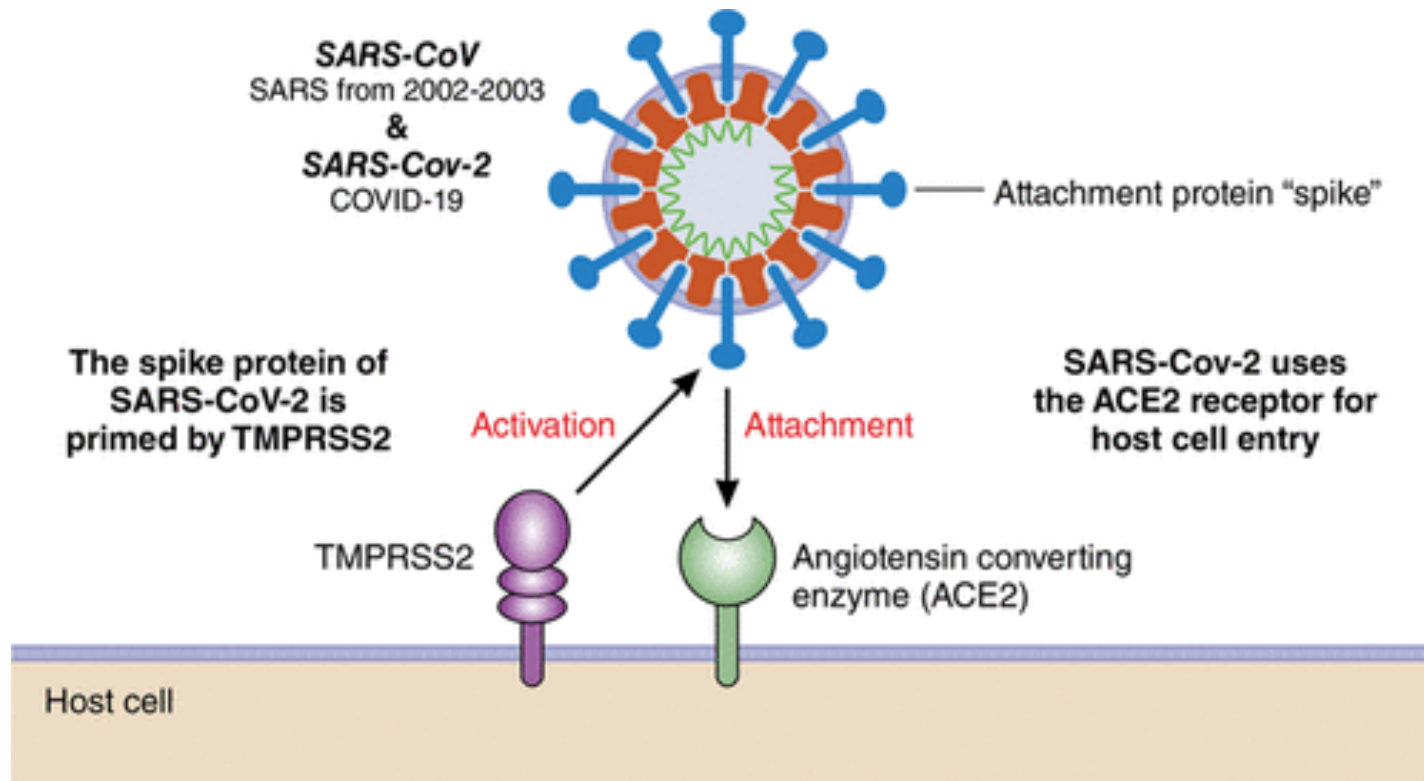


- ▶ What are the current basic & translational research initiatives on COVID and IBD?
- ▶ What are the gaps and future basic & translational research needs on COVID and IBD?

