3-P2-19

Poster Sessions

Cdc42-deficiency induces salivary hyposalivation and maintains lacrimal secretion in mice.

Nagase Haruna, Akiko Shitara, Yuta Ohno, Masanori Kashimata

Asahi Univ., Dent., Pharmacol.

Senescence induces exocrine insufficiency which leads to decreased quality of life because of depletion of saliva and/or tears. These secretions have been considered to share the similar mechanism, although the detailed differences in functions have not been clarified. In this study, we generated acinar cells-specific Cdc42-knockout mice by Cre-loxP system to elucidate the secretion mechanism among these organs. The results showed tissue weights of the salivary and lacrimal glands were reduced by a deficiency of Cdc42. Moreover, actin staining revealed that the luminal structure was destroyed in both glands. The volume of pilocarpine-stimulated secretion of saliva decreased after knockout of Cdc42, correlating with tissue weight results. On the other hand, the tear volume was unexpectedly maintained even though the tissue weight was decreased. These results suggest that saliva and tear may have different secretory mechanisms. While the identification of factors which maintain exocrine secretion must await further investigation, the factors might be a therapeutic target of xerostomia.