1. No.
   2022Y009

2. Title
   The Impact of Passive Smoking on Mucin Production in the Nose and Pneumococcal Transmission

3. Period
   2022-2024

4. Summary
   In present study, principal investigator introduced a cigarette smoke exposed invasive pneumococcal disease developing mouse model. Current results demonstrated that MUC16 affected the course of invasive pneumococcal disease under cigarette smoke exposure and would be important to maintain mucosal barrier function including inflammatory cell infiltration and tight junction. Previous studies related to the impact of cigarette smoke exposure to invasive pneumococcal disease have focused on the risk of diseases and phenotypes caused by cigarette smoking. Present study is a novel study focusing on what molecules affect pneumococcal infection under cigarette smoke exposure.

   This study is expected to lead to the prevention strategies against pneumococcal infection based on the defense mechanism of the airway mucosa. On the other hand, past study has shown that exposure to cigarette smoke promotes the pneumococcal colonization and transmission which are the preliminary phase to the onset of infection. Future studies focusing on the prevention of the colonization and transmission under the exposure to cigarette smoke are needed.