DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government Owned Inventions Available for License: Fluorophthalimides as Anti-inflammatory Agents for Systemic and Neurodegenerative Disorders

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The National Institute on Aging (NIA) seeks research co-development partners and/or licensees for the pre-clinical and clinical development of the compounds as anti-inflammatory therapeutics for systemic and neurodegenerative disorders.

FOR FURTHER INFORMATION CONTACT: Inquiries related to this license opportunity should be directed to: Nikki Guyton, Ph.D., Unit Supervisor, NCI, Technology Transfer Center, Email: *guytonn@nih.gov* or Phone: 240-276-5493.

SUPPLEMENTARY INFORMATION: Numerous systemic, as well as neurological disorders, have a hallmark inflammatory element that can drive disease progression. However, the use of currently available anti-inflammatory agents have failed to demonstrate efficacy as potential treatment for systemic and neurological disorders in clinical trials.

The immunomodulatory imide drug (IMiD) thalidomide exerts anti-inflammatory effects through inhibition of tumor necrosis factor-alpha (TNF-α), which is a master regulator of the inflammatory response. Researchers at the National Institute on Aging (NIA) have synthesized novel thalidomide analogs possessing potent anti-inflammatory actions but, importantly, hinder the cerebon binding that associated with the adverse teratogenic actions of classic IMiDs. This invention has potential to be developed as therapeutics for a variety of systemic and neurological disorders including inflammatory disorders, autoim.

"This Notice is in accordance with 37 CFR § 404.4 Authority to grant licenses."

NIH Reference Number: E-151-2022.

Related Technologies: E-045-2012-0; E-208-2015-0

Product Type: Therapeutic.

Therapeutic Area(s): Oncology | Neurology.

Development Stage: Pre-clinical (*in vivo* validation)

Patent Information: US Nonprovisional Patent Application, US 19/102,830, filed on February 2, 2025. Status: Pending.

Publication: Lecca D, et al. Novel, thalidomide-like, non-cereblon binding drug etrafluorobornylphthalimide mitigates inflammation and brain injury. (PMID 36872339)

Potential Commercial Applications:

- Neurodegenerative diseases.
- Inflammatory disorders.
- Autoimmune disorders.
- Viral infections.
- Cancer.

Competitive Advantages:

- More potent anti-inflammatory properties.
- Potentially clinically safer than classic IMiDs by lower risk of fetal malformations.
- Potential to treat a wide range of significant unmet medical needs.

Dated: June 10, 2026.

Richard U. Rodriguez,

Associate Director,

Technology Transfer Center,

National Cancer Institute.

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