The Fifth Japan-Korea Joint Symposium of Brain Sciences, and Cardiac and Smooth Muscles

Program and Abstracts

July 22(Fri) – 24(Sun), 2005
Kitakyushu International Conference Center
Kitakyushu, Japan

Hosted by:

Japan-Korea Organizing Committee for The Joint Symposium

Sponsored by:

Kyushu University 21st century COE Program
"Design of artificial environments on the basis of human sensibility"
The University of Occupational and Environmental Health (UOEH)
Association on Health Sciences

GENERAL INFORMATION

DATE:	**JULY 22-24, 2005**
VENUE:	**Kitakyushu International Conference Center and Beppu Suginoi Hotel**
e-mail:	**pain@physiol.med.kyushu-u.ac.jp**
PHONE:	**+81-92-642-6089**
FAX:	**+81-92-642-6093**
LANGUAGE:	**ENGLISH**

ORGANIZING COMMITTEE

Chairs

Megumu Yoshimura (Professor, Grad. Sch. of Med. Sci., Kyushu Univ.)
Phone: +81-92-642-6089
E-mail: yoshimum@physiol.med.kyushu-u.ac.jp

Yoichi Ueta（Professor, Sch. of Med., Univ. of Occup. and Environ. Health）
Phone: +81-93-691-7420
E-mail: yoichi@med.uoeh-u.ac.jp

Program committee

Norio Akaike (Professor, Kumamoto Health Science Univ.)
Yushi Ito (Professor, Kyushu Univ.)
Toshihiko Katafuchi (Associate Professor, Kyushu Univ.)
Heung-Sik Na (Professor, Korea Univ.)
Jun Kim (Professor, Seoul National Univ.)
Byung-Il Min (Professor, Kyung Hee Univ.)

Secretary General

Atsushi Takaki (Assistant professor, Grad. Sch. of Med. Sci., Kyushu Univ)
Phone: +81-92-642-6089
E-mail: takaki@physiol.med.kyushu-u.ac.jp

WELCOME MESSAGE

Dear Colleagues,

It is our great pleasure to invite you to the 5th Japan-Korea Joint Symposium of Brain Sciences, and Cardiac and Smooth Muscles, which will be held in Kitakyushu City, Japan in July 22 – 24, 2005.

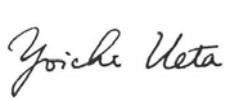
Significant progress in research activities in the East Asian countries that is obviously accelerated by the economical growth and additionally recent enthusiastic cultural waves between Japan and Korea would be expected without questions in the near future. This great progress in the research that would be becoming the front-runner in the world could not be accomplished without making intimate interactions between Japan and Korea by discussing and sharing knowledge each other.

As the 1st Japan-Korea Symposium was held in Fukuoka, Japan in 1999, this symposium would like to continue the spirit of the first symposium to provide a common place to researchers in the region. We are sure that this symposium will provide a good chance to participants to meet and share common interests with neuroscientists, cardiac and smooth muscle researches in Japan and Korea.

Many speakers who are active and famous in those research fields are invited and will provide new insights in those fields and stimulate our idea. We hope that you enjoy the meeting as well as the beauty of Kitakyushu and want to encourage you to participate in the symposium.

