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## ★ Cannabis use disorder (Demontis, 2019)

Ditte Demontis, et al.  
Nature Neuroscience

Addiction

### STUDY SUMMARY

Cannabis use disorder may be linked to a genetic variant in the CHRNA2 gene.

### STUDY DESCRIPTION

About 1 in 10 users of cannabis become dependent on it and develop cannabis use disorder (CUD). This study examined 51,372 individuals of Danish and Icelandic descent in order to find genetic variants associated with CUD. The strongest association identified was with a variant that decreases the expression of the CHRNA2 gene in the brain. This gene encodes a part of the nicotinic acetylcholine *receptor*, which is a protein that allows certain molecules to pass into the cell when chemicals nicotine or acetylcholine are bound to it. Variants in the CHRNA2 gene have also been linked to nicotine dependence.

### DID YOU KNOW?

Currently, the treatment options for cannabis use disorder are rather limited. However, several types of behavioral therapy seem to work well. There are also ongoing studies that aim to find medications that may help with cannabis addiction.

### YOUR DETAILED RESULTS

The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to cannabis use disorder. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to cannabis use disorder. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to cannabis use disorder. However, please note that genetic predispositions do not account for important non-genetic factors like lifestyle. Furthermore, the genetics of most traits has not been fully understood yet and many associations between traits and genetic variants remain unknown. For additional explanations, click on the column titles in the table below and visit our [Nebula Library tutorial](#).



VARIANT <sup>Ⓞ</sup>	YOUR GENOTYPE <sup>Ⓞ</sup>	EFFECT SIZE <sup>Ⓞ</sup>	VARIANT FREQUENCY <sup>Ⓞ</sup>	SIGNIFICANCE <sup>Ⓞ</sup>
rs56372821_A 	G / G	-0.22 (-)	16%	9.09 x 10 <sup>-12</sup>