1. No.
   2020G025

2. Title
   Impact of Aerosol from Heated Tobacco Products on Amyloid Pathology in a Knock-In Mouse Mmodel of Alzheimer Disease

3. Period
   2020-2024

4. Summary
   The study aimed to clarify the impact of aerosol inhalation from heated tobacco products (HTPs) on Alzheimer's disease (AD) pathology using a mouse model. A non-ventilated chamber was used to establish an HTP exposure environment, and the effects of chronic exposure on amyloid-β accumulation and related gene expression in the brain were evaluated. The results revealed increased expression of gene groups reflecting homeostatic changes in the brain associated with smoking, suggesting that HTPs may affect the brain through mechanisms distinct from conventional cigarettes. These findings were published in Scientific Reports, providing fundamental insights into the relationship between HTPs and AD. Additionally, a proteomics analysis using nSecretome mice was initiated to investigate changes in blood proteins associated with HTP exposure, aiming to identify potential brain-derived biomarkers. Achieving this goal could establish a foundation for exploring the link between HTPs and AD at the human level. Overall, the study provided experimental findings critical for evaluating the health risks of HTPs and designing epidemiological studies. These results contribute to the mission of the Smoking Research Foundation for the prevention of smoking-related diseases and public health awareness.