

# Discovery may provide new treatments for alcohol dependence

June 30 2009

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Researchers at the Sahlgrenska Academy, University of Gothenburg, Sweden, have discovered a new brain mechanism involved in alcohol addiction involving the stomach hormone ghrelin. When ghrelin's actions in the brain are blocked, alcohol's effects on the reward system are reduced. It is an important discovery that could lead to new therapies for addictions such as alcohol dependence.

The results will be published in the renowned American scientific journal *Proceedings of the National Academy of Sciences (PNAS)*.

Ghrelin is a hormone produced by the stomach and, by signalling in the [brain](#), increases hunger. The new finding, that it is also involved in alcohol addiction, highlights the reward system of the brain as a key target for ghrelin's effects. "Ghrelin's actions in the brain may be of importance for all kinds of addictions, including chemical drugs such as alcohol and even food" says Suzanne Dickson, Professor of Physiology, a leading expert in appetite regulation.

The work emerged from a unique collaboration between the research groups of Prof Suzanne Dickson and Prof Emeritus Jörgen Engel, including researchers Dr Elisabet Jerlhag and Dr Emil Egecioglu. They show that mice treated with ghrelin increase their [alcohol consumption](#). When ghrelin's actions are blocked, for example, by administering ghrelin receptor antagonists, mice no longer show preference for an alcohol-associated environment -in other words, alcohol is no longer able to produce its addictive effects, that include reward searching behaviour

(akin to craving in alcoholic patients).

"If we can develop drugs that block the receptors for ghrelin, we could have a new effective treatment for [alcohol dependence](#). It may however take several years until such a pharmacological treatment will reach the patient", says Professor Emeritus Jörgen Engel, an authority on research on [alcohol](#) dependency at the Sahlgrenska Academy. The group has submitted a patent application for this invention.

Source: University of Gothenburg ([news](#) : [web](#))

Citation: Discovery may provide new treatments for alcohol dependence (2009, June 30)  
retrieved 28 April 2024 from  
<https://medicalxpress.com/news/2009-06-discovery-treatments-alcohol.html>

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