Chairs,

Megumu Yoshimura, MD, PhD **Yoichi Ueta, MD, PhD**



BACKGROUND & AIM

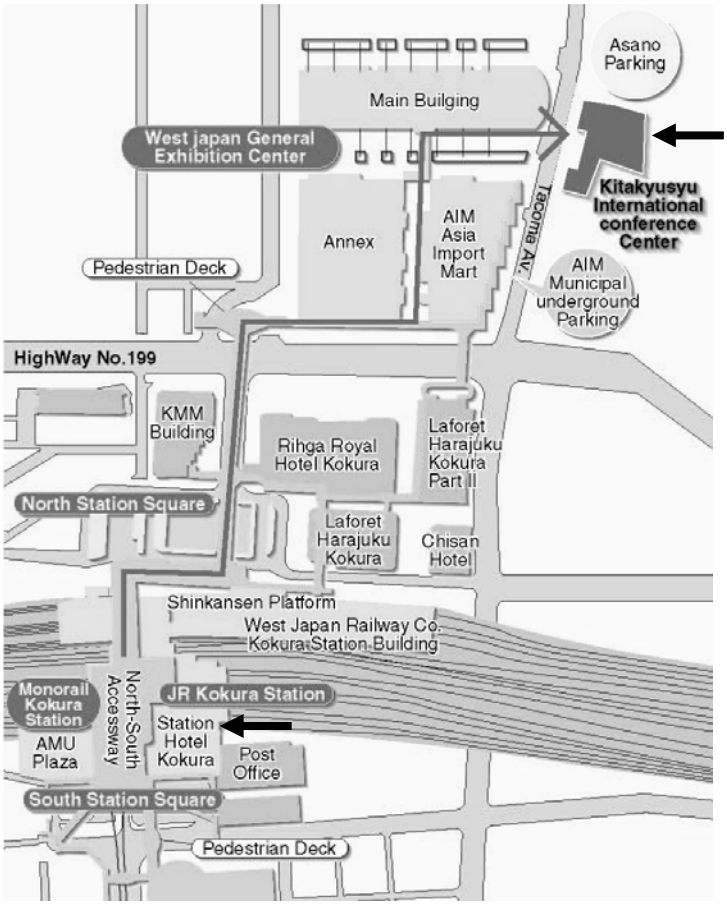
Recently, number of neuroscientists and cardiovascular researchers has been increased year by year all over the world and brain research and cardiovascular research have made progress rapidly with methodological revolution. For Asian countries, in particular for Japan, it is important to organize research collaboration and research exchange between geographically closed countries such as Korea to catch up with advanced researches in Europe and the United States. This reason encouraged joint symposium between Japan and Korea in the field of neuroscience and cardiovascular researches.

The first symposium was held in Fukuoka (February, 1999), the second in Seoul (July, 2000), the third in Kurume (January, 2002) and the fourth in Seoul (January, 2004). The fifth symposium is scheduled to be held in Kitakyushu City in July, 2005. In Japan, northern part of Kyushu is one of ideal places to get together each other. The first and second symposiums provided for interaction at the level of experimental design and strategy, understanding research situation each other. In the third symposium, the themes were carefully selected and specified in the field of the properties of neurons, cardiac and smooth muscles from physiological condition to pathological conditions, including clinical disorders. In the fourth symposium, current hot topics such as sensory-motor integration, plasticity, glutamate receptor, synaptic activity, signal transduction in cardiac and smooth muscle cells were presented and discussed well. The common interesting theme "physiology related to pain and acupuncture" was also well discussed. All of joint symposiums were quite successful because of achievement of the purpose at each stage. In particular, young researchers attended the symposium, presented their data and discussed actively.

The fifth symposium will focus on current topics and common themes between Japan and Korea. Young researchers' presentations should be encouraged to activate the future collaboration and improvement in the field of neuroscience and cardiovascular researches. This symposium promises the future development and success in the filed of these areas between Japan and Korea.

