

# Hot chilli may unlock a new treatment for obesity

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Chile pepper (*Capsicum annuum*). Credit: Wikipedia.

University of Adelaide researchers have discovered a high-fat diet may impair important receptors located in the stomach that signal fullness.

Published today in the journal *PLOS ONE*, researchers from the

University's Centre for Nutrition and Gastrointestinal Diseases (based at the South Australian Health and Medical Research Institute) investigated the association between hot chilli pepper [receptors](#) (TRPV1) in the [stomach](#) and the feeling of fullness, in laboratory studies.

"The stomach stretches when it is full, which activates nerves in the stomach to tell the body that it has had enough food. We found that this activation is regulated through hot chilli pepper or TRPV1 receptors," says Associate Professor Amanda Page, Senior Research Fellow in the University of Adelaide's School of Medicine and lead author on the paper.

"It is known from previous studies that capsaicin, found in hot chillies, reduces food intake in humans. And what we've discovered is that deletion of TRPV1 receptors dampens the response of gastric nerves to stretch - resulting in a delayed feeling of fullness and the consumption of more [food](#). Therefore part of the effect of capsaicin on [food intake](#) may be mediated via the stomach.

"We also found that TRPV1 receptors can be disrupted in [high fat diet](#) induced obesity," she says.

Dr Stephen Kentish says these findings will inform further studies and the development of new therapies.

"It's exciting that we now know more about the TRPV1 receptor pathway and that the consumption of capsaicin may be able to prevent overeating through an action on nerves in the stomach," says Dr Kentish, National Health and Medical Research Council (NHMRC) Fellow from the University of Adelaide's School of Medicine.

"The next stage of research will involve investigation of the mechanisms behind TRPV1 receptor activation with the aim of developing a more

palatable therapy.

"We will also do further work to determine why a [high-fat diet](#) desensitises TRPV1 receptors and investigate if we can reverse the damage," he says.

Provided by University of Adelaide

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