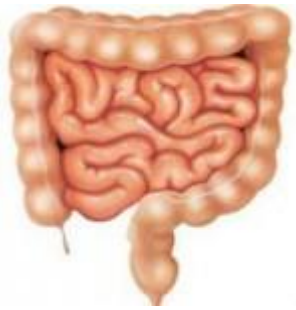
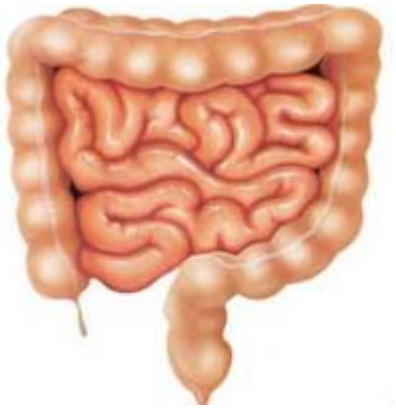
TLR5-mediated sensing of gut microbiota has a role in response to flu vaccine



One main question that arises following flu vaccines is why some people still go on to get the flu. The answer may be found in the gut. While studying gene expression and the strength of the immune response in people infected with influenza vaccine, one study found that the gene that codes for the protein toll-like receptor 5 (TLR5), which is linked to gut bacteria, was also linked to strong immune response. The study introduced flu vaccine to mice using a control group and some that were engineered to lack gut microbes and some to lack the gene for TLR5. Seven days later, the mice had significantly reduced levels of vaccine-specific antibodies in their blood as compared with control mice, suggesting that bacterial signaling boosts the vaccine's effect.



Oh, JZ. et al. 2014. TLR5-mediated sensing of gut microbiota is necessary for antibody responses to seasonal influenza vaccination. *NCBI*.