LOCATION

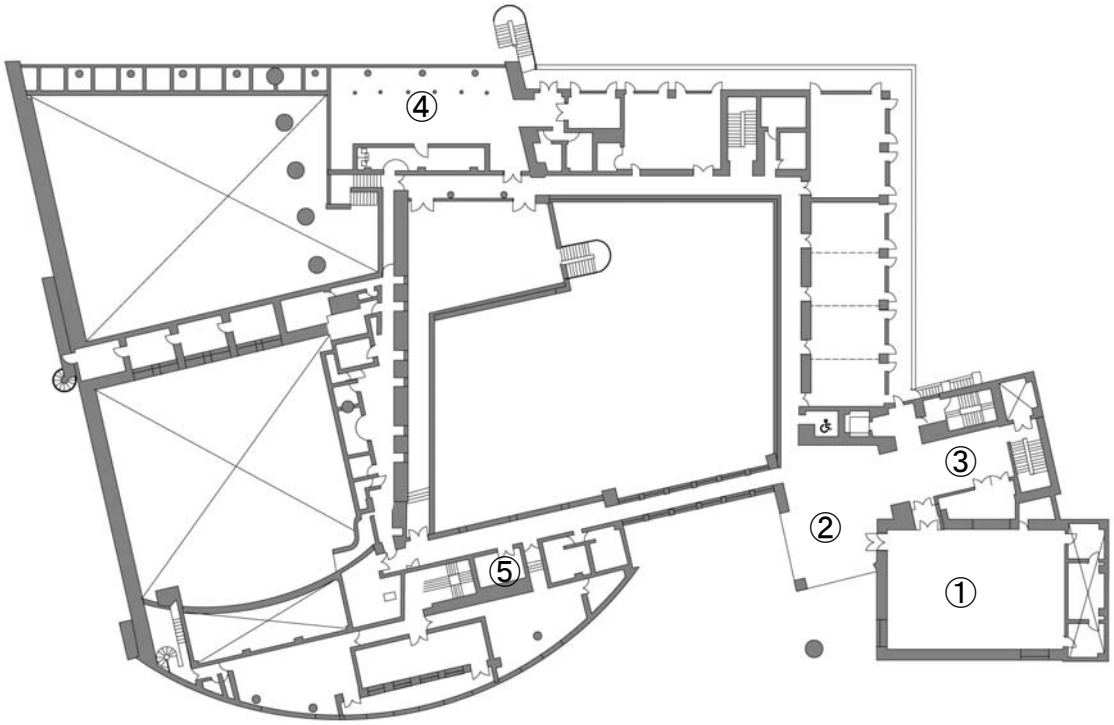
Kitakyushu International Conference Center
Kitakyushu, Fukuoka
(http://kitakyu-cb.jp)



BEPPU SUGINOI HOTEL
Beppu, Ohita, (http://suginoi-hotel.jp)

FLOOR PLAN

Kitakyushu International Conference Center
2nd Floor



① International Congress Room	: Oral Presentation
② Sub-Foyer	: Poster exhibition
③ Information Desk	: Registration and Cloak
④ Restaurant	: Welcome party
⑤ Room 3	: General office

ORAL PRESENTATION

Official Language
All lectures can be presented by English.

Presentation time is 20 min including Q & A.

You can use the PowerPoint presentation by Windows PC provided by the secretariat.
The secretariat will provide a Windows machine installed with Power Point 2000/2003 on the podium.

All speakers are requested to be at the preview corner which is located at the entrance of session room. At the preview corner, you can check your presentation data.
Please come to the preview corner 60 min prior to start of the session. If your session is the first session of the day, please come to the room 1 hour before the session starts or one day before.
You may also bring in your own PC and check your PC at the same place.

The following media can be used. Please indicate your name/organization/session on your media.

- A memory stick plugged into a USB port/CD-ROM
- Use the hybrid format for writing in CD-R. CD-RW cannot be used.
- Only the following standard OS fonts can be used;
  MS Gothic, MS Mincho, Times New Roman, and Century.
- Moving images including animations may not be playable for some PowerPoint versions.
- Still images should be prepared by JPEG.
- Audio output is available
- Please perform virus checks beforehand for media brought in.

May only be used if you bring your own PC. It's especially necessary to bring a RGB cable converter if your PC is a "MAC" or "VAIO". The type of connector at the hall is a D-SUB15 pin.

