

イノベーティブ・ デンティストリー特論

**CROSSTALK BETWEEN THE IMMUNE AND
SKELETAL SYSTEMS IN BONE DISORDERS**
骨疾患に潜む骨と免疫システムの相互連関

Nov. 14TH, 2025, PM5:00-7:00

岡山大学鹿田キャンパス 歯学部棟4階 応用講義室

PROFESSOR.

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Bone is the key component of the locomotor system that supports and moves the body. The immune system is the host defense system that eliminates foreign substances such as microorganisms. Bone and the immune system may seem completely unrelated, but in fact they mutually influence each other by sharing a variety of regulatory molecules including cytokines as well as the tissue microenvironment. Aberrant immune activation often stimulates bone cells such as osteoclasts and osteoblasts, disturbing the bone remodeling and leading to skeletal disorders as seen in autoimmune diseases like arthritis, infectious diseases and bone cancer. In addition, the bone marrow is the primary lymphoid organ where hematopoietic stem cells and immune progenitors are maintained, and the interplay between bone marrow mesenchymal cells and immune cells establish the environment for bone marrow hematopoiesis. Thus, pathological disruption of the bone marrow microenvironment can affect the immune system through the hematopoietic alterations. In this seminar, I will introduce our studies on immune-bone crosstalk that contributes to the pathogenesis of skeletal diseases, tissue regeneration and bone metastases.

REFERENCES:

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- Asano T, Okamoto K et al, *Nature Metabolism*, 1: 868-875, 2019
- Inoue M, Okamoto K et al, *Nature Immunology*, 19: 1265-1276, 2018
- Terashima A, Okamoto K et al, *Immunity*, 44: 1434-43, 2016
- Guerrini MM, Okamoto K et al, *Immunity*, 43:1174-85, 2015
- Okamoto K et al, *Nature*, 464: 1381-1385, 2010

The study group are considered as classes of "Introduction of Basic Medical Sciences" and "Introduction of Clinical Medical Sciences" and counted for the unit accreditation. Receive a sign from the organizer on the "Attendance Card", when you attend them. Staffs, graduate students, undergraduate students, and anyone who are interested in are welcome to the lecture.

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