

International Symposium on

***Ion channels, transporters, and small
molecules as key regulators of homeostatic
systems***

Hosted by

- **The 88th Annual Meeting of The Japanese Pharmacological Society (President: Yuji Imaizumi)**
- **Grant-in-Aid for Scientific Research on Innovative Areas "Oxygen Biology" (Area leader: Yasuo Mori)**
- **The Society for Cellular Pharmacology and Electropharmacology**

Supported by Daiko Foundation

Date: March 17th-20th, 2015

Venue: Nagoya Congress Center (Nagoya, Aichi, Japan)

Web: <http://www.oxygenbiology.net/125071254012512.html>

General Information

1. Fees

Registration: free

Banquet: 3,000 yen

2. Notice to Lecturer/Symposium Speakers

[For lecturers and speakers on March 17]

The style of presentation is limited to PC presentation.

Please submit your presentation data (USB) at the PC operator 10 min before the start of your session. If you use your PC, please connect your computer to the projector 10 min before the start of your session.

Presentation time including discussion is shown in the program. Please leave at least 5 min for discussion.

[For lecturers and speakers on March 18-20]

The style of presentation is limited to PC presentation.

Please submit your presentation data (USB) at the Data Registration Desk 60 min before the start of your session.

Please see the program of JPS annual meeting in detail.

3. Group photo.

We will take a group photo during the second coffee break (16:45 ~ 17:00).

Schedule and Oral Presentations

[March 17] International Symposium 12:30 ~ 17:00

12:30~12:45 Opening Remark (Yasuo Mori)

Chairman: Shuji Kaneko (Kyoto Univ.)

12:45~13:30 Jose López-Barneo (Instituto de Biomedicina de Sevilla (IBiS),
Hospital Universitario Virgen del Rocío, Spain)

Cellular and Molecular Mechanisms of Oxygen-Sensing by Arterial
Chemoreceptors

13:30~13:40 Coffee Break

Chairman: Koji Uchida (Nagoya Univ.) and Motohiro Nishida (NIPS)

13:40~14:05 Hamid I Akbarali (Virginia Commonwealth University, USA)

Post-Translational Modification of Ion Channels in the Gut in
Experimental Colitis

14:05~14:25 Shuji Kaneko (Kyoto University, Japan)

The Involvement of TRPA1 in Dysesthesia Induced by Anticancer
Drugs and Transient Ischemia

14:25~14:45 Yasumasa Okada (Murayama Medical Center, Japan)

Significance of TRPA1 Channel in Ventilatory Responses to
Hypoxia and Hyperoxia

14:45~15:05 Tomoyuki Kuwaki (Kagoshima University, Japan)

TRPA1 in Airway Sensory Neurons Acts as an Oxygen Sensor to
Modulate Breathing and Behavior

15:05~15:20 Coffee Break

Chairman: Takaaki Akaike (Tohoku Univ.) and Yoshito Kumagai (Tsukuba Univ.)

15:20~15:40 Takashi Uehara (Okayama University, Japan)

Mechanism of ER Stress/Unfolded Protein Response via Protein

S-Nitrosylation

- 15:40~16:00 Hiroaki Miki (Osaka University, Japan)
Mg²⁺ efflux by CNNM4 Mediates Intestinal Magnesium Absorption
and Suppresses Malignant Progression of Tumors
- 16:00~16:25 Jason X-J. Yuan (The University of Arizona, USA)
MicroRNA-Mediated Regulation of K⁺ Channels in Pulmonary
Arterial Smooth Muscle
- 16:25~16:45 Kazuharu Furutani (Osaka University, Japan)
An Essential Role of RGS Protein in Partial Agonism of the m2
Muscarinic Receptor-Mediated K⁺ Currents
- 16:45~17:00 Coffee Break
- 17:00~ **The Society for Cellular Pharmacology and Electropharmacology
(SCPE)**
- Chairman: Yoshikatsu Kanai (Osaka Univ.) and Yasuo Mori (Kyoto Univ.)
- 17:00~18:00 Bernd Nilius (KU Leuven, Belgium)
Transient Receptor Potential Channels in the Brain: the Good, the
Bad and the Ugly
- 18:00~19:00 Hideyuki Saya (Keio University, Japan)
CD44v-xCT axis regulates redox status of cancer stem cells
- 19:00~19:10 Closing Remark (Yoshikatsu Kanai)
- 19:20 ~ Banquet (Pastel)

[March 18]

Symposium1 (joint with The Japanese Pharmacological Society)

AM 9:00 ~ 12:00

Title: Molecular Diversity of Ion Channels and Its Regulation of Biological Functions

Chair: Yasuo Mori (Kyoto Univ.), Satomi Adachi-Akahane (Toho Univ.)

Tuck Wah Soong (National University of Singapore, Singapore)

Alternative Splicing and RNA Editing Modulate Ca^{2+} Influx via Cav 1.3 Channels

Yoshihiro Kubo (NIPS, Japan)

Signal Transmission within the P2X2 Trimeric Receptor and the Voltage Dependent Structural Rearrangements

Thomas Voets (KU Leuven, Belgium)

Function and Modulation of TRP channels in the Somatosensory System

Hiroshi Hibino (Niigata University, Japan)

The Physiological Architecture and Function of the Cochlear K^+ -Transport Essential for Hearing

Ryuji Inoue (Fukuoka University, Japan)

Simulation-Based Approach to Understanding TRPM4-Mediated Arrhythmogenicity

Shiro Suetsugu (NAIST, Japan)

TRPV4 Channel Activity Is Modulated by Direct Interaction of the Ankyrin Domain to PI(4,5)P₂

[March 19]

Symposium2 (jointed with The Physiological Society of Japan)

AM 10:00 ~ 12:00

Title: Frontiers of Cardiovascular Cation Channel Researches

Chair: Hiroyuki Nakayama (Osaka Univ.), Motohiro Nishida (NIPS)

Naomasa Makita (Nagasaki University, Japan)

Emerging Link between Genetic Variations of Sodium Channels and Susceptibility to Lethal Arrhythmias

Wayne Giles (University of Calgary, Canada)

TRP Channel Expression and Function in Cardiac Fibroblasts and Myofibroblasts

Koichiro Kuwahara (Kyoto University, Japan)

TRPC6 in Pathological Cardiac Remodeling

Yuki Katanosaka (Okayama University, Japan)

TRPV2 Is Crucial for Cardiac Structure and Function

Motohiro Nishida (NIPS, Japan)

ROS-Generating TRPC Channels in Cardiac Remodeling

[March 19] Special Lecture 9:00 ~ 10:00

David Beech (University of Leeds, UK)

The Magic of Calcium Ion Entry: Discovery, Disease and Drugs

[March 20] Special Lecture 13:20 ~ 14:20

James W. Putney Jr. (NIEHS, USA)

Store-Operated Ca²⁺ Entry