

Division of Pediatric Dentistry Department of Oral Growth and Development

Outline

The mission of the pediatric dentistry is to promote healthy oral environment of children and patients with special needs, through clinical care and education. Besides patient care and education, research is an important component of the Division of Pediatric Dentistry. Graduate student in the pediatric dentistry program must complete an approved research project leading to a paper of publishable quality during the student period. Our division research fields are as follows.

Faculty members

Professor and Director: Masato Saitoh D.D.S., Ph.D.

Associate professor: Mina Hirose D.D.S., Ph.D.

Assistant professor/full-time lecturer: Yoshihito Kurashige D.D.S., Ph.D., Shoko Yahata D.D.S., Ph.D., Yukie Murata D.D.S., Ph.D.

Assistant professor/research associate: Atsushi Fukuda D.D.S., Ph.D., Daisuke Noro D.D.S., Ph.D., Maiko Otomo D.D.S., Ph.D.

Cinical instructor: Sayaka Sakakibara D.D.S., Yusuke Fujita D.D.S.Ph.D., Ph.D., Mihoko Takafuji D.D.S., Ph.D., Misato Kobashi D.D.S., Akihiro Ichimura D.D.S.

Postgraduate students

Erika Minowa D.D.S., Islam Syed Taufiqul D.D.S., Yunosuke Okada D.D.S., Dembereldorj Bolortsetseg D.D.S.



Main research in progress

- 1) Characterization of Malassez epithelial rest cultured cells
- 2) Effect of mineralization by enamel matrix protein on early caries lesion
- 3) Characterization of tooth formation and mineralization using a tooth germ cultivation system.
- 4) Effects of phenytoin on the calcium responses in human gingival fibroblast
- 5) Development of novel Mineral Trioxide Aggregate for pulp therapy of primary and immature permanent teeth

Current publications

- 1) Kawanishi K, Okahashi T, Aita H, Kan Y, Yamazaki M, Asahiro K, Oyama S, Ueki T, Sugihara K, Chiba R, Yamagata M, Matsubara K, Murata Y, Shirai K, Kono M, Toyoshita Y, akakura Y, Nagasawa T, Koshino H. Usefulness of the newly developed artificial denture plaque for practical denture care training. *Clinical and Experimental Dental Research. Clin Exp Dent Res* 6(2): 254–265, 2020.
- 2) Takahashi A, Morita T, Murata K, Minowa E, Jahan A, Saito M, Tanimura A. Effects of full-length human amelogenin on the differentiation of dental epithelial cells and osteoblastic cells. *Arch Oral Biol* 107:104479, 2019.
- 3) Djais AA, Theodorea CF, Mashima I, Otomo M, Saitoh M, Nakazawa F. Identification and phylogenetic analysis of oral Veillonella species isolated from the saliva of Japanese children. *F1000Res* 8: 616, 2019.
- 4) Kondo Y, Ito S, Uehara O, Kurashige Y, Fujita Y, Saito T, Saitoh M. Chemical and biological properties of new sealant-use cement materials. *Dent Mater* 35(5):673-685, 2019.
- 5) Hirose M, Aung MS, Fukuda A, Murata Y, Saitoh M, Kobayash N. Prevalence and genetic characteristics of Methicillin- resistant Staphylococcus aureus and coagulase-negative staphylococci isolated from oral cavity of healthy children in Japan. *Microbial Drug Resistance* 25(3): 400-407, 2018.
- 6) Saitoh M, Nakamura Y, Hanasaki M, Saitoh I, Murai Y, Kurashige Y, Fukumoto S, Asaka Y, Yamada M, Sekine M, Hayasaki H, Kimoto S. Prevalence of molar incisor hypomineralization and regional differences throughout Japan. *Environ Health Prev Med* 23(1): 55, 2018.
- 7) Mashima I, Djais AA, Haase EM, Scannapieco FA, Otomo M, Saitoh M, Nakazawa F. Establishment of a species-specific primer pair for detecting Veillonella infantium based on the 70-kDa heat shock protein gene dnaK. *Anaerobe* 52: 79-82, 2018.
- 8) Gazi Mehedi Hasan, Azmeree Jahan, Syed Taufiqul Islam, Akashlynn Badruddoza, Md Riasat Hasan, Saito T. Health-promoting behavior of the international student study in Hamburg, Germany. *Dent J Health Sci Univ Hokkaido* 37(1):25-31, 2018.
- 9) Fukuda A, Hirose M, Murata Y, Otomo M, Yahata S, Fujita Y, Saitoh M. Examination of site specificity in oral cavity of cariogenic bacteria in dental plaque by real-time PCR method. *Dent Oral Craniofac Res* 3: 1-5, 2017.
- 10) Le Douce V, Forouzanfar F, Eilebrecht S, Van Driessche B, Ait-Ammar A, Verdikt R, Kurashige Y, Marban C, Gautier V, Candolfi E, Benecke AG, Van Lint C, Rohr O, Schwartz C. Corrigendum. HIC1 controls cellular- and HIV-1- gene transcription via interactions with CTIP2 and HMGA1. *Sci Rep* 6: 1-2, 2017.

- 11) Murata K, Takahashi A, Morita T, Nezu A, Fukumoto S, Saitoh M, Tanimura A. Effect of 1,25-dihydroxyvitamin D₃ on spontaneous calcium responses in rat dental epithelial SF2 cells revealed by long-term imaging. *Biomed Res* 37: 329-334, 2016.
- 12) Le Douce V, Forouzanfar F, Eilebrecht S, Van Driessche B, Ait-Ammar A, Verdikt R, Kurashige Y, Marban C, Gautier V, Candolfi E, Benecke AG, Van Lint C, Rohr O, Schwartz C. HIC1 controls cellular- and HIV-1- gene transcription via interactions with CTIP2 and HMGA1. *Sci Rep* 6: 1-12, 2016.
- 13) Hirose M, Murata Y, Fukuda A, Fujita Y, Otomo M, Yahata S, Saitoh M. Fluoride retention in saliva following toothbrushing using different types of fluoridated dentifrices containing 1500 ppm F of NaF and MFP. *Pediatric Dental Journal* 25(2): 45-49, 2015.
- 14) Noro D, Kurashige Y, Shudo K, Takahashi A, Abiko Y, Saitoh M. Effect of epithelial cells derived from periodontal ligament on osteoblast-like cells in a Transwell membrane coculture system. *Arch Oral Biol* 60(7): 1007-12. 2015.
- 15) Yoshida K, Sato J, Takai R, Uehara O, Kurashige Y, Nishimura M, Chiba I, Saitoh M, Abiko Y. Differentiation of mouse iPS cells into ameloblast-like cells in cultures using medium conditioned by epithelial cell rests of Malassez and gelatin-coated dishes. *Med Mol Morphol* 48(3):138-145, 2015.