Okayama University will present 4 advanced research results related to drug discovery and medical care, and 3 latest research activities of "Okayama Medical Innovation Center (OMIC)”, “Innovation Center Okayama for Nanobio-targeted Therapy (ICONT)” and “Division of Clinical Research of New Drugs and Therapeutics, Center for Innovative Clinical Medicine, Okayama University Hospital” at the exhibitor presentation site C and the exhibitor booth D701 of Okayama University.

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<th>Presentation Date / Site</th>
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| Oct.11 (Thu.) 13:55~14:20 Site C | **Division / Position** Division of International Infectious Diseases Control, Faculty of Pharmaceutical Sciences, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences / Associate Professor  
**Title** Combat for control the drug-resistant malaria – New antimalarial candidate from Japan –  
**Lecture Abstract** Recently, malaria parasites are rapidly developing multidrug resistance to most of the common chemotherapeutic endoperoxide drug, such as artemisinin, is rapidly growing. We developed new antimalarial drug based on synthetic endoperoxide, 1,2,4,5-tetraoxacycloalkans, and have found that this class of compounds exhibits high antimalarial activity with low cytotoxicity in vitro and in vivo against drug-resistant malaria parasites. The compound has simple chemical structures easy to prepare and also, we found the new mechanism of endoperoxide for killing the parasites specifically. We will introduce the current status of our antimalarial drug development include further clinical trial plans. |
| - Hye-sook Kim |
| Oct.11 (Thu.) 15:30~16:00 Site C | **Division / Position** Division of Pharmaceutical Sciences, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences / Associate Professor  
**Title** Developing Diagnostic Tools and Drug Candidates against Diseases Thought to be Intractable  
**Lecture Abstract** In this presentation, we will introduce new diagnostic and/or drug candidates for the treatment of the intractable diseases, such as rheumatism, Crohn's disease, and Alzheimer disease by targeting retinoid x receptor (RXRs). For RXR ligand discovery assay tools, fluorescent polarization assay system using fluorescent RXR ligands has been created. Rheumatism diagnostic tools have been created by targeting cartilage-specific probes. In addition, several RXR partial agonists have been discovered as attractive drug candidates for the treatment of the disease mentioned above without the serious adverse effects caused by RXR full agonists. |
| - Hiroki Kakuta |
| Oct.11 (Thu.) 14:45~15:10 Site C | **Division / Position** Department of Biotechnology, Graduate School of Natural Science and Technology / Professor  
**Title** Development and Characterization of CSCs from Mouse iPSCs  
**Lecture Abstract** The cancer stem cells (CSCs) play significant roles in oncogenesis, tumor growth, metastasis and cancer recurrence. The induced pluripotent stem cells (iPSCs) differentiate into various phenotypes depending on the niche. We hypothesized iPSCs in the conditioned culture medium of cancer cell lines could differentiate into CSCs. As a result, the cells exhibited a high tumorigenicity in vivo with a capacity of self-renewal and the expression of markers associated with stem cell properties and an undifferentiated state. The tumor microenvironment, which converted mouse iPSCs to CSCs, will be further discussed. |
| - Masaharu Seno |
| Oct.11 (Thu.) 15:10~15:35 Site C | **Division / Position** Department of Cardiovascular Physiology, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences / Assistant Professor  
**Title** Development of high throughput planar patch clamp system at low cost  
**Lecture Abstract** Traditional patch clamping using glass capillary has drawbacks of tremendous economical and personal costs. We created a planar patch clamp system which solves these problems. This system has a high gigahm seal formation rate of 39 percent. By using this system, ion channel current can be recorded from cells such as HEK293 and H9c2 without using huge and expensive microscope. This system is expected to be used in screening for drug discovery. |
| - Ken Takahashi |
Oct.11 (Thu.)  15:45~16:10  Site C

[Division / Position] Collaborative Research Center for Okayama Medical Innovation Center (OMIC), Graduate School of Medicine, Dentistry and Pharmaceutical Sciences / Assistant Professor

[Title] \(^{64}\text{Cu}-\text{labeling technology for antibodies under the GMP regulation at Okayama Medical Innovation Center (OMIC)}\)

[Lecture Abstract] At Okayama Medical Innovation Center (OMIC), a set of instruments that are a cyclotron, synthesizers of PET probe, PET cameras, etc., for experimental animals in molecular imaging study are installed. \(^{64}\text{Cu}\) radioisotope can be applied to conduct molecular imaging research with various target probes such as antibodies and peptides. Moreover, we have prepared environment under GMP regulation for synthesizing PET probes.

Takanori Sasaki

Oct.11 (Thu.)  16:10~16:35  Site C

[Division / Position] Innovation Center Okayama for Nanobio-Targeted Therapy, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences / Project Lecturer

[Title] In situ REIC/Dkk-3 gene therapy creating a new generation of cancer vaccine

[Lecture Abstract] The expression of REIC is significantly reduced in various cancer cells. Using an adenoviral vector expressing REIC (Ad-REIC), we are developing a new class of cancer vaccine. From January 25th, 2011, "First-In-Man" clinical study of REIC gene therapy in patients with prostate cancer was initiated at Okayama University Hospital. Remarkable safety, PSA response and immuno-pathological effects were confirmed and POC (proof of concept) was almost established. Momotaro-Gene Inc, a bio-tech start-up company from Okayama University, is now developing the second generation of Ad-REIC using a super gene expression system with support from JST.

Yasuyuki Fujii

Oct.11 (Thu.)  16:35~17:00  Site C

[Division / Position] Division of Clinical Research of New Drugs and Therapeutics, Center for Innovative Clinical Medicine, Okayama University Hospital / Professor

[Title] Promotion of clinical trials in division of clinical research of new drugs and therapeutics, center for innovative clinical medicine, Okayama University Hospital

[Lecture Abstract] "Division of Clinical Research of New Drugs and Therapeutics, Center for innovative Clinical Medicine, Okayama University Hospital" was established in 2011 for promoting translational research at Okayama University, integrating Clinical Trial Center founded in 1999. This center has flexible implementation systems for a wide range of clinical research including exploratory clinical studies and commercial clinical trials, by using the Clinical Research Network focused on medical institutions in the Chugoku region and the Clinical Trial Network.

Kenichi Shikata