

Scientists identify key nasal cells believed to attract Coronavirus

24 April 2020 | News

Scientists discovered that goblet and ciliated cells in the nose have high levels of the entry proteins that the Coronavirus uses to get into our cells.

Two specific nose cell types have been identified as likely initial infection points for COVID-19 coronavirus. Scientists discovered that goblet and ciliated cells in the nose have high levels of the entry proteins that the COVID-19 virus uses to get into our cells, which could help explain the high rate of transmission. The study with Human Cell Atlas Lung Biological Network found cells in the eye and some other organs also contain the viral-entry proteins.

The identification of these cells by researchers from the Wellcome Sanger Institute, University Medical Centre Groningen, University Cote d'Azur and CNRS, Nice and their collaborators, as part of the Human Cell Atlas Lung Biological Network, could help explain the high transmission rate of COVID-19.

The study further shows that cells in the eye and some other organs also contain the viral-entry proteins. The study also predicts how a key entry protein is regulated with other immune system genes and reveals potential targets for the development of treatments to reduce transmission.

Scientists around the world are trying to understand exactly how the virus spreads, to help prevent transmission and develop a vaccine. While it is known that the virus that causes COVID-19 disease, known as SARS-CoV-2, uses a similar mechanism to infect our cells as a related coronavirus that caused the 2003 SARS epidemic,

The two key entry proteins ACE2 and TMPRSS2 were also found in cells in the cornea of the eye and in the lining of the intestine. This suggests another possible route of infection via the eye and tear ducts, and also revealed a potential for fecal-oral transmission.

The global HCA Lung Biological Network continues to analyse the data in order to provide further insights into the cells and targets likely to be involved in COVID-19 and to relate them to patient characteristics.