



Company Overview

Neurokappa Therapeutics is a start-up biopharmaceutical company focused on the development of Salvinorin A for the prevention and treatment of cerebral vasospasm following subarachnoid hemorrhage. Salvinorin A is the active drug substance isolated from the leaves of the *Salvia divinorum* plant and has been used recreationally for its short-lived psychotropic effects.

Unmet Medical Need

Subarachnoid hemorrhage (SAH) is a devastating disease with a high unmet need. It results from a rupture of an intracranial aneurysm. After the rupture is repaired, treatment focuses on maintaining cerebral perfusion and treating/preventing cerebral vasospasm (CVS), which occurs in approximately 70% of SAH patients within 14 days. Despite advanced surgical and endovascular techniques, SAH results in a 20% death rate. Among survivors, 50% experience poor outcomes, primarily related to neurological deficits. SAH is a precedented orphan disease with an incidence of approximately 1 per 10,000 persons per year.

Novel Treatment

Salvinorin A is a highly selective non-opioid kappa opioid agonist with few off-target effects. It is a potent and selective dilator of the cerebral vasculature, exhibits rapid penetration through the blood-brain barrier, has potent anti-inflammatory properties, and has the ability to preserve neurovascular unit integrity. As such, Salvinorin A is an ideal compound for the prevention and treatment of cerebral vasospasm following subarachnoid hemorrhage.

The safety and tolerability of Salvinorin A has been observed in 6 human clinical trials with 80 participants. The largest study was a 30 patient double blind, placebo-controlled, randomized study over 8 weeks. The results showed no dose related effects on BP and HR, no significant adverse events and no evidence of persisting effects at the 1-month follow-up.

Founder Information

Renyu Liu, MD, PhD, Founder, Assistant Professor, Perelman School of Medicine. Dr. Liu is the founder of Neurokappa Therapeutics and Director of Preoperative Medicine, Department of Anesthesiology and Critical Care at the University of Pennsylvania. He is also a faculty member at the Institute for Translational Medicine & Therapeutics.

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