Transgenic Mouse Model for Chronic Rhinosinusitis Research

ID: 2012-051

Executive Statement:

A revolutionary transgenic mouse model designed to elucidate the role of RAGE in inflammation and chronic rhinosinusitis.

Technology Overview:

This innovative technology involves a specially engineered mouse that can express the receptor for advanced glycation end-products (RAGE) in a controlled manner, both spatially and temporally, using doxycycline. This model is poised to significantly advance our understanding of inflammation associated with chronic rhinosinusitis (CRS), particularly in conditions exacerbated by smoke exposure, and explore RAGE's potential as a therapeutic target.

Key Advantages:

- Enables precise control over RAGE expression without the need for external stimuli
- Facilitates in-depth study of molecular mechanisms behind CRS
- Opens new avenues for identifying therapeutic targets for CRS
- Novel application to oral tissues, expanding research possibilities

Problems Addressed:

- Lack of effective models to study the specific role of RAGE in CRS inflammation
- Difficulty in understanding the molecular mechanisms causing CRS
- Challenges in identifying potential therapeutic targets for CRS treatment

Market Applications:

- Biomedical research focusing on inflammation and chronic inflammatory diseases
- Pharmaceutical development for new treatments targeting RAGE pathways
- Academic and clinical research tools for studying the effects of smoke exposure on CRS