Proteins From Asthma-Protective Amish Farm Dust

Title: Proteins from Asthma-Protective Amish Farm Dust

Invention: This technology involves 8 proteins that have been identified from fractions of Amish farm dust, which have been shown to protect against asthma in mice models. These 8 proteins consist mainly of environmental allergens that can induce an immune response and have the potential to be utilized for allergen immunotherapy to help protect against and treat asthma.

Background: Over 300 million people worldwide suffer from asthma, a condition that is characterized by the inflammation of the airways making it difficult to breathe. Current strategies to prevent asthma rely on long term medication and preventative measures such as avoiding triggers like physical exertion or known allergens. The exact cause of asthma is unknown but both genetic and environmental factors have been shown to play a role in the development of asthma. Recent studies in Amish children have shown that they display a much lower rate of asthma prevalence compared to other populations. In particular, exposure to Amish farm dust appears to play a role in lower asthmatic incidences within the children of Amish communities. During its development, the technology presented here explored different components found within the Amish farm dust and screened them for their ability to protect against asthma, which revealed 8 target proteins that may have the potential to proactively prevent the induction of asthma as well as treat current cases of asthma.

Applications:
- Prevention and treatment of asthma

Advantages:
- Prevents induction of asthma
- Reduces asthmatic incidences
- Treats underlying allergies

Contact: Rakhi Gibbons
Asst. Director, Life Sciences
rakhig@tlia.arizona.edu
(520) 626-6695
Licensing Manager:
Rakhi Gibbons
RakhiG@tla.arizona.edu
(520) 626-6695

Inventors
Erika VonMutius
Part time appointed, AZ Respiratory center
Shane Snyder
Professor, Chemical & Environmental Engr
Donata Vercelli
Professor, Cell Biology & Anatomy
Fernando Martinez
Director, Arizona Respiratory Center

The University of Arizona, Tucson, Arizona