Novel Neuropathy Treatment Using Soluble Epoxide Inhibitors

Tech ID: 24948 / UC Case 2015-426-0

ABSTRACT

Researchers at the University of California, Davis have developed a new method and composition of blocking pain using a novel class of analgesic agents and a synergistic combination involving soluble epoxide inhibitors.

FULL DESCRIPTION

About 60 to 70 percent of people with diabetes have some form of neuropathy. Diabetic neuropathies are a family of nerve disorders caused by diabetes, with symptoms such as pain, tingling, or numbness in the hands, arms, feet, and legs. Nerve problems can occur in every organ system, including the digestive tract, heart, and even sex organs. Current medications for diabetes-mediated pain target ion channels, but are largely ineffective at helping patients manage pain.

Currently, all FDA approved analgesics for neuropathic pain work by suppressing nerve activity. Although this is effective in certain cases, its limitations include lack of broad efficacy and serious side effects associated with blocking all neural excitability in a non-selective manner. There is a need for specific drugs to provide satisfactory therapy to a large number of patients suffering from neuropathic pain.

Researchers at the University of California, Davis have developed a new method and composition of blocking pain using a novel class of analgesic agents and a synergistic combination involving soluble epoxide inhibitors. This large class of inhibitors, which targets endoplasmic reticulum stress, treats the source of this unyielding pain instead of the symptoms. These compounds are non-opiate (non-addictive), non-nsaid (no detected cardiovascular or gastrointestinal toxicity), and do not cause the problems with strength, cognition, coordination, or mobility associated with other pain treatments. Due to the variety among soluble epoxide inhibitors, it would allow clinicians to specifically target particular pain regions rather than suppressing neural activity on the whole.

APPLICATIONS

- Treatment for neuropathy

FEATURES/BENEFITS

- Treats the root cause of pain
- Provides a variety of therapy options
- Target types of pain that are not treated effective

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,813,894	10/27/2020	2015-426

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OTHER INFORMATION

KEYWORDS

blocking pain, analgesic, epoxide inhibitors, neuropathy

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Medical**
  - Delivery Systems
  - New Chemical Entities, Drug Leads
  - Rehabilitation
  - Therapeutics

RELATED CASES

2015-426-0

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
- Targeting Cancer Cachexia with Soluble Epoxide Hydrolase Inhibitors
- 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 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

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