Scientists Find Way to Easily Grow Hepatitis C in the Lab

September 2, 2015

By prompting the expression of a single human gene, researchers have found a way to easily grow hepatitis C virus (HCV) in a laboratory setting. The difficulty of growing hep C has long encumbered research of the virus, and has specifically been a challenge for developing a much-needed vaccine.

Researchers reported their findings in the journal Nature.

“Being able to easily culture HCV in the lab has many important implications for basic science research,” Rockefeller University’s Charles M. Rice, PhD, one of the study’s leads, said in a press release. “There is still much we don’t understand about how the virus operates, and how it interacts with liver cells and the immune system.”

The investigators combed through a library of about 7,000 human genes to find one that, if expressed, would permit the replication of a non-mutated form of hep C in an infected human cell. When they prompted expression of the gene called SEC14L2, they found that the virus did replicate in its non-mutated, or wild-type, form.

“Practically speaking, this means that if scientists want to study HCV from an infected patient, it’s now possible to take a blood sample, inoculate the engineered cells, and grow that patient’s form of the virus in the lab,” Mohsan Saeed, a postdoc in Rice’s laboratory and the study’s lead author, said in the same press release.

The researchers are not precisely sure why the expression of SEC14L2 causes the desired viral replication effect. They theorize that its expression keeps lipids from interacting with what are known as reactive oxygen species, which prevents replication of the virus.

To read the study abstract, click here.