



DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The inventions listed below are owned by an agency of the U.S.

Government and are available for licensing in the U.S. to achieve expeditious commercialization of results of federally-funded research and development.

FOR FURTHER INFORMATION CONTACT: Licensing information may be obtained by emailing the indicated licensing contact at the National Heart, Lung, and Blood, Office of Technology Transfer and Development Office of Technology Transfer, 31 Center Drive Room 4A29, MSC2479, Bethesda, MD 20892-2479; Michael Shmilovich; shmilovm@nih.gov; telephone: 301-435-5019. A signed Confidential Disclosure Agreement may be required to receive any unpublished information.

SUPPLEMENTARY INFORMATION: Technology description follows.

Cannabinoid Receptor Modulating Compounds

Available for licensing and commercial development are potentially therapeutic compounds for metabolic, inflammatory and fibrotic disorders. The filed patent applications includes extensive descriptions of the exemplary molecules and their various constituents. The cannabinoid receptor mediating compounds can be neutral antagonists. A CB₁ inverse agonist is a drug that on its own produces an effect opposite to that of a CB₁ agonist, and is also able to block the effect of a CB₁ agonist. In contrast, a CB₁ neutral antagonist can only do the latter (i.e. blocking the effect of a CB₁ agonist), but has no effect on its own. CB₁ inverse agonism is usually documented by the ability of a drug to decrease GTP γ S binding and/or to increase adenylyl cyclase activity. The compounds

may show functional bias for GTP γ S or β -Arrestin or activity for both GTP γ S and β -Arrestin. Secondary targets could include, but not limited to, the enzyme inducible nitric oxide synthase (iNOS) or adenosine monophosphate kinase (AMPK), as suggested by findings that inhibition of iNOS or activation of AMPK improves insulin resistance, and reduces fibrosis and inflammation. The rights pursued claim compounds, pharmaceutical compositions, and methods of use.

Potential Commercial Applications:

- Pharmaceuticals
- Cancer therapy
- Anti-fibrotic therapy
- Inflammatory and autoimmune disease

Development Stage:

- Early stage

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Intellectual Property: HHS Reference No. E-189-2021-0; U.S. Provisional Patent Application No. 63/319,642 filed March 14, 2022; International Patent Application PCT/U2023/014846 filed March 8, 2023.

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This notice is in accordance with 35 U.S.C. 209 and 37 CFR Part 404 to achieve expeditious commercialization of results of federally-funded research and development.

Dated: June 23, 2023.

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