Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The invention listed below is owned by an agency of the U.S. Government and is available for licensing to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

FOR FURTHER INFORMATION CONTACT: Elizabeth Pitts, Ph.D., 240-669-5299; elizabeth.pitts@nih.gov. Licensing information may be obtained by communicating with the indicated licensing contact at the Technology Transfer and Intellectual Property Office, National Institute of Allergy and Infectious Diseases, 5601 Fishers Lane, Rockville, MD, 20852; tel. 301-496-2644. A signed Confidential Disclosure Agreement will be required to receive copies of unpublished information related to the invention.

SUPPLEMENTARY INFORMATION: Technology description follows.

Tumor Associated Calcium Signal Transducer 2 (TACSTD2)-overexpressing Huh7.5 cells that are more permissive to HCV cell entry and replication compared to the model Huh7.5 cell line.

Description of Technology:
Worldwide, 130-150 million individuals are chronically infected with hepatitis C virus (HCV), a major cause of liver-associated morbidity and mortality worldwide. Despite recent advances in antiviral drugs that can cure some individuals, a rapid decline of the global disease burden is hampered by remarkably high treatment costs and a high number of undiagnosed infections. Moreover, a significant number of patients develop resistance and additional treatment modalities may be needed to dramatically reduce the worldwide incidence of HCV infection. The subject cell line may be a useful tool for studying the mechanism of HCV cellular entry and replication and could be incorporated into an in vitro assay to measure the effectiveness of novel HCV targeted therapies or as a system for improved propagation of HCV in culture.

By overexpressing TACSTD2 in Huh7.5 cells, scientists at the National Institute of Allergy and Infectious Diseases (NIAID) discovered that they could restore the cellular localization of two host cell HCV-entry factors that become dysregulated in hepatocellular carcinoma (HCC) cells. Overexpression of TACSTD2 makes Huh7.5 cells more broadly permissive to infection and replication by multiple HCV genotypes in comparison to the canonical Huh7.5 cell model. HCV does not replicate in malignant HCC cells, possibly caused in part by downregulation of TACSTD2 expression.

This technology is available for licensing for commercial development in accordance with 35 U.S.C. § 209 and 37 CFR Part 404.

**Potential Commercial Applications:**

- Cell line to study hepatitis C virus infection and replication or propagate HCV in culture.
- Cell line to study cancer

**Development Stage:**

- Material

**Inventors:** Patrizia Farci and Vandana Sekhar (NIAID).

Licensing Contact: To license this technology, please contact Elizabeth Pitts, Ph.D., 240-669-5299; elizabeth.pitts@nih.gov, and reference E-040-2020.

Dated: August 12, 2021.

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Surekha Vathyam,
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[FR Doc. 2021-17687 Filed: 8/17/2021 8:45 am; Publication Date: 8/18/2021]