Genes that may predict problem drinking

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Genes associated with alcoholism are identified this week in *Translational Psychiatry*. The findings could potentially be used to develop a genetic test to identify those at risk, to inform lifestyle choices, and may open new medication treatment avenues.

Genetics are thought to contribute to alcoholism, but a comprehensive biological understanding of the disorder is lacking. Alexander Niculescu and colleagues integrated the accumulated evidence on alcoholism—including genome-wide association studies and genetic expression data, from both human and animal studies—to identify and prioritize 135 genes associated with the affliction. To determine which of these genes may be behaviorally-relevant, the authors looked for genes that were altered in a mouse model for alcoholism. The final list of 11 genes includes the top-scoring gene that codes for synuclein...
alpha, a protein reported to be involved in brain plasticity and act as a brake in neurotransmission, and others involved in neuron communication. These genes were tested in three independent human groups, and the results show that based only on this set of 11 genes, alcoholics can be distinguished from non-alcoholics.

The findings suggest that these genes may have predictive value in assessing who may be at a higher risk for alcoholism, and may help to develop strategies for preventing alcoholism before it manifests.

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