- The D-sub15 pin monitor output is required. The secretariat will provide cables to connect the D-sub15 pin. If your PC requires a connector to convert to the D-sub15 pin, you will need to bring your own. Please note that connections other than D-sub15 pin are not available.
- Moving images can also be used, but please make sure they can be played on your PC beforehand. Please note that even if moving images are displayed on the LCD of your PC, they may not be displayed on the screen connected to the external output of your PC. Please connect a monitor or projector to the external output of the PC used for your presentation. Note that moving images created on other PCs may not be playable on the one used for your presentation.
- Audio output is available.
- Please turn off your screensaver and power saving settings beforehand.
- Please bring your power cable. Presentations using batteries may result in problems.

POSTER PRESENTATION

Before 8:30 a.m., post your materials on the board and leave them in place for the full session. Pushpins will be provided in the area.

The presenting authors should be at the board during poster explanation session. Materials must be removed promptly at the end of the session (17:20~17:50).

July 23rd Poster Explanation: 13:00 ∽ 13:50

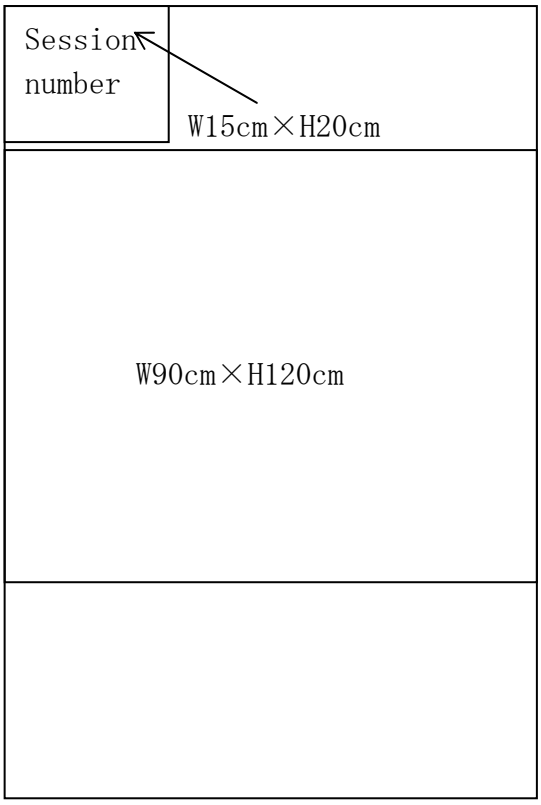
Poster board

Poster boards are 90 cm wide and 120 cm high.
Please do not write or paint on the poster boards.

Session number is prepared (15 cm wide and 20 cm high).

Title

Prepare a banner for the top of the poster indicating the abstract title, author(s) and affiliation(s).



MAIN SCHEDULE AND PROGRAM

FRIDAY, JULY 22

15:30 OPENING REMARK
Professor Megumu Yoshimura (Kyushu Univ.)

SESSION 1 PAIN Chairs: M. Tsuda and B.-I. Min

S1-1 15:40-16:00
Mechanisms of the descending inhibitory system on the nociceptive transmission in the spinal dorsal horn.
***M. Yoshimura*, G. Kato, H. Furue, T. Katafuchi, K. Koga, H, Shimada and D. Uta**

S1-2 16:00-16:20
Role of Spinal microglia in the pathogenesis of neuropathic pain.
***M. Tsuda*, S. Hasegwa and K. Inoue**

S1-3 16:20-16:40
Modulation of excitatory and inhibitory transmission in substantia gelatinosa neurons by the activation of adenosine A1 receptors.
***E. Kumamoto*, T. Liu, T. Fujita, A. Koga and T. Nakatsuka**

＊＊＊＊＊ REFRESHMENT 16:40-17:00 ＊＊＊＊＊

S1-4 17:00-17:20
Neuropathic pain in neonatal rats.
H. S. Na

S1-5 17:20-17:40
Roles of group I metabotropic glutamate receptor in synaptic transmission through substantia gelatinosa neurons in juvenile rats.
S. J. Jung, J. E. Yoo, Y. Y. Baik, S. J. Kim and J. Kim

