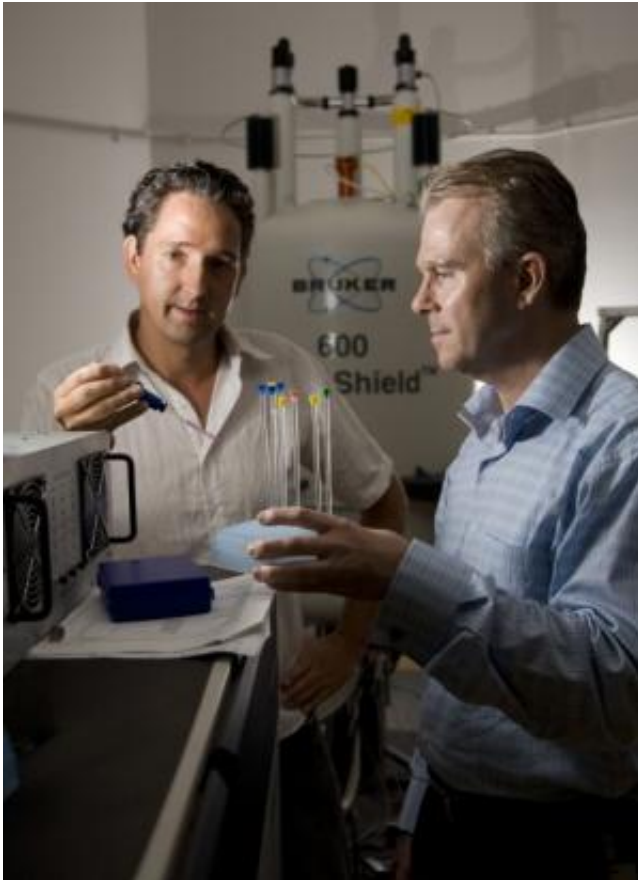


Unveiling how rotavirus causes infection

January 6 2015



Dr Thomas Haselhorst and Professor Mark von Itzstein from the Institute for Glycomics

Researchers from Griffith University's Institute for Glycomics and the University of Melbourne have significantly advanced understanding of a virus that kills up to half a million children each year.

Rotaviruses are considered the most important cause of severe diarrhoea in children, with all being infected by the time they reach the age of five.

A paper published in the international journal *Nature Communications* reveals how the virus attacks cells through carbohydrate receptors present on a child's [intestinal cells](#).

Professor Mark von Itzstein, a co-senior author of the paper and Director of the Institute for Glycomics, says the study greatly assists the understanding of how this virus starts to infect cells and provides new direction in potential drug discovery.

"Our findings greatly advance our understanding of the sugar receptors used by human rotaviruses and provide clues as to how we might target this virus to stop it infecting cells," he says.

Associate Professor Barbara Coulson, of the Peter Doherty Institute for Infection and Immunity at the University of Melbourne and a co-senior author said the discovery has implications for childhood susceptibility to [rotavirus](#) disease.

"What we have found is that not all human rotaviruses recognise the same sugar receptor and this important information will be invaluable in the discovery of anti-rotaviral drugs," she says.

Dr Thomas Haselhorst, an Australian Research Council Future Fellow at the Institute for Glycomics and a co-senior author on the paper, says the findings also offer potential for new vaccine development strategies.

"We are very excited by our findings, as we now have a much better understanding of the carbohydrates important for the [virus](#) to latch on to for successful infection."

The multidisciplinary study was funded by The National Health and Medical Research Council and the Australian Research Council.

The Griffith and Melbourne team is now further advancing the work towards novel drug and [vaccine development](#).

More information: *Nature Communications*,
[www.nature.com/ncomms/2015/150 ... full/ncomms6907.html](http://www.nature.com/ncomms/2015/150...full/ncomms6907.html)

Provided by Griffith University

Citation: Unveiling how rotavirus causes infection (2015, January 6) retrieved 6 May 2024 from <https://medicalxpress.com/news/2015-01-unveiling-rotavirus-infection.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--