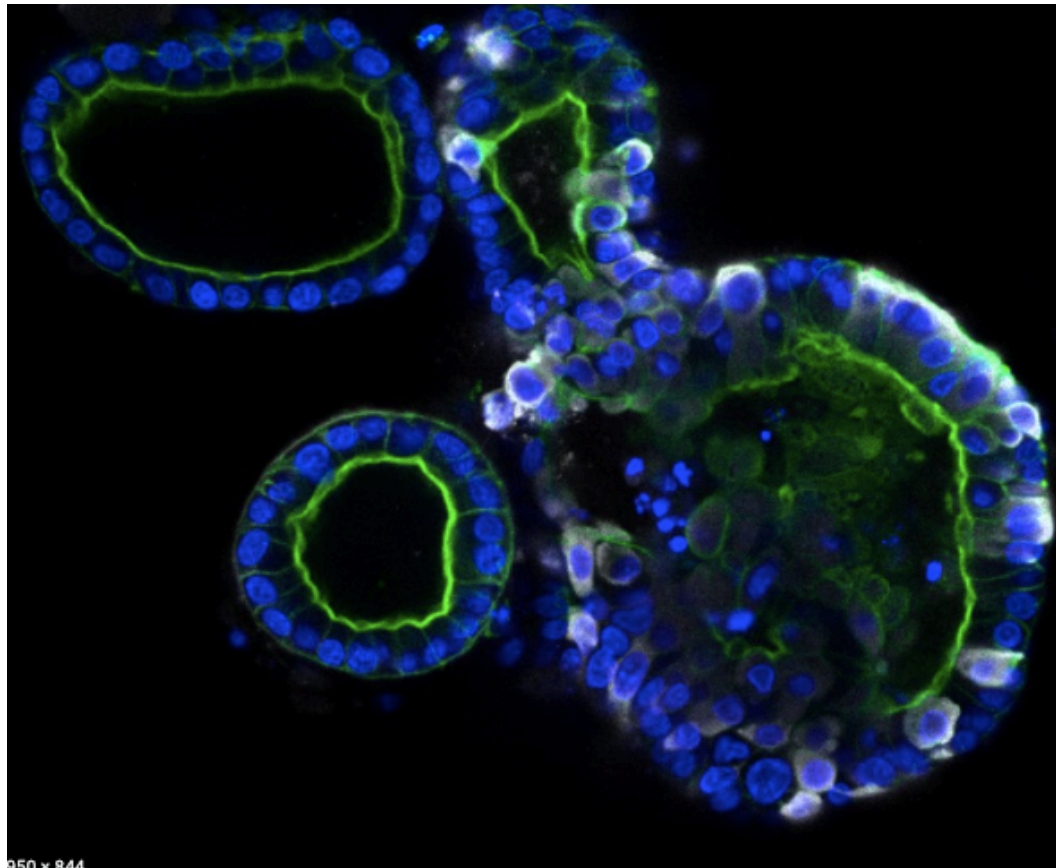
Does the intestine express the
receptors for SARS-Cov-2?



Does SARS-Cov-2 infect
the intestine?

