ditional Overexpression of RAGE in Murine Lungs and Its Implications for C

ID: 2013-044

Executive Statement:

This study demonstrates how conditional overexpression of RAGE in the lungs can mimic COPD-like symptoms, offering new insights into the disease's pathogenesis.

Technology Overview:

The research conducted at Brigham Young University focuses on the effects of conditional overexpression of the receptor for advanced glycation end-products (RAGE) in adult murine lungs. By creating a model that simulates chronic obstructive pulmonary disease (COPD) through RAGE overexpression, the study provides a detailed examination of the resultant lung remodeling, inflammation, and potential pathways for therapeutic intervention.

Key Advantages:

- Provides a novel model for studying COPD without the need for tobacco smoke exposure
- Highlights the critical role of RAGE signaling in lung tissue remodeling and inflammation
- Offers potential targets for therapeutic intervention in COPD treatment

Problems Addressed:

- Lack of animal models that accurately simulate COPD pathogenesis without external stressors like tobacco smoke
- Insufficient understanding of the molecular mechanisms driving COPD progression
- Need for new therapeutic targets to treat or manage COPD

Market Applications:

- Pharmaceutical development targeting RAGE pathways for COPD treatment
- Diagnostic tools based on RAGE expression levels in lung tissue
- Preclinical research models for studying lung diseases and potential interventions