Protein Kinase C Epsilon Small Molecule Inhibitors to Treat Pain, Anxiety, Alcoholism, and Nicotine Addiction

Tech ID: 27379 / UC Case 2012-125-0

INVENTION NOVELTY

This invention provides new inhibitors to protein kinase C epsilon (PKCε) for the treatment and prophylaxis of various diseases such as pain, anxiety, alcoholism, inflammation, cancer, diabetes, and other conditions.

VALUE PROPOSITION

Members of the PKC family have been implicated in diseases/disorders that afflict a significant portion of the human population. In particular, PKCε has been shown to play a role in pain, anxiety, alcoholism, inflammation, cancer, diabetes, and other conditions.

Compounds that inhibit PKCε are expected to have analgesic, anxiolytic, anti-addictive, and anti-inflammatory benefits. However, there are no selective small molecule inhibitors of PKCε available.

This novel invention provides the following advantages:

▶ Novel family of inhibitors that can target PKCε and other isoforms
▶ Highly selective, small molecule inhibitors
▶ Inhibit PKCε in the nanomolar range
▶ Preferred oral administration route

TECHNOLOGY DESCRIPTION

Researchers at the University of California, San Francisco have identified novel family of inhibitors to PKCs and in particular the PKCε isoform. The compounds also act as inhibitors to novel PKC theta. The compounds are prepared from amine- or carboxylic acid- containing intermediates that react with complementary reactive molecules to form the desired compound. Tested compounds show selective and specific inhibition of PKCε in both in vitro and in vivo models.

APPLICATION

-Pain

-Anxiety

-Addiction
- Inflammation
- Cardiac and cerebral ischemia
- Cancer
- Diabetes

**LOOKING FOR PARTNERS**

To develop & commercialize this technology as oral medications to treat pain, anxiety, alcoholism, and nicotine addiction

**STAGE OF DEVELOPMENT**

Preclinical

**RELATED MATERIALS**


**DATA AVAILABILITY**

In vivo and in vitro data

**PATENT STATUS**

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<td>United States Of America</td>
<td>Issued Patent</td>
<td>9,376,423</td>
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<td>8,785,648</td>
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**ADDITIONAL TECHNOLOGIES BY THESE INVENTORS**

- NOVEL MOLECULAR TARGET AND NOVEL ANALGESIC COMPOUNDS FOR PAIN