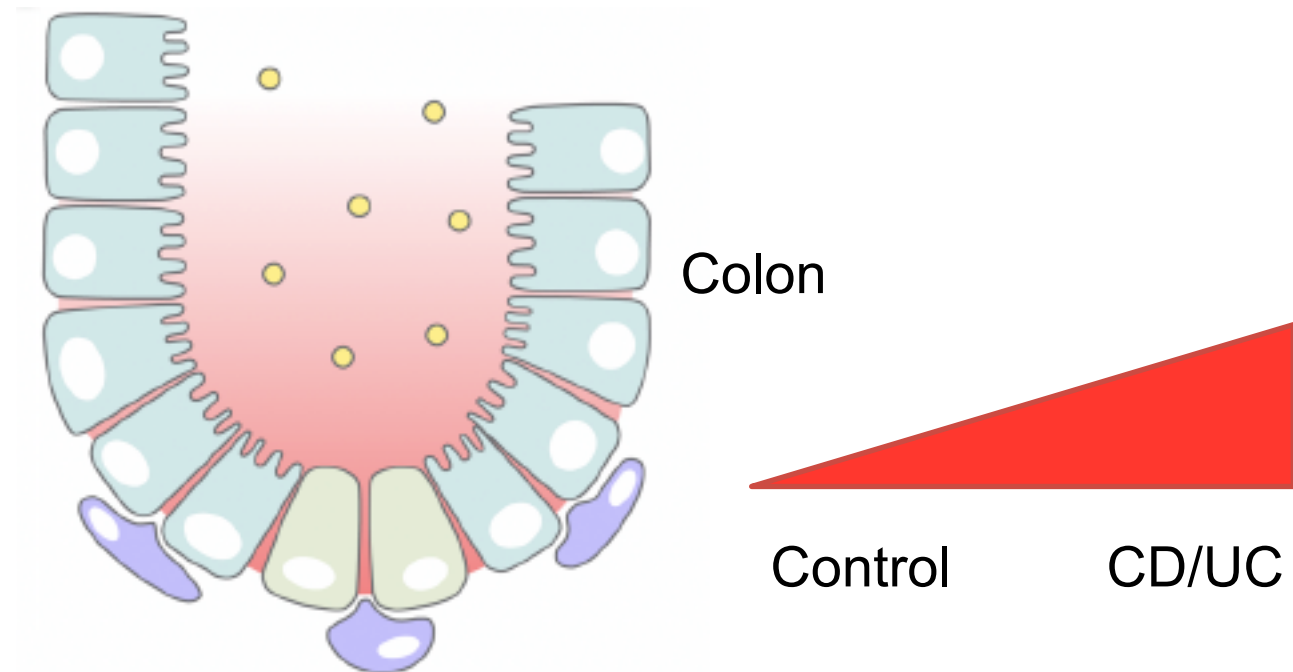
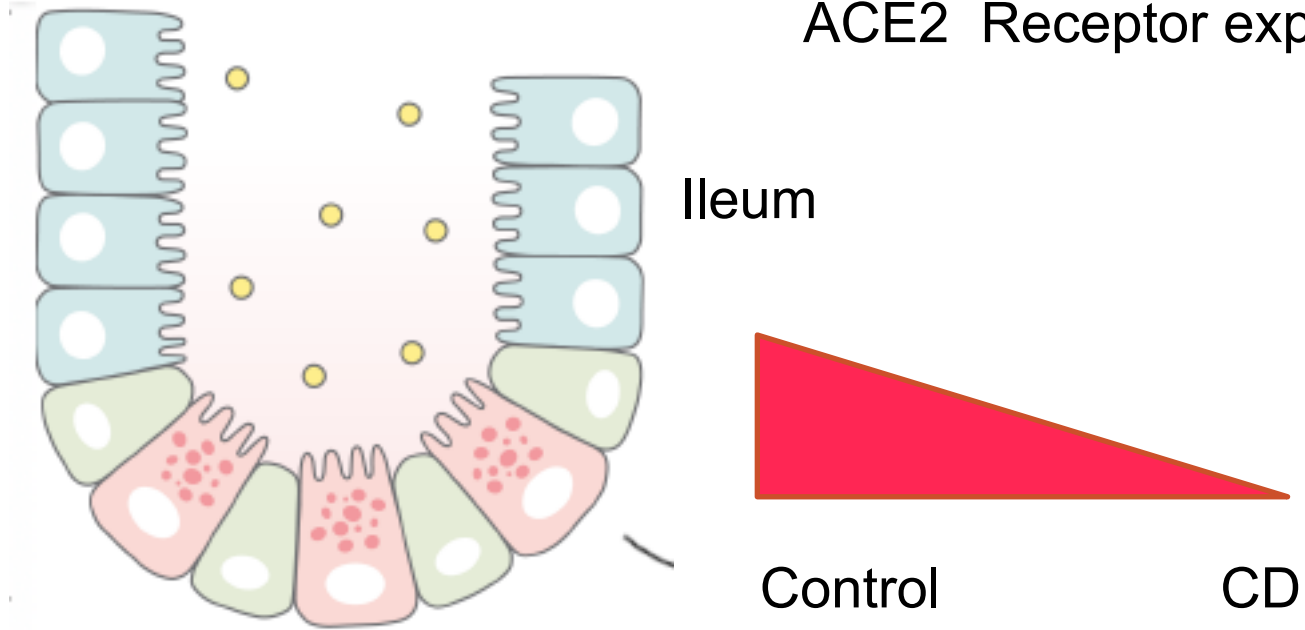
SARS-CoV-2 productively infects human gut enterocytes

Mart M. Lamers^{1*}, Joep Beumer^{2*}, Jelte van der Vaart^{2*}, Kèvin Knoops³, Jens Puschhof², Tim I. Breugem¹, Raimond B. G. Ravelli³, J. Paul van Schayck³, Anna Z. Mykytyn¹, Hans Q. Duime³, Elly van Donselaar³, Samra Riesebosch¹, Helma J. H. Kuijpers³, Debby Schippers¹, Willine J. van de Wetering³, Miranda de Graaf³, Marion Koopmans¹, Edwin Cuppen^{4,5}, Peter J. Peters³, Bart L. Haagmans^{1†}, Hans Clevers^{2†‡}

