Silyl-lipid Cannabinoids with Enhanced Biological Activity

Tech ID: 34361 / UC Case 2020-504-0

ABSTRACT

Researchers at the University of California, Davis have developed a therapeutic use of cannabinoids for the treatment of Neurodegenerative Disorders (NDDs).

FULL DESCRIPTION

This technology involves the use of cannabinoids, mainly cannabidiol (CBD), in treating neurodegenerative disorders such as epilepsy, dementia, Alzheimer's, and Parkinson's disease. The treatment targets the endocannabinoid system, particularly the cannabinoid receptors CB1 and CB2, wherein selective activation of the CB2 receptor is pursued. Through modifying the chemical structure of CBD and other phytocannabinoids, the treatment aims to enhance potency and bioavailability, overcome the psychoactive effects of CB1 activation, and design an optimally selective CB1/CB2 agonist.

APPLICATIONS

- Useful in addressing a variety of neurodegenerative disorders.
- Potential application in the growing market of cannabinoid therapeutics.
- Possible use in designing new or improved medications for various CNS diseases.

FEATURES/BENEFITS

- Targets the endocannabinoid system, which has been shown to play a part in neuroprotective mechanisms.
- Works to selectively activate CB2 receptors, reducing psychoactive effects.
- Modifies the chemical structure of CBD to create more potent and bioavailable therapeutics.
- Can be synthesized using efficient reactions from a variety of commercially available reagents.
- Overcomes limitations of current cannabinoid therapeutics, which are often required in high doses and have poor oral bioavailability.
- Allows for selective activation of cannabinoid receptors, which can aid in avoiding undesirable psychoactive effects.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2023/146914	08/03/2023	2020-504

Patent Pending

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Silyl-lipid N-acyl L-homoserine Lactones (AHLs) as Quorum Sensing Molecules (for Biofilms)
- Cationic Silyl-Lipids for Enhanced Delivery of Anti-viral Therapeutics

CONTACT

Prabakaran Soundararajan
psoundararajan@ucdavis.edu
tel: .



INVENTORS

- Cobo, Angel
- Franz, Annaliese K.

OTHER INFORMATION

KEYWORDS

bioavailability, cannabinoid receptors, cannabidiol, chemical synthesis, cannabinoids, neurodegenerative disorders, neuroprotection, pharmaceutics, selective agonist, therapeutic

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Materials & Chemicals**
  - Chemicals
- **Medical**
  - Disease: Central Nervous System
  - New Chemical Entities, Drug Leads
  - Therapeutics

RELATED CASES

2020-504-0

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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