EXHIBIT 15

NEWS

MIT researchers find cells targeted by coronavirus in breakthrough for cure

By Tamar Lapin

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Photo by Maddie Meyer/Getty Images

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Researchers have pinpointed the specific cells targeted by the coronavirus — a development they hope could be helpful in the search for a cure, MIT announced Wednesday.

The team of scientists used an existing data set on the RNA found in different types of cells to locate those with two proteins known to allow the virus to enter human cells, MIT said in a news release.

Soon after the pandemic began, scientists learned that a viral "spike" protein binds to a certain receptor on human cells called angiotensin-converting enzyme 2, or ACE2.

Another protein, an enzyme called TMPRSS2, aids to activate the coronavirus spike protein, allowing it to enter the cell.

The combined binding and activation allows the virus to get into host cells, MIT explained. Now, scientists just needed to find the specific cells that express these proteins which make them more susceptible to infection.

"As soon as we realized that the role of these proteins had been biochemically confirmed, we started looking to see where those genes were in our existing datasets," Jose Ordovas-Montanes, a senior author of the study who runs a lab at Boston Children's Hospital, said in the statement.

"We were really in a good position to start to investigate which are the cells that this virus might actually target."

The datasets that the researchers used for the study included hundreds of cell types from the lungs, nasal passages, and intestine — all organs targeted by the virus.

The researchers found that Type II pneumocytes in the lungs, absorptive enterocytes in the intestines, and goblet secretory cells in the nasal passages were possible targets for the virus, the release said.

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The Type II pneumocytes keep the lungs open; the absorptive enterocytes are responsible for the absorption of some nutrients; and the goblet secretory cells produce mucus.

"This may not be the full story, but it definitely paints a much more precise picture than where the field stood before," Ordovas-Montanes said.

"Now we can say with some level of confidence that these receptors are expressed on these specific cells in these tissues."

The researchers hope their findings will be helpful to scientists working on developing treatments, or to those testing existing drugs that could be repurposed for COVID-19.

"Our goal is to get information out to the community and to share data as soon as is humanly possible, so that we can help accelerate ongoing efforts in the scientific and medical communities," said Alex K. Shalek, an associate chemistry professor at MIT.

The study, published in the journal Cell, was a collaboration of researchers from MIT; the Ragon Institute of MGH, MIT and Harvard; and the Broad Institute of MIT and Harvard, along with "colleagues from around the world."

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