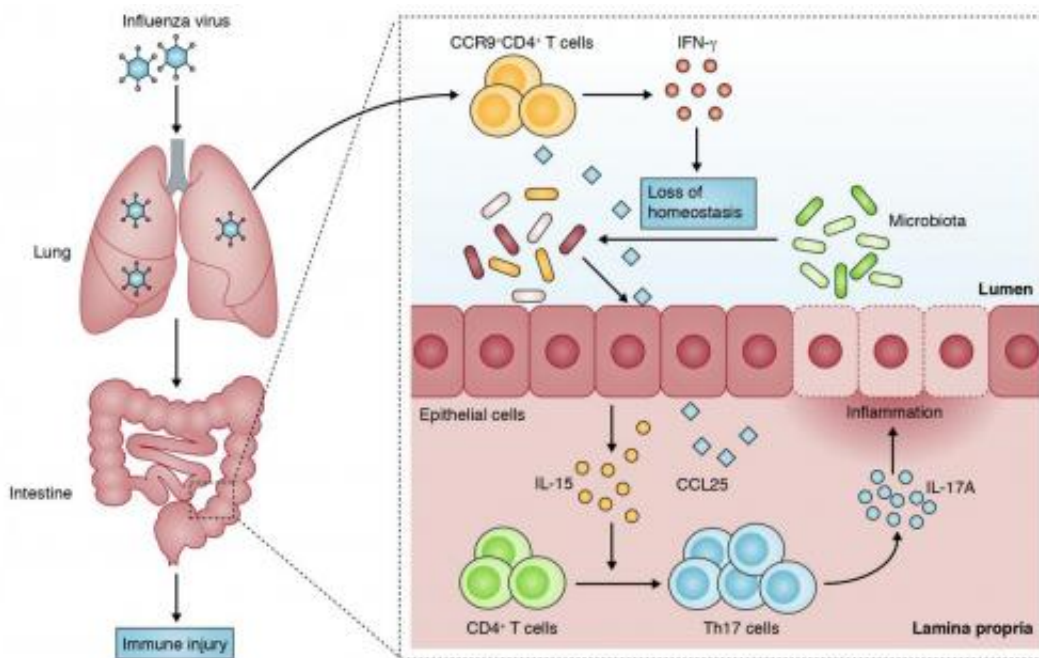


Study suggests how flu-related gastrointestinal flare-ups can be relieved while body continues to battle virus the lung

November 3 2014



Gastrointestinal flare-up can be caused by flu virus infection in the lungs, as shown in this illustration. Credit: The Rockefeller University Press, adapted from an illustration by the authors

Flu infection has long-ranging effects beyond the lung that can wreak havoc in the gut and cause a dreaded symptom, diarrhea, according to a study published in *The Journal of Experimental Medicine*.

Gastrointestinal symptoms are often seen with flu infection, but because the virus only grows in [lung](#) cells, it's unclear how intestinal symptoms develop. Researchers in China now show that flu infection in mice prompts responding immune cells in the lung to alter their homing receptors, causing them to migrate to the gut. Once there, they produce the antiviral mediator IFN- γ , which alters the natural composition of gut bacteria. In turn, the bacterial changes lead to inflammation that promotes tissue injury and diarrhea. Blocking inflammatory molecules in the intestine or treating mice with antibiotics to deplete bacteria attenuated flu-induced intestinal injury without affecting immune responses in the lung.

Why some flu infected patients develop [gastrointestinal symptoms](#) while others do not remains unknown. However, these findings suggest ways to directly relieve intestinal symptoms like diarrhea during [flu infection](#) without interfering with the body's ability to fight the virus in the lung.

More information: Wang, J., et al. 2014. *J. Exp. Med.* [DOI: 10.1084/jem.20140625](#)

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