Researchers publish striking images of SARS-CoV-2 infected cells

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In a laboratory setting, the researchers inoculated the SARS-Co-V-2 virus into human bronchial epithelial cells, which were then examined 96 hours later using scanning electron microscopy.

The images, re-colorized by UNC medical student Cameron Morrison, show infected ciliated cells with strands of mucus (yellow) attached to cilia tips (blue). Cilia are the hair-like structures on the surface of airway epithelial cells that transport mucus (and trapped viruses) from the lung. A higher power magnification image shows the structure and density of SARS-CoV-2 virions (red) produced by human airway epithelia. Virions are the complete, infectious form of the virus released onto respiratory surfaces by infected host cells.

This imaging research helps illustrate the incredibly high number of virions produced and released per cell inside the human respiratory system. The large viral burden is a source for spread of infection to multiple organs of an infected individual and likely mediates the high frequency of COVID-19 transmission to others. These images make a strong case for the use of masks by infected and uninfected individuals to limit SARS-CoV-2 transmission.
A higher power magnification image shows the structure and density of SARS-CoV-2 virions (red) produced by human airway epithelia. Credit: Ehre Lab, UNC School of Medicine


Provided by University of North Carolina at Chapel Hill School of Medicine


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