The Third International Symposium of Medical-Dental-Pharmaceutical Education and Research in Okayama

Okayama Convention Center, Okayama University Dental School, and Okayama University 50th Anniversary Hall
September 22-23, 2013

Organizer

Organizers:
Okayama University (President: Prof. Kyoshi Morita)
Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences
(Dean: Prof. Mitsune Tanimoto; Vice Dean: Prof. Junichi Assum)
Okayama University Hospital
(Director: Prof. Keisuke Makino; Vice Director: Prof. Masabu Morita; Vice Director: Prof. Takuya Miyawaki)
Okayama University Dental School
(Dean: Prof. Takuo Kuboki; Vice Dean: Prof. Yasuhiro Torii;
Vice Dean: Prof. Naoya Okano)

Supporters:
Ministry of Education, Culture, Sports, Science and Technology - Japan
Alumni Society of Okayama University Dental School
The Third International Symposium of Medical-Dental-Pharmaceutical Education and Research in Okayama

Contents

Greetings from President of the National University Corporation Okayama University
Prof. Kiyoshi Morita

Greetings from Dean of Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences
Prof. Mitsune Tanimoto

Greetings from Dean of Okayama University Dental School
Prof. Takuo Kuboki

Location .................................................. p.10
Program .................................................. p.13
Abstract .................................................. p.21

Date:
Sept. 22nd (Sun), 23rd (Mon), 2013.

Venue:
Okayama Convention Center
Okayama University Dental School
Okayama University 50th Anniversary Hall

Organizers:
Okayama University (President: Prof. Kiyoshi Morita)
Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences (Dean: Prof. Mitsune Tanimoto, Vice Dean: Prof. Junichi Asaumi)
Okayama University Hospital (Director: Prof. Hirofumi Makino, Vice Director: Prof. Manabu Morita)
Okayama University Dental School (Dean: Prof. Takuo Kuboki, Vice Dean: Prof. Yasuhiro Torii, Vice Dean: Prof. Naoya Ohara)

Supporters:
Ministry of Education, Culture, Sports, Science and Technology - Japan
Alumni Society of Okayama University Dental School
Hasanuddin University (Indonesian: Universitas Hasanuddin, Unhas) is one of the biggest state-owned universities in Indonesia, located in Makassar, the capital city of South Sulawesi Province. The university was established in 1956, and named after Sultan Hasanuddin, a King of Gowa Kingdom. Before the official launching by the first vice-president of Indonesia, Dr. Mohammad Hatta, there had been in Makassar a Faculty of Economy of Indonesia University, centered in Jakarta. This Faculty became the seed of Hasanuddin University. Faculty of Dentistry -University of Hasanuddin was founded in 1983.

Mission: Center for human development, science and technology, art and culture that excelled in the dentistry with the spirit of maritime continent.

Vision: To realize this vision, the mission assigned to prepare and develop future of dentist that:

1. Having the ability to implement and disseminate science and technology of dentistry based on ethics and morals
2. Improve the quality of learning by SCL methods (Student Centre Learning) and provides a competency-based learning environment to support high quality innovative and proactive learning.
3. Responsive to changes and developments in science and technology of dentistry

Purpose: In accordance with the dentist educational objectives in Indonesia, such as professional education curriculum to educate students in accordance with Pancasila moral and have the knowledge attitudes and skills in:

1. Implement and develop learning systems that are effective, efficient and on time with competency-based, as well as fostering a culture of quality and continuous research for lecturers and students based on ethical and moral.
2. Increase the activity of lecturers and students in national and international academic forums
3. Develop academic potential through spiritual coaching, talent, enthusiasm, leadership, ethics and social responsibility and community service activities based on maritime spirit.

Academic Career:
- 2011-present: Dean of the Faculty of Dentistry UNHAS
- 2007-2011: Graduate School Advisory Council Members UNHAS
- 2004-present: Lecturer at Graduate Doctoral Program UNHAS
- 1996-2000: Senior Lecturer of Faculty of Dentistry, Dental Technician Program UNHAS
- 1996-1998: Lecturer of Oral Biology Graduate Program UNHAS
- 1995-1998: The Chairman of the Orthodontic Dentistry UNHAS
- 1995-1998: The 3rd Vice Dean, Faculty of Dentistry UNHAS
- 1984-present: Lecturer of Orthodontic Department, Faculty of Dentistry, UNHAS
- 1987-1993: Hiroshima University. School of Dentistry, Department of Orthodontics, Japan, PhD awarded
- 1982: Faculty of Dentistry, Hasanuddin University of Makassar, drg (Dokter Gigi) awarded.
regulation of stem cell fate of DPCs.

18. Expression pattern of Hox genes during mouse tooth development.

Shinkawa S1*, Uchibe K1, Ono M1, Sonoyama W1, Hara ES1, Yoshioka Y1, Ueda J1, Asahara H2*, Kuboki T1.

1Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, Japan, 2Department of Systems Biomedicine, Tokyo Medical and Dental University, Bunkyo-ku, Japan

Objectives: Hox transcription factors are known to be involved in pattern formation of the body axis during early embryogenesis; however, its involvement in tooth development has not been reported. In this study, we investigated the expression pattern of Hox gene family during mouse molar development by in situ hybridization.

Methods: Pregnant ICR mice were purchased commercially. Embryos were harvested at three typical developmental stages (E13.5, E14.5, E18.5) that characterize the bud, cap and bell stages, respectively. Embryos were fixed with 4% PFA in PBS overnight at 4°C, embedded in paraffin, and sectioned at 7 μm thickness. in situ hybridization was performed as previously described (Uchibe et al., 2012). Non-radioactive riboprobes were labeled with Digoxigenin (DIG)-UTP by in vitro transcription.

Results: The transcripts of 13 genes out of 39 family members were detected in the tooth germs. At E13.5, in situ hybridization revealed that 8 genes including Hoxa3, b2, b3, c4, c11, c12, d9, and d12 were expressed in the dental epithelium. Among these, Hoxc4, c11, d9, and d12 were also detected in the mesenchymal tissues surrounding the epithelial component. At E14.5, 11 genes including Hoxa3, a7, a11, b2, b3, b6, b7, c4, c11, d9, and d12 were expressed in dental epithelium. Interestingly, Hoxa7, a11, and d9 were detected specifically at the enamel knot, which is a signaling center of tooth morphogenesis. On the other hand, Hoxc12 was expressed specifically in dental mesenchyme, whereas no signals were detected in the epithelium. At E18.5, 12 genes including Hoxa3, a7, a9, b2, b3, b6, b7, c4, c11, c12, d9, and d12 were expressed in the dental epithelium. Among these, Hoxc12 was also detected in the dental mesenchyme.

Conclusion: This study revealed that 13 Hox genes were expressed during tooth development.
The Third International Symposium of Medical-Dental-Pharmaceutical Education and Research in Okayama

Photo: Hirofumi Maki
