



**[Billing Code 4140-01-P]**

**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 Brian W. Bailey, PhD, [bbailey@mail.nih.gov](mailto:bbailey@mail.nih.gov), 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; telephone: 301-402-5579. A signed Confidential Disclosure Agreement may be required to receive any unpublished information.

**SUPPLEMENTARY INFORMATION:** Technology description follows.

**Methods to produce very long-chain fatty acids (VLCFA)**

Available for licensing and commercial development are patent rights covering methods for synthetically producing highly pure, polyunsaturated very long-chain fatty acids (C20-C40) that are highly scalable, do not require toxic mercury, and are applicable to the synthesis of highly deuterated (>90%), partially deuterated, and non-deuterated lipids. VLCFAs, while present in very small concentrations in living organisms, nonetheless

play vital roles in certain biological processes. The present invention addresses an unmet need for VLCFAs for experimental and therapeutic uses that is currently inadequately met through labor intensive and time consuming extractions from natural sources or technically difficult overexpression in cell cultures, which give very small yields. This invention also includes a method for treating and preventing macular degeneration using VLCFAs.

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:**

- Synthesis of very-long chain fatty acids for *in vitro* and *in vivo* research purposes
- Synthesis of very-long chain fatty acids for therapeutic purposes
- Treatment and prevention of macular degeneration, inflammatory disorders and other disorders and conditions associated with very long-chain fatty acid deficiencies.

**Development Stage:**

- Preclinical
- Mouse data

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**Intellectual Property:** HHS Reference No. E-126-2020-0-US-01 ; U.S Patent Application 63/072,519 filed August 31, 2020.

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