Gut microbiome makes flu vaccine more or less effective

Proteins from intestinal microbes can enhance the effectiveness of the seasonal flu vaccine, according to a mouse study.

While the vaccine protects against a viral infection, these bacterial triggers stimulate the murine immune system to form protective antibodies more effectively. The results, published today (September 11) in *Immunity*, further highlight the far-reaching effects of intestinal microbes on host immunity.

"To our knowledge, no one had demonstrated a requirement for microbiota in immunity to vaccination in this way before," said lead author Bali Pulendran of Emory University in Atlanta.

The new results hint at a previously unknown natural adjuvant effect of the microbiome, explained immunologist Patrick Wilson of the University of Chicago who was not involved with the study. "It's a surprise that the gut microbiota, and TLR5 in particular, can modulate the immune response to influenza and unrelated pathogens," he said.

Read the full, original story: Bacteria boost viral vaccine response