Using Abemaciclib to Treat Traumatic Brain Injury

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ABSTRACT

Researchers at the University of California, Davis have developed a technology that provides a method for treating traumatic brain injury (TBI) using a therapeutically effective dose of a selective cyclin-dependent kinase 4 (CDK4)/cyclin-dependent kinase 6 (CDK6) inhibitor.

FULL DESCRIPTION

The technology introduces a method comprising of administering a selective CDK4/CDK6 inhibitor for the treatment of TBI. This treatment can be effected during the acute stage of TBI, within about 0.1 to 9 hours following the incident, and depending on the severity of the injury, the administration of the inhibitor might be oral or intravenous. The approach is designed to reduce secondary brain injury, preserve neuronal function, and improve recovery following TBI.

APPLICATIONS

- Treatment of TBI in emergency medical settings.
- Use in chronic management of TBI effects.
- Potential use in other neuronal disorders treatment.

FEATURES/BENEFITS

- Provides treatment for TBI, where there's currently no FDA-approved drug.
- Promotes hippocampal neuronal survival following TBI.
- Improves cognitive and motor function in patients.
- Decreases symptoms of TBI-induced brain damage.
- Decreases side effects compared to higher doses of the inhibitor.
- Addresses lack of approved treatment for TBI.
- Addresses decrease in motor and cognitive dysfunctions related to TBI.
- Minimizes side-effects of high-dose treatments.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20240366601	11/07/2024	2022-510

INVENTORS

- Bauer, Sawyer
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- Lyeth, Bruce G.
- Martin, Ryan M.
- Shahlaie, Kiarash

OTHER INFORMATION

KEYWORDS

abemaciclib, brain damage, cognitive function, cyclin-dependent kinase inhibitor, motor dysfunction, neurological recovery, neuronal survival, traumatic brain injury, TBI treatment, therapeutics

CATEGORIZED AS

- **Medical**
  - Disease: Central Nervous System
  - Therapeutics

RELATED CASES

2022-510-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Using Dasatinib to Treat Traumatic Brain Injury

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