S1-6 17:40-18:00
Effects of electroacupuncture on cold allodynia in a rat model of neuropathic pain: mediation by spinal adrenergic and serotonergic receptors.
S. K. Kim, J. H. Park, S. J. Bae, J. H. Kim, B. G. Hwang, B.-I. Min, D. S. Park and H. S. Na

****

WELCOME PARTY 18:30-20:00
PLACE: RESTAURANT ON THE SAME FLOOR

****

SESSION 2 **SMOOTH MUSCLE** **Chairs: R. Inoue and K. W. Kim**

S2-1 8:40-9:00
20-HETE is a new messenger that mediates the myogenic response.
R. Inoue, L. J. Jensen, H. Morita, S. Juan and Y. Ito

S2-2 9:00-9:20
Roles of ryanodin receptors in contractility of cultured ventricular muscle cell clusters of mice.
N. Tokutomi

S2-3 9:20-9:40
The remodeling of the gap junction makes the heart susceptible to arrhythmias.
I. Imanaga, H. Lin and K. Ogawa

S2-4 9:40-10:00
TRPM7 is required for intestinal pacemaking activity.
K. W. Kim

＊＊＊＊＊ REFRESHMENT 10:00-10:20 ＊＊＊＊＊

SESSION 3 **NEURAL NETWARK I** **Chairs: A. Fukuda and P. D. Ryu**

S3-1 10:20-10:40
A novel presynaptic cholinergic modulatory mechanism affecting GABAergic transmission.
A. Fukuda, S. Yamamoto, J. Yamada, S. Ueno, H. Kubota and S. Yamamoto

S3-2 10:40-11:00
Corticosterone-induced plasticity in noradrenergic inhibition of GABAergic transmission in secretory neurons of the rat paraventricular nucleus.
J. Yang, L. Li, S. K. Han, S. Y. Shin, F. Nigussie, S. Y. Lee and P. D. Ryu

S3-3 11:00-11:20
Spinal adrenergic modulation in the peripheral inflammatory responses; the involvement of sympatho-adrenomedullary activity via spinal acetylcholine and GABA.
J.-H. Lee

S3-4 11:20-11:40
Protein Kinase C bound with A-kinase anchoring protein is involved in muscarinic receptor-activated modulation of M-type KCNQ potassium channels.
H. Higashida

S3-5 11:40-12:00
Subunit composition and role of Na^+, K^+-ATPase in adrenal chromaffin cells.
M. Inoue

＊＊＊＊＊ LUNCH BREAK 12:00-13:00 ＊＊＊＊＊

POSTER SESSION **13:00-13:50**

SESSION 4 **NEURAL NETWARK II** **Chairs: E. Tanaka and D.-J. Rhie**

S4-1 14:00-14:20

Targeting presynaptic α7 Ach receptors on the glutamatergic terminals in the hippocampus via selective PKC-ε activation.

S. Yamamoto and T. Nishizaki

S4-2 14:20-14:40

Activation of protein kinase A contributes to the irreversible depolarization induced by oxygen and glucose deprivation.

E. Tanaka and H. Higashi

S4-3 14:40-15:00

Up-regulation of endothelial nitric oxide synthase via PI3-kinase pathway contributes ischemic tolerance in the brain ischemia.

K. Fukunaga

S4-4 15:00-15:20

Contribution of endogenous adenosine to the effect of emodin on the excitatory synaptic transmission in rat hippocampal CA1 pyramidal neurons *in vitro*.

H. Hasuo, J.-W. Gu, M. Takeya and T. Akasu

S4-5 15:20-15:40

Classification and long-term synaptic plasticity of inhibitory interneurons in rat visual cortex.

