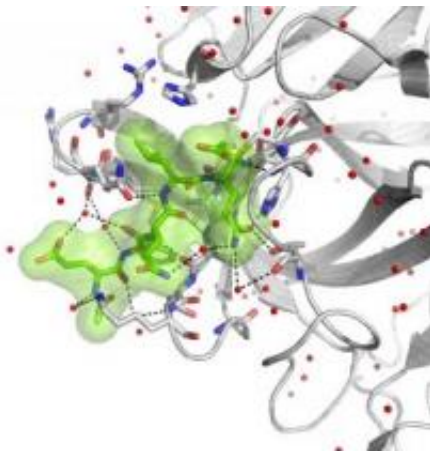


Scientists make key step in the development of a norovirus treatment

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Southampton virus protease with drug synthesized by research scientists at the University of Southampton -- a viral protein never visualized before with a possible therapeutic drug blocking its mode of action. Credit: University of Southampton

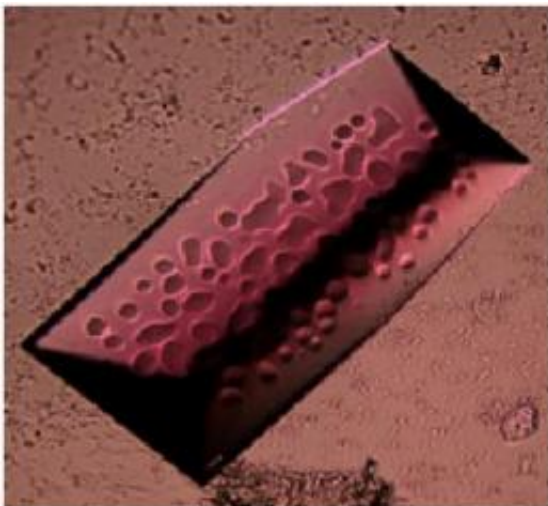
With the number of norovirus infection cases rising across the country, scientists from the University of Southampton have successfully crystallised a key norovirus enzyme, which could help in the development of a norovirus treatment.

Noroviruses are recognised world-wide as the most important cause of epidemic nonbacterial gastroenteritis (stomach bugs) and pose a significant [public health](#) burden, with an estimated one million cases per year in the UK. In the past, noroviruses have also been called 'winter

vomiting viruses'.

By crystallising the key protease enzyme, the research team from the University has been able to design an inhibitor that interacts with the enzyme from the 'Southampton' norovirus. The inhibitor works by preventing the [enzyme](#) in the norovirus from working, stopping the spread of infection.

The virus is called the Southampton virus because this particular virus was first found in an outbreak that came from a family in Southampton. Traditionally, individual noroviruses are named after the place from which the virus was first found, so for example the very first norovirus is known as Norwalk virus because it discovered in Norwalk in Ohio, America.



This is a protein crystal of the Southampton norovirus protease bound to the inhibitor. Credit: University of Southampton

University of Southampton virologist Professor Ian Clarke says:

"Noroviruses place a huge burden on the NHS. This is an important step forward in the rational design of new drugs to treat norovirus infections. Now we know the drug works in the [test tube](#), the next step is to see whether we can modify and deliver it to the site where the virus grows."

The research team hopes to translate their laboratory findings into an [antiviral treatment](#) for norovirus infection.

Provided by University of Southampton

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