



High Impact Research Grant:

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Project Title: The Role of Tuft Cells in Salivary Gland Immunity

Abstract

Tuft cells are rare chemosensory cells capable of producing an unusual spectrum of biological effector molecules, such as interleukins, eicosanoids and neurotransmitters. Previous studies have shown that tuft cells are capable of triggering immune responses in different organs via chemosensory transduction. Although tuft cells have been detected in salivary glands, their functions in this organ are unknown. The aim of this project is to explore role of tuft cells in salivary gland immunity. This grant application proposes (1) to investigate tuft cell distribution and function in salivary gland epithelium; (2) to determine tuft cell chemosensory components in salivary gland epithelium; (3) to determine the role of tuft cells in salivary gland immunity utilizing a Sjögren's disease-like mouse model and human specimens. Together, the new generated information will allow a better understanding of tuft cell biology in salivary gland and provide therapeutic targets for salivary gland diseases.