D.-J. Rhie, J. H. Jang, T. Fukuda, G. R. Ryu, S. J. Hahn, M.-J. Kim, S. H. Yoon, Y.-H. Jo and M.-S. Kim

******* REFRESHMENT 15:40-16:00 *******

SESSION 5 **CALCIUM REGULATION** **Chairs: K. Ono and J. S. Hah**

S5-1 16:00-16:20

Role of calmodulin and phosphorylation in regulation of L-type Ca^{2+} channels.

M. Kameyama, L.-Y. Hao, J.-J. Xu, E. Minobe, Z. A. Saud, W. Wang and A. Kameyama

S5-2 16:20-16:40

Modified sympathetic response of cardiac muscle in mice lacking the voltage-dependent Ca^{2+} channel β3 subunit or α1B subunit.

K. Ono, S. Fujisawa, F. Xu, E. Takahashi, M. Murakami and T. Iijima

S5-3 16:40-17:00

The simulation of Ca^{2+}-activated Cl^- current of cardiomyocytes in rabbit pulmonary vein: Implications of subsarcolemmal Ca^{2+} dynamics.

C. H. Leem, W. T. Kim, J. M. Ha, Y. J. Lee, C. A. Seol, H. C. Seong, T. Choe, Y. J. Jang, J. B. Youm and Y. E. Earm

S5-4 17:00-17:20

Na^+-K^+ pump activation inhibits endothelium-dependent relaxation by activating the forward mode of Na^+-Ca^{2+} exchanger.

M. Y. Kim, G. H. Seol, J. A. Kim, J. S. Hah and S. H. Suh

****

OPTIONAL TOUR FOR GUEST SPEAKERS
NIGHT BUS TOUR TO THE MOJI-KOU RETRO

****

SESSION 6 OTHER TOPICS INCLUDING COE PROGRAM

Chairs: S. Aou and H. Bae

S6-1 8:40-9:00
Plastic role of glucose increased during food intake in the brain.
***Y.Oomura**, S. Aou, N. Hori and K. Fukunaga*

S6-2 9:00-9:20
Change in transporter function and expression at the blood-brain barrier in the model mouse of Parkinson’s disease.
Y.-S. Kang

S6-3 9:20-9:40
Anti-inflammatory effects of BK in microglia.
***M. Noda**, Y. Kariura, U. Pannasch, L. Wang, M. Ifuku, C. Nolte, K. Nishikawa, B. Wang, S. Aoki, H. Kettenmann and K. Wada*

S6-4 9:40-10:00
Suppression of IgE production and modulation of Th1/Th2 cell response by electroacupuncture in DNP-KLH immunized mice.
*M.-B. Park, E. Ko, C. Ahn, H. Choi, S. Rho, M.-K. Shin, M.-C. Hong, B.-I. Min and **H. Bae***

＊＊＊＊＊ REFRESHMENT 10:00-10:20 ＊＊＊＊＊

S6-5 10:20-10:40
Chemical impacts on higher brain functions in monkeys and rats.
***S. Aou**, T. Inoue, T. Fujimoto, K. Kubo and A. Hatanaka*

S6-6 10:40-11:00
Regulation of drinking behavior in fishes: Do they feel thirsty?
Y. Takei

S6-7 11:00-11:20
Transgenic expression of enhanced green fluorescent protein in arginine vasopressin-secreting neurons of rats.
Y. Ueta

11:20 CLOSING REMARK
Professor Yoichi Ueta (Univ. Occup. Environ. Health)

****

Post-Symposium Conference
(Beppu Suginoi Hotel)

ROUND TABLE SESSION
FAIRWELL PARTY

****

POSTER PRESENTATION

23rd July (Saturday) 13:00 ~ 13:50

P01

Biological properties of channel pore region in native smooth muscle-type ATP-sensitive K^+ channles.

Noriyoshi Teramoto and Yushi Ito
Department of Pharmacology, Graduate School of Medical Sciences, Kyushu University

P02

Subunit composition and role of Na^+, K^+-ATPases in cardiac myocytes.

