

Division of Anatomy
Department of Oral Growth and Development

Outline

For the appropriate mastication and intake of food, not only the tooth itself, periodontal tissue, such as cementum, periodontal ligament, alveolar bone and gum, should be healthy. In the Division of Anatomy, we are concerned to elucidate the process of development and regeneration of periodontal tissue, using the morphological approach such as fine structural examination and immunohistochemistry with a light and an electron microscope. Our ongoing research is shown below.

Faculty members

Professor; Kazuharu IRIE, D.D.S., Ph.D.

Assistant professor; Toru SHIBUI D.D.S., Ph.D.

Assistant professor; Masami TAKAHASHI D.D.S., Ph.D.



Kazuharu IRIE



Toru SHIBUI



Masami TAKAHASHI

Postgraduate students

Main research in progress

Hard tissue biology and periodontal tissue regeneration including

- 1) The role of osteocyte in bone remodeling
- 2) The role of non-collagenous proteins in dentin and bone mineralization
- 3) Regeneration of periodontal tissue during dental implant and dental transplant

Current publications

- * Shibata S, (Takahashi M, Shibui T, Irie K) et al. An immunohistochemical study of matrix components in primary and secondary cartilages of embryonic chick skull. J Oral Biosci
<https://doi.org/10.1016/j.job.2023.05.003>, 2023
- * Shibui T, (Takahashi M, Irie K) et al. Immunohistochemical localization of CD146 and alpha-smooth muscle actin during dentin formation and regeneration. Anat Rec DOI: <https://doi.org/10.1002/ar.25155>
- * Seki Y, (Irie K) et al. Differentiation ability of Gli1⁺ cells during orthodontic tooth movement. Bone <https://doi.org/10.1016/j.bone.2022.116609>, 2023
- * Takahashi M, (Shibui T, Irie K) et al. Morphological analysis of cemento-osseous dysplasia occurred near the apex of the third mandibular molar. Dent J Health Si Univ Hokkaido 41(1):1-7, 2022 (in Japanese)
- * N Shalehin, (K Irie) et al. Gli1⁺-PDL Cells Contribute to Alveolar Bone Homeostasis and Regeneration J Dent Res 101(12):1537-1543, 2022 doi: 10.1177/00220345221106921
- * Shibui T, (Takahashi M, Irie K) et al. Effect of the enamel protein on the periodontium regeneration around the hydroxyapatite granule which implanted in the extraction socket. Dent J Health Si Univ Hokkaido 40(1):29-36, 2021 (in Japanese)