Novel Prodrug For Anti-Cancer Therapeutic Applications

Tech ID: 31984 / UC Case 2020-332-0

BRIEF DESCRIPTION

Inventors at UCI have developed a modified nutrient transporter inhibitor for use as a cancer therapeutic with minimal side effects.

SUGGESTED USES

·Anti-cancer therapeutic

FEATURES/BENEFITS

·Anti-leukemic effect at similar dosages to FTY-720 in mouse models

·No evidence of immunosuppression or slowing of heart rate in mouse models

·Designed to be inactive in the blood stream but becomes active once taken up into the cells.

FULL DESCRIPTION

FTY-720 or Fingolimod is currently FDA approved for treating multiple sclerosis. Fingolimod is also a nutrient transport inhibitor, which makes it an effective anti-cancer therapeutic. However, at the dose required for a cancer application, fingolimod shows two major side effects that disfavors fingolimod as a cancer therapeutic: (1) A slowing of the heart rate and (2) A suppression of the immune system.

Inventors at UCI have developed a derivative of FTY-720 that maintains an anti-leukemic effect while showing no effects of a slowed heart rate or immunosuppression in an in vivo tumor mouse model. The methodology used to make this version of FTY-720 allows it to be easily scaled up for mass production.

STATE OF DEVELOPMENT

Inventors are in the preclinical stage and have demonstrated prodrug effectiveness in vitro and in vivo with no known side effects. They are currently working on comprehensive toxicology, pharmacokinetic and pharmacodynamic modeling for the purpose of starting clinical trials.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,696,904	07/11/2023	2020-332

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INVENTORS

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OTHER INFORMATION

CATEGORIZED AS

» **Medical**
» Disease: Cancer
» New Chemical Entities, Drug Leads
» Therapeutics

RELATED CASES

2020-332-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Genetically Engineered Dendritic Cell-Derived Vaccines

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