Keita Harada, Yutaka Endo and Masumi Inoue
Department of Cell and System Physiology, School of Medicine, University of Occupational and Environmental Health

P03

Multiple K^+ channel subtypes modulate glycine release at sacral dorsal commissural neurons.

Kiku Nonaka, Megumi Maeda, Kiyomitsu Shoudai, Kayo Kurokawa, Keita Sasaki, Yasunori Takayama, and Norio Akaike
Research Division for Life Sciences, Kumamoto Health Science University

P04

Functional importance of Ca^{2+}-activated K^+ channels for bradykinin-induced microglial migration.

Masataka Ifuku, Bing Wang, and Mami Noda
Laboratory of Pathophysiology, Graduate School of Pharmaceutical Sciences, Kyushu University

P05

Facilitation of GABA release by Kv channel blockers in mechanically dissociated substantia nigra neurons.

Hideki Shimada[1], Daisuke Uta[1], Ryoko Hisamitsu[1], Junichi Nabekura[2], Toshihiko Katafuchi[1] and Megumu Yoshimura[1]
[1]Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University, [2]Department of Developmental Physiology, Division of Homeostatic Development, National Institute of Physiological Sciences

P06

Tricyclic antidepressant desipramine facilitated glutamate release from presynaptic nerve terminals.

Kei Eto[1,2], Misako Kajiwara[1,2], Mami Noda[1] and Hitoshi Ishibashi[2]
[1]Laboratory of Pathophysiology, Graduate School of Pharmaceutical Sciences and [2]Department of Bio-signaling Physiology, Graduate School of Medical Sciences, Kyushu University

P07

Effects of divalent cations glycine release from glycinergic nerve terminals.

Megumi Maeda, Kiku Nonaka, Kiyomitsu Shoudai, Keita Sasaki, Kayo Kuraokawa, Yasunori Takayama and Norio Akaike
Research Division for Life Sciences, Kumamoto Health Science University

P08

Excitatory GABAergic synaptic potentials in the mesencephalic trigeminal nucleus of

adult rat in vitro.

Yuji Yokomizo[1,2], Yoshinaka Murai[1], Eiichiro Tanaka[1], Hiroe Inokuchi[1], Jingo Kusukawa[2], Hidoho Higashi[1]

[1]Department of Physiology, and [2]Dental and Oral Medical Center, Kurume University School of Medicine

P09

Presynaptic GABAA receptors on mossy fiber terminals can directly discharge postsynaptic CA3 pyramidal neurons by increasing the frequency of large spontaneous EPSPs.

Jang Il-Sung[1], Michiko Nakamura[1], Yushi Ito[1], Norio Akaike[2]

[1]Department of Pharmacology, Graduate School of Medical Sciences, Kyushu University

[2]Research Division for Life Sciences, Kumamoto Health Science University

P10

Long-lasting facilitation of the EPSP induced by dopamine via the presynaptic D1 receptors-PKA system in rat dorsolateral septal nucleus neurons.

Yasuo Asaumi[1,2], Hiroshi Hasuo[1] and Takashi Akasu[1]

[1] Department of Physiology, and [2] Neuropsychiatry, Kurume University School of Medicine

P11

Possible role of TRPM7-mediated Ca^{2+} influx in regulating the proliferative potential of human leukemia cell line K562.

Chisato Umebayashi[1], Shinichi Takahashi[1], Akira Honda[2] and Ryuji Inoue[1]

[1]Department of Physiology, School of Medicine, Fukuoka University

[2]Research Division, Life Science, Kumamoto Health University

P12

Moduation of voltage-dependent Ba^{2+} currents in the guinea-pig gastric antrum by cyclic nucleotide-depentdent pathways.

