



Title: Neuroprotective role of Camalexin in Aldehyde Dehydrogenase Mediated Benomyl Induced Parkinson's disease in Zebrafish and Animal Models

Domain: Pharmacy

Unmet Need & Opportunity

Rapid Symptom Relief: A nasal spray or drops could provide faster symptom relief by delivering medication directly through the nasal mucosa.

Improved Medication Compliance: Some patients with Parkinson's experience swallowing difficulties (dysphagia), making oral medications challenging to administer. A nasal spray/drops option would offer a more accessible and user-friendly alternative.

Reduction of Motor Fluctuations: In advanced stages of Parkinson's, patients may face motor fluctuations due to uneven drug absorption. Nasal delivery could help maintain more consistent drug levels and improve movement control.

Stage of Development

TRL: 5

The neuroprotective effects of Camalexin are tested in larger, more comprehensive preclinical studies, including both zebrafish and animal models. These studies are designed to refine the understanding of its pharmacokinetics, safety, and effectiveness.

Applications / Use case

- The product will have a greater impact in the Pharma sector to manufacture for its large quantity preparation
- To improve human health and betterment of the affected people with Parkinson's disease.
- Cost effectiveness of the product.

Technology Description

Our product, 'Camalexion: Anti-parkinsons Nasal Spray/Drops' is designed to deliver the drug camalexin to the brain directly through nasal route thereby achieving better bioavailability, which is a common drawback of most of the existing drugs use for Parkinson's treatment. Also, the compound possesses substantial anti-parkinsons activity compared to the other anti-parkinson drugs reported in our previous work.

Market Scope

The global parkinson's disease treatment market size was estimated at USD 5.65 billion in 2024 and is expected to grow at a CAGR of 5.04% from 2025 to 2030.

Value Proposition

Fast-Acting Relief: Camalexion delivers rapid symptom relief by bypassing the gastrointestinal tract and directly absorbing through the nasal mucosa

Enhanced Patient Convenience: The nasal spray/drops format provides a non-invasive, easy-to-use alternative for patients

Consistent Symptom Control: By offering a quick and reliable delivery method, Camalexion helps maintain steady therapeutic levels of medication, reducing motor fluctuations and improving patients' overall quality of life.

IP Status

Indian Patent: **IN553070** (Priority date/Filing date: 01/05/2021)

Transaction Opportunity

Exclusive, Non-Exclusive Licensing & Option License Agreement (co-develop or collaboration for further validation)

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