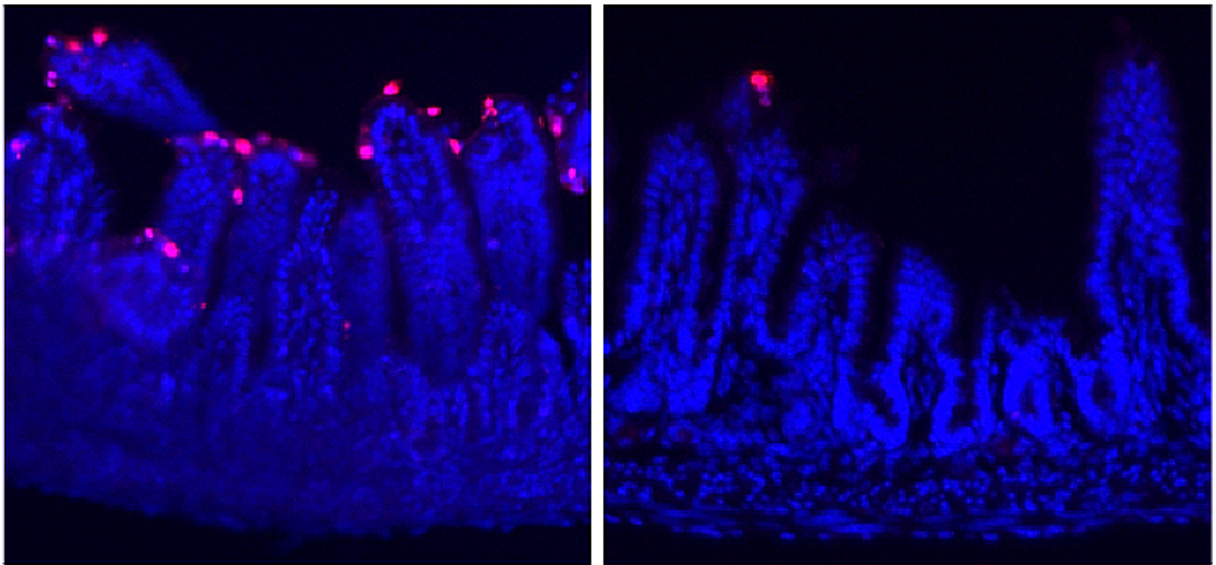


## Study pinpoints protein key to fighting a common intestinal illness

June 22 2017, by Ziba Kashef

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The protein Nlrp9b, which is expressed in cells that line the intestinal wall, senses invading viruses. Credit: Yale University

Rotavirus is the most common cause of diarrhea in infants and young children worldwide. It is highly infectious and potentially deadly. The virus, which has evolved strategies to evade the immune system, is the focus of new research lead by immunologist Richard Flavell and published in *Nature*.

The research team focused in on a protein, Nlrp9b, that senses invaders

in the gut. To understand its mechanism and role in protecting the body against rotavirus, the researchers observed the protein in genetically modified mice and in vitro culture. Through a series of experiments, they tested the protein's response to viral RNA and observed the pathways it triggered.

The researchers found that Nlrp9b recognizes [rotavirus](#) and forms a complex inflammatory response to kill viral cells and prevent further infection. "It's the first time that we report the function of Nlrp9b to act as a safeguard to protect against intestinal virus infection," said first author Shu Zhu.

**More information:** Shu Zhu et al. Nlrp9b inflammasome restricts rotavirus infection in intestinal epithelial cells, *Nature* (2017). [DOI: 10.1038/nature22967](#)

Provided by Yale University

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