Hai-Lei Zhu[1], G. David S. Hirst[2], Yushi Ito[1], Noriyoshi Teramoto[1]

[1]Department of Pharmacology, Graduate School of Medical Sciences, Kyushu University, [2]Division of Neuroscience, John Curtin School of Medical Research, Australia National University

P13

Characters of KCNQ channels in microglia.

Bing Wang[1]. Ulrike Pannasch[2], Yoshiko Hatano[1], Shunsuke Aoki[3], Helmut Kettenmann[2], Keiji Wada[3], Mami Noda[1]

[1]Laboratory of Pathophysiology, Graduate School of Pharmaceutical Sciences, Kyushu University, [2]Department of Cellular Neurosciences, Max-Delbruck Center for Molecular Medicine, and [3]Deparment of Degenerative Neurological Diseases, National Institute of Neuroscience, National Center of Neurology and Psychiatry

P14

***O*-glycosylation as a regulatory signal for AMPA receptor trafficking.**

Takeshi Kanno, Satoshi Yamamoto, Tomoyuki Nishizaki

Department of Physiology, Hyogo College of Medicine

P15

Cellular mechanisms for the inhibition by endomorphins of excitatory transmission in rat substantia gelationsa neurons.

Tsugumi Fujita, Akiko Koga, Yasuhiko Kawasaki, Tao Liu, Terumasa Nakatsuka and Eiichi Kumaoto

Department of Physiology, Faculty of Medicine, Saga University

P16

Cellular mechanism for the antinociceptive action of tramadol - membrane hyperpolarization by activating -opioid receptors in spinal dersal horn neurons.

Akiko Koga, Tsugumi Fujita, Tao Liu, Yasuhiko Kawasaki, Terumasa Nakatsuka and Eiichi Kumamoto
Department of Physiology, Faculty of Medicine, Saga University

P17

Tonic inhibition of nociceptive transmission through nicotinic acetylchoine receptors in the spinal cord in mice.

Md Harunor Rashid[1,2], Hiroshi Ueda[2], Megumu Yoshimura[1]
[1]Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University, [2] Division of Molecular Pharmacology and Neuroscience, Nagasaki University Graduate School of Biomedical Sciences

P18

Postsynaptic effect of serotonin on nociceptive transmission in substantia gelatinosa of rat spinal cord.

Keiko Abe, Go Kato, Akihiro Tamae, Hidemasa Furue and Megumu Yoshimura
Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University

P19

Excitatory and inhibitory responses to primary afferent stimulation and morphological features of the substantia gelatinosa neurons in adult rat spinal dorsal horn in vitro.

Toshiharu Yasaka[1], Go Kato[1], Hidemasa Furue[1], Akihiro Tamae[1], Yuzo Murata[2], Sadahiko Masuko[2], and Megumu Yoshimura[1]
[1]Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University, [2]Department of Anatomy and Physiology, Faculty of Medicine, Saga University

P20

Presynaptic P2X receptor-mediated modulation of synaptic transmission in the spinal cord.

Terumasa Nakatsuka,Tsugumi Fujita, Akiko Koga, Tao Liu and Eiichi Kumamoto
Department of Physiology, Faculty of Medicine, Saga University

P21

Adenosine stimulates vesicular glutamate release from hippocampal astrocytes via an A2 adenosine receptors/PKA signaling pathway.

Takahiro Yaguchi, Satoshi Yamamoto. Tomoyuki Nishizaki
Department of Physiology, Hyogo College of Medicine

P22

Aspirin inhibits action potentials in dorsal root ganglion neurons of adult naive and skin incision model rats.

Kohei Koga, Hidemasa Furue and Megumu Yoshimura
Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University

P23

Selective inhibitory effect of levobupivacaine on action potentials in A , A and C fibers than the racemic mixtures or R(+) enantiomers in adult rat DRG neurons.

Daisuke Uta, Hidemasa Furue, Kohei Koga, Ryoko Hisamitsu, Hideki Shimada and Megumu Yoshimura
Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University

P24

Lidocaine transiently inhibits evoked EPSPs in the rat