



## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### **Government Owned Inventions Available for Licensing and/or Collaboration: Acyloxyacyl Hydrolase (AOAH) and Methods of Use as a Cancer Immunotherapy**

**AGENCY:** National Institutes of Health, HHS.

**ACTION:** Notice.

**SUMMARY:** The National Cancer Institute (NCI), an institute of the National Institutes of Health (NIH), Department of Health and Human Services (HHS), is giving notice of the inventions listed below, which are owned by an agency of the U.S. Government and are available for licensing and/or collaboration to achieve expeditious commercialization of results of federally-funded research and development.

**FOR FURTHER INFORMATION CONTACT:** Inquiries related to these licensing opportunities should be directed to: Kevin Chang, Ph.D., Technology Transfer Manager, NCI, Technology Transfer Center, Email: [changke@mail.nih.gov](mailto:changke@mail.nih.gov) or Phone: 240-276-6910.

**SUPPLEMENTARY INFORMATION:** Immune CheckPoint Inhibitors (ICIs) and T-cell based therapies are part of the emerging immunology-based therapies being used to treat cancers. However, the efficacy of ICI therapies can be limited and a substantial portion of patients develop resistance or tolerance to treatment. T-cell based cancer immunotherapies have only been approved for hematological cancers. They are suboptimal in solid tumor cancers due to physical barriers and the immuno-suppressive tumor microenvironment. Thus, additional therapies and strategies are needed to improve efficacy and expand the types of cancer amendable to treatment.

Scientists at the NCI have identified a secreted lipase, Acyloxyacyl Hydrolase (AOAH), produced by cells such as macrophages and dendritic cells that can potentiate immunotherapies in murine tumor models. The protein sensitizes T cell receptors to weak antigens and protects

dendritic cells through depleting immunosuppressive arachidonyl phosphatidylcholines and oxidized derivatives. Thus, the protein can potentially enhance the efficacy and types of cancers treated by ICI based and T-cell based immunotherapies.

This Notice is in accordance with 35 U.S.C. 209 and 37 CFR Part 404.

**NIH Reference Number:** E-038-2024.

**Product Type:** Therapeutic.

**Therapeutic Area(s):** Oncology | Immunology.

**Potential Commercial Applications:**

- Cancer immunotherapy.
- Combination therapy with ICIs or T-cell based therapies.

**Competitive Advantages:**

- Novel therapeutic entity.
- Potentially improved efficacy.
- Increased types of addressable cancers.

**Publication:**

- Gong L et al. Cancer Immunology Data Engine Reveals Secreted AOA as a Potential Immunotherapy. (<https://pubmed.ncbi.nlm.nih.gov/40730154/>).

**Patent Status:** U. S. Provisional Patent Application entitled, “Acyloxyacyl Hydrolase and Methods of Use” was filed on November 6, 2024.

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

**Collaboration Opportunity:** The NCI seeks licensing and/or co-development research collaborations for the development of AOA as an immunotherapy for cancer treatment.

Dated: September 30, 2025.

**Richard U. Rodriguez,**

*Associate Director,*

*Technology Transfer Center,*

*National Cancer Institute.*

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