Researchers at the University of South Florida have discovered a novel target, ALDH2, that improves endothelial dysfunction; this is a promising therapeutic approach for allergic diseases.

About 60 million people suffer from allergic diseases in the United States alone ranging from food allergies to chronic obstructive pulmonary disease (COPD). Sneezing and shortness of breath are often associated with allergies. Many allergic diseases cause endothelial dysfunction and changes in vascular permeability such as edema, asthma, and COPD. Most allergy medications treat the symptoms as opposed to the underlying problems.

USF inventors have found a new target and therapeutic approach for allergic diseases. Aldehyde dehydrogenase 2 (ALDH2) combats mitochondrial dysfunction, which can be an effective treatment for allergic diseases. Our research team has found that Alda-1 is a novel specific activator of ALDH2. Alda-1 effectively amplifies ALDH2 activity, shields against cellular damage in diseases such as heart failure, and attenuates endothelial dysfunction in pulmonary diseases. This novel target and specific activator are a promising therapeutic approach to treating allergic diseases where endothelial dysfunction is a characteristic event.

ADVANTAGES:

- Applicable to a wide range of diseases
- Targets the cause not just the symptoms
- Shields cellular damage
- Effective treatment option

Novel Target and Therapeutic Approach for Allergic Diseases via Preservation of Mitochondria

Cells Treated with Alda-1 Display Elevated ALDH2 Activity During Both Normoxia and Hyperoxia