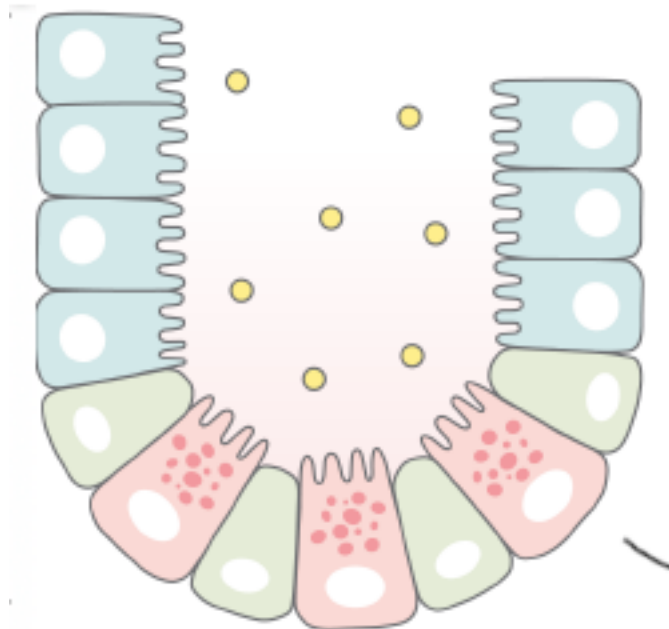


How does IBD impact expression
of receptor for SARS-Cov-2?

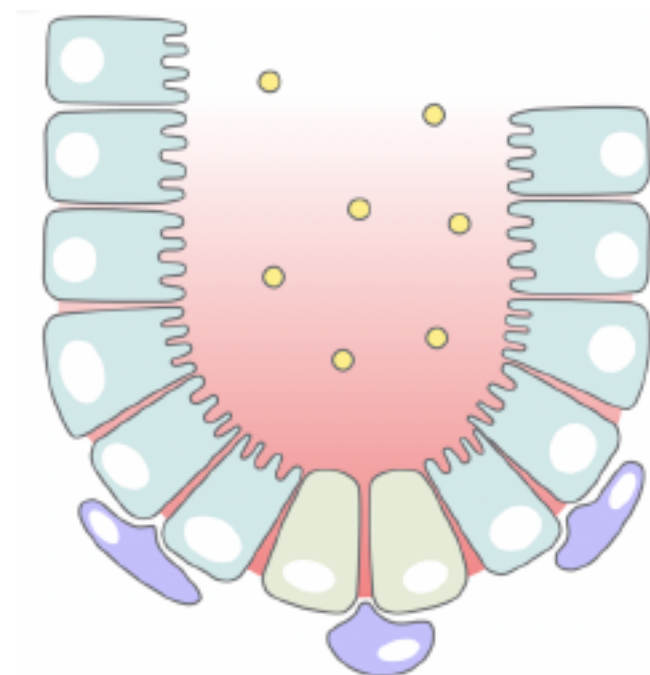
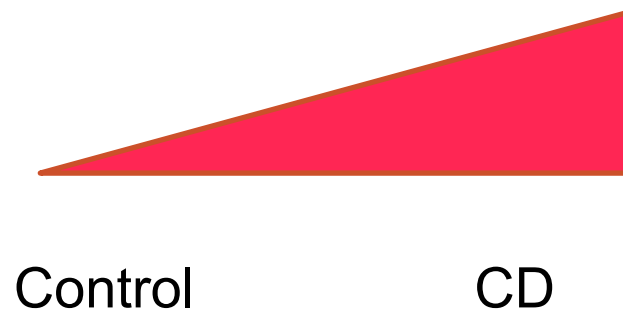
ACE2 Receptor expression in IBD



TMPRSS2 expression in IBD



Ileum



Colon



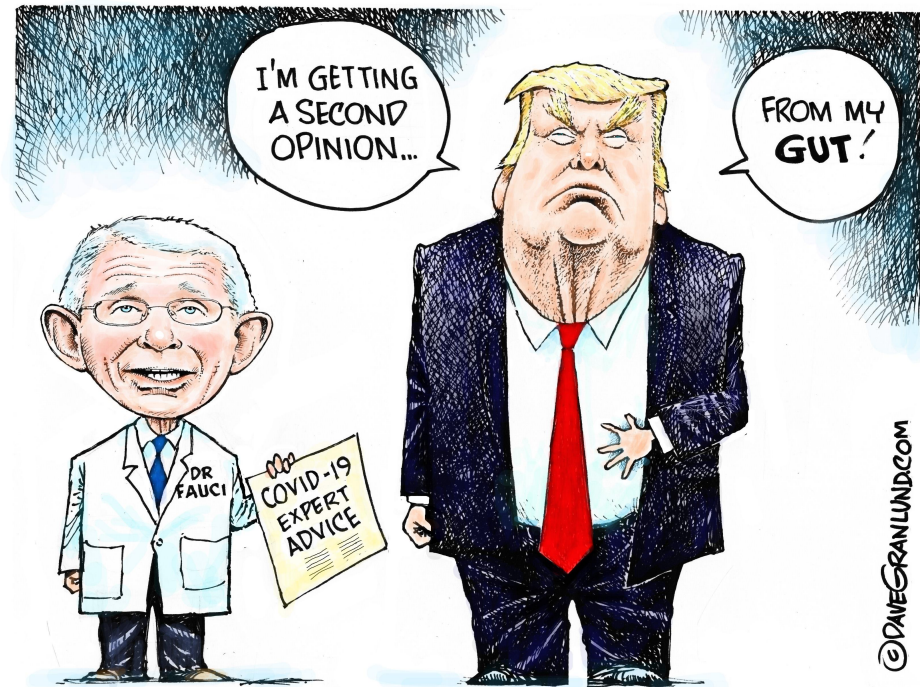
Does inflammation impact viral
receptor expression?



Airway epithelium



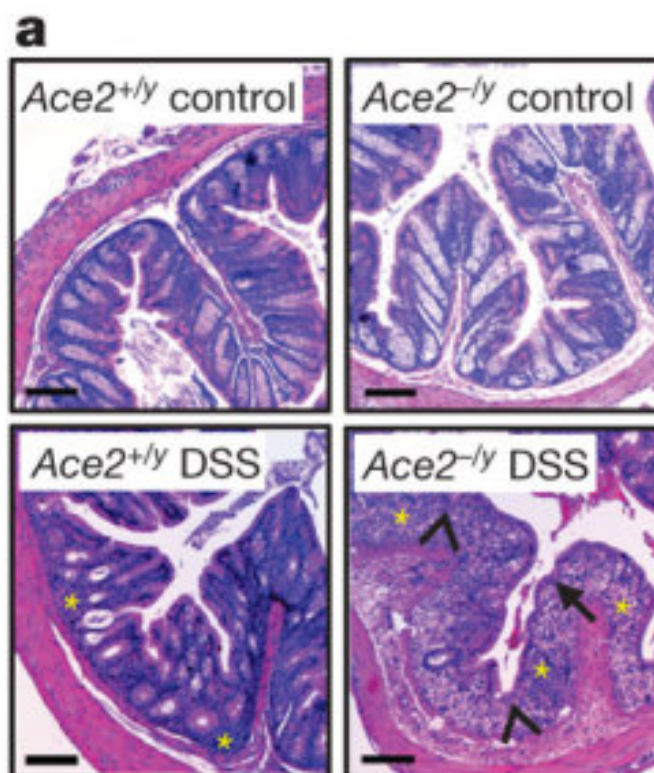
Airway epithelium



What is the role of ACE2 in the intestine?

ACE2 links amino acid malnutrition to microbial ecology and intestinal inflammation

Tatsuo Hashimoto^{1,2*}, Thomas Perlot^{1*}, Ateequr Rehman^{3†}, Jean Trichereau¹, Hiroaki Ishiguro², Magdalena Paolino¹, Verena Sigl¹, Toshikatsu Hanada¹, Reiko Hanada¹, Simone Lipinski³, Birgit Wild⁴, Simone M. R. Camargo⁵, Dustin Singer⁵, Andreas Richter⁴, Keiji Kuba⁶, Akiyoshi Fukamizu⁷, Stefan Schreiber³, Hans Clevers⁸, Francois Verrey⁵, Philip Rosenstiel³ & Josef M. Penninger¹



Does SARS-Cov-2 alter the
microbiome?

Does SARS-Cov-2 alter the microbiome?



Discussion:

Gaps and future clinical,
translational and basic research
priorities



