Iboga Entactogens

Tech ID: 34762 / UC Case 2024-575-0

CONTACT

Prabakaran Soundararajan
psoundararajan@ucdavis.edu
tel: .

INVENTORS

- Domokos, Andras
- Iyer, Rishab
- Olson, David E.

OTHER INFORMATION

KEYWORDS

addiction, antidepressant, anxiolytic, dendritic spine density, iboga alkaloids, neural plasticity, neuropsychiatric disorders, serotonin transporter, synthetic chemistry, therapeutics

CATEGORIZED AS

- **Biotechnology**
  - Health
- **Medical**
  - Disease: Central Nervous System

ABSTRACT

Researchers at the University of California, Davis have developed ibogaine-related compounds that promote neural plasticity and treat neuropsychiatric and neurological disorders.

FULL DESCRIPTION

This technology features novel ibogaine analogues and their pharmaceutically acceptable salts designed to increase dendritic spine density and enhance neural plasticity. These compounds may modulate serotonin transporter function and/or activate serotonin receptors, fostering neuronal growth and improved neuronal architectures, potentially reversing structural brain alterations seen in various brain disorders. The synthetic strategies allow efficient production of natural and non-natural iboga alkaloid analogues, showing promise for treating neuropsychiatric conditions such as depression, addiction, and anxiety.

APPLICATIONS

- Treatment of depression, anxiety, and addictive disorders.
- Treatment of traumatic brain injury.
- Neuropsychiatric disorder therapies targeting brain structure restoration.
- Neurodegenerative and neurological disease interventions promoting neuronal growth.
- Pharmaceutical development of neuroplasticity-enhancing drugs.
- Research tools for studying serotonin transporter modulation and synaptic plasticity.

FEATURES/BENEFITS

- Promotes cortical neuron growth and enhances neuroplasticity.
- Modulates serotonin transporter/receptor activity to support therapeutic effects.
- Improves synaptic connectivity by targeting plasticity deficits at the neuronal level.
- Demonstrates antidepressant, anxiolytic, and anti-addictive activity in preclinical studies.
- Accelerates lead optimization by enabling selective, efficient synthesis of multiple analogues with tunable modifications.
- Reverses loss of dendritic spines and synapses associated with brain disorders.
- Restores dendritic arbor complexity to improve neuronal communication.
- Expands therapeutic options for neuropsychiatric and neurological diseases marked by synaptic deficits.
- Addresses the lack of compounds that strengthen top-down control of motivation, fear, reward, and cognition.
- Delivers candidates that produce rapid and durable structural improvements in neurons.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20260055109	02/26/2026	2024-575

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Novel Psychoplastogenic Tropanes for Treating Brain Disorders
- Combinations of Psychoplastogens and DYRK1A Inhibitors
- dimerLight

- New Chemical Entities, Drug Leads
- Therapeutics

RELATED CASES

2024-575-0

▶ Psychoplastogens For Treating Hearing-Related Disorders

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