PureIMS has global rights to Levodopa Cyclops<sup>™</sup>, a levodopa pre-filled dry powder inhaler for the treatment of Parkinson's Disease patients suffering from OFF-episodes. PureIMS is a clinical-stage pharmaceutical and medication systems company focused on developing and commercializing innovative inhaled therapies for the treatment of systemic and respiratory diseases with significant unmet medical needs.



## Levodopa

Levodopa has been used as maintenance treatment for Parkinson's disease (PD) for over 50 years and remains the most effective therapy available. However, OFF-episodes continue to present a serious burden and remain a substantial unmet medical need.

Patients with acute OFF-episodes need rescue therapy to be able to participate in daily activities. Rescue therapies augment maintenance therapies and are intended to provide rapid and predictable relief.

#### Major unmet medical needs in PD-patients:

- Patients in mid- and late-stage disease suffer from variable therapeutic efficacy resulting in periodic motor-fluctuations (OFF-episodes)
- Currently available medication insufficient to effectively offer rescue with fast onset of action.

# Levodopa Cyclops™

#### Cyclops™:

Cyclops<sup>™</sup> is an easy-to-use, pre-filled, disposable DPI that PureIMS develops for high-dose drugs and emergency applications.



This patent-protected DPI is cost-effective to produce because of its simple yet sophisticated design. Upon inhalation it uses the patient's breath to disperse the dry powder into small particles appropriately sized for deep lung deposition and, if required, rapid absorption of the drug into the circulation. Cyclops<sup>™</sup> has several advantages over standard-of-care products across key therapeutic areas. The above-mentioned attributes enable its hygienic and effective use on a worldwide scale.

#### Levodopa Cyclops™:

Levodopa Cyclops<sup>™</sup> carries a formulation with a high drug load (98%) and has excellent *in vitro* and *in vivo* performance. Cyclops<sup>™</sup> offers PD patients easier and more convenient handling, a faster onset of action and more flexible dosing compared to other treatments.

Levodopa Cyclops<sup>™</sup> also has clear advantages as rescue therapy compared to subcutaneous and sublingual apomorphine. Apomorphine causes nausea and vomiting, which necessitates regular use of anti-emetics. Additionally, subcutaneous apomorphine requires (auto)injection, which poses a burden to the patient, while sublingual

apomorphine frequently causes oral lesions which stops 1 out of 5 patients from continuation of therapy.

#### **Clinical studies:**

Studies showed that PD patients experiencing an OFFepisode are able to readily use Levodopa Cyclops<sup>™</sup>. Single doses of 30, 60 and 90 mg were well tolerated.

Inhaled doses resulted in a much shorter time to maximum plasma concentration and less variability than oral levodopa, both of which are prerequisites for rapid and predictable OFF-episode relief.



#### **Regulatory:**

The FDA confirmed applicability of the 505(b)(2) regulatory pathway thus opening a fast development route to market authorization for Levodopa Cyclops<sup>™</sup> within 3 years.

## **Manufacturing and IP Protection**

PureIMS has a GMP manufacturing facility licensed for the production of Cyclops<sup>™</sup> IMPs. Cyclops<sup>™</sup> is IP-protected until 2034.

### Contact

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