7-2006-398 | Oxidized Cellulose Used to Prevent Allergic Reaction in Asthma, Seasonal Allergies, and Atopic Dermatitis

Shoseyov Oded, HUJI, Faculty of Agricultural, Food and Environmental Quality Sciences, Plant Sciences and Genetics

**Highlights**

- Prevention of IgE-mediated allergic reaction by blocking and clearing pollen allergens with oxidized cellulose via its polysaccharide binding domain.
- Mode of administration: inhalation, intranasal, ocular, topical and mucosal.
- Oxidized cellulose has a long safety track record as an invasive medical device.
- A commercial source of GMP manufactured oxidized cellulose has been selected.
- Easy 510(k) regulatory pathway for certain indications.

**Our Innovation**

- Oxidized cellulose, effectively prevents allergies, asthma and hay fever.
- This is a biodegradable and biocompatible product that has exhibited a high efficiency for binding a broad-spectrum of allergens (pollen, mites, egg and cat dander).
- The low solubility level enables it to be cleared by the mucocilliary system from the airways to the gastro-intestinal track. In addition, the oxidised cellulose, bind the allergens and prevents epithelium barrier penetration thus prevents allergic reaction.
- The half life of oxidized cellulose is 14 days in the lungs and 55 days in the body.
- Mouse and Rat models (in vivo and in vitro) have established oxidized cellulose powder inhalation as an effective treatment in the reduction of allergic inflammation in the lungs.
- In-vitro assays have been developed to demonstrate mode of action and

**The opportunity**

- 5 to 15% of the population in industrialized world have asthma. The prevalence and morbidity of asthmas has been on the rise, despite standard (steroids) and new treatments.
- Asthma is the third leading cause of hospitalization among persons under the age of 18.
- Allergy related symptoms such as atopic dermatitis and hay fever affect huge populations.

**Development Milestones**

- The project is presently seeking to raise additional funding for clinical development

**Patent Status**

Published WO 2020/031186

Granted US 9,095,603; Europe 2001491; Israel 194497

Contact for more information:
Shani Bullock
VP, Business Development, Healthcare
+972-2-6586608

Yissum Research Development Company of the Hebrew University of Jerusalem
Hi-Tech Park, Edmond J. Safra Campus, Givat-Ram, Jerusalem
P.O. Box 39135, Jerusalem 91390 Israel
Telephone: 972-2-658-6688, Fax: 972-2-658-6689