

# CANNABINOID INHIBITION OF K<sup>+</sup> CHANNELS RELEVANT TO EPILEPSY AND CHANNELOPATHIES

Tech ID: 33756 / UC Case 2025-035-0

## PATENT STATUS

Patent Pending

## BRIEF DESCRIPTION

This invention describes a novel method for the inhibition of specific potassium ion channels, particularly TWIK-related arachidonic acid-activated K<sup>+</sup> channels (TRAAK), using cannabinoid compounds. The research demonstrates that these compounds can be used to modulate the function of these channels, which are implicated in various neurological and physiological disorders, including epilepsy. This approach presents a new pharmacological strategy for targeting these channels and developing treatments for associated conditions.

## SUGGESTED USES

- **Novel Treatment for Epilepsy:** The development of a new class of anti-epileptic drugs that target K<sup>+</sup> channels to manage and prevent seizures.
- **Treatment of Channelopathies:** Therapeutic applications for other diseases caused by defects in ion channels, such as certain forms of pain syndromes, muscular disorders, and cardiac arrhythmias.
- **Non-Opioid Pain Management:** The creation of new analgesic compounds with a distinct mechanism of action, offering an alternative to traditional opioid-based pain relief.

## ADVANTAGES

- **Targeted Mechanism:** Provides a highly specific method to modulate K<sup>+</sup> channel activity, potentially reducing off-target effects and side effects compared to broad-acting drugs.
- **New Pharmacological Class:** Introduces cannabinoid compounds as a new class of drugs for treating neurological and channel-related disorders, expanding the available therapeutic options.
- **Potential for Reduced Side Effects:** As a novel class of compounds, these drugs may offer a more favorable side effect profile than current treatments for epilepsy and pain.

## RELATED MATERIALS

## CONTACT

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## INVENTORS

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## OTHER INFORMATION

### CATEGORIZED AS

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

### RELATED CASES

2025-035-0

