According to Dick, there is no single gene responsible for alcoholism – rather, there are a collection of genes, each with a small effect, that come together and contribute to an individual's risk of developing problems.

Through her research, she hopes to enhance our understanding of the genes involved in different disorders, and the environments that are critical in reducing (and/or exacerbating) risk among those who are susceptible. Ultimately, this information could be used to one day develop more targeted and informed preventions and interventions.

Provided by Virginia Commonwealth University

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