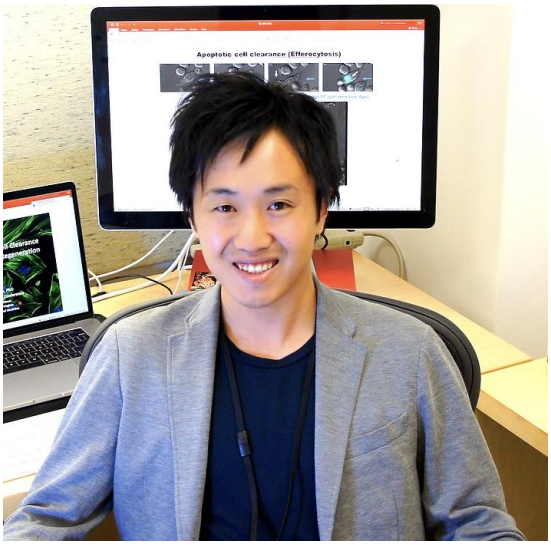
# Seminar

## Efficient removal of apoptotic cells during tissue injury via chimeric receptors for efferocytosis





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Our bodies turnover billions of apoptotic cells daily that is coupled to clearance of these cells by phagocytes via the process of ‘efferocytosis’. Defects in efferocytosis have been linked to various inflammatory diseases. Here, we designed a new strategy to boost efferocytosis, denoted ‘chimeric receptor for efferocytosis’ (CHEF). We fused a particular signaling domain within the cytoplasmic adapter ELMO1 to the extracellular phosphatidylserine recognition domains of the efferocytic receptors BAI1 or TIM4, generating BELMO and TELMO, respectively. CHEF expressing phagocytes displayed a striking increase in efferocytosis. In mouse models of inflammation, BELMO expression attenuated colitis, hepatotoxicity, and nephrotoxicity. Finally, TELMO introduction after onset of kidney injury significantly reduced fibrosis. Collectively, these data advance a concept of chimeric efferocytic receptors to boost efferocytosis and dampen inflammation. (***Cell*** in press)


**Date and Venue:**

**Tuesday, November 29, 2022**
**3:00 p.m. to 4:30 p.m.**
**#1 and #2 Seminar Room,**
**2F., Faculty of Medicine Experimental Research Bldg.**
**(**医学部教育研究棟**2**階 第**1**第**2** セミナー室**)**

**Host:**

**Prof. Tomoyoshi Nozaki**, Department of Biomedical Chemistry, Graduate School of Medicine
**Assoc. Prof. Ryuta Koyama**, Laboratory of Chemical Pharmacology, Graduate School of Pharmaceutical Sciences