

Targeting Cancer Cachexia with Soluble Epoxide Hydrolase Inhibitors

Tech ID: 34338 / UC Case 2024-596-0

ABSTRACT

Researchers at the University of California, Davis have developed a therapeutic approach to prevent and treat cancer cachexia by inhibiting soluble epoxide hydrolase, promoting resolution of systemic inflammation, mitigating muscle wasting, and improving survival outcomes in preclinical models without inducing toxicity or immunosuppression.

FULL DESCRIPTION

This technology involves the use of a soluble epoxide hydrolase inhibitor (sEHI) to treat cancer cachexia by targeting systemic inflammation and pro-inflammatory cytokines. Through pharmacological inhibition of sEH, this approach aims to harness the anti-inflammatory properties of epoxyeicosatrienoic acids (EETs) to mitigate muscle wasting and hyperinflammation in cancer cachexia. Preclinical models have demonstrated increased survival rates, reduced inflammation markers, and normalization of immune cell populations with sEHI treatment.

APPLICATIONS

- ▶ Pharmaceutical treatment for cancer cachexia in patients suffering from various types of cancer.
- ▶ Complementary therapy in oncology to improve patient outcomes and quality of life.
- ▶ Potential for development into a standard care regimen for managing cachexia symptoms in cancer patients.

FEATURES/BENEFITS

- ▶ First-of-its-kind approach targeting the host immune response for cancer cachexia treatment.
- ▶ Improves survival rates in murine cancer cachexia models without inducing toxicity or immunosuppression.
- ▶ Reduces expression of pro-inflammatory markers and restores balance to immune cell populations.
- ▶ Potential to significantly improve quality of life and survival for cancer patients affected by cachexia.
- ▶ Provides effective treatments for cancer cachexia, a major cause of morbidity and mortality in cancer patients.
- ▶ Treats systemic inflammation and muscle wasting associated with cancer cachexia.
- ▶ Provides a treatment that can target the underlying mechanisms of cancer cachexia without causing adverse effects.

CONTACT

Amir J. Kallas
ajkallas@ucdavis.edu
 tel: .



INVENTORS

- ▶ Hammock, Bruce D.
- ▶ Hwang, Sung Hee

OTHER INFORMATION

KEYWORDS

Cancer Cachexia, Host-Directed Therapy, Inflammation Resolution, Cancer Immunology

CATEGORIZED AS

- ▶ **Medical**
 - ▶ Disease: Cancer
 - ▶ Therapeutics

RELATED CASES

2024-596-0

PATENT STATUS

Patent Pending

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ Method of Preventing Bone Loss and Periodontal Disease
- ▶ Multi-Target Inhibitors for Pain Treatment
- ▶ Improved Dioxin Detection and Measurement
- ▶ Detection System for Small Molecules
- ▶ Small Molecule sEH Inhibitors to Treat Alpha-Synuclein Neurodegenerative Disorders
- ▶ Soluble Epoxide Hydrolase-Conditioned Stem Cells for Cardiac Cell-Based Therapy
- ▶ Beneficial Effects of Novel Inhibitors of Soluble Epoxide Hydrolase as Adjuvant Treatment for Cardiac Cell-Based Therapy
- ▶ Antibodies: Bacillus Delta Endotoxin PAbs
- ▶ Antibodies: Bromacil Herbicide PAbs
- ▶ Potential Therapeutic Agent for Laminitis in Equines
- ▶ Novel Neuropathy Treatment Using Soluble Epoxide Inhibitors
- ▶ Novel and Specific Inhibitors of p21
- ▶ Antibodies for Pseudomonas (P.) aeruginosa
- ▶ Inhibitor for Preventing the Onset of Neurodevelopmental Disorders
- ▶ Antibodies: Urea Herbicide Pabs
- ▶ Bioavailable Dual sEH/PDE4 Inhibitor for Inflammatory Pain
- ▶ Methods of Improving Cancer Immunotherapy
- ▶ Chemical Synthesis of Lipid Mediator 22-HDoHE and Structural Analogs
- ▶ Antibodies: Triazine Herbicide Pabs
- ▶ Optimized Non-Addictive Biologics Targeting Sodium Channels Involved In Pain Signaling
- ▶ Soluble Epoxide Hydrolase Inhibitors For The Treatment Of Arrhythmogenic Cardiomyopathy And Related Diseases
- ▶ A New Pharmaceutical Therapy Target for Depression and Other Central Nervous System Diseases

University of California, Davis

Technology Transfer Office

1 Shields Avenue, Mrak Hall 4th Floor,
Davis, CA 95616

Tel:

530.754.8649

techtransfer@ucdavis.edu

<https://research.ucdavis.edu/technology-transfer/>

Fax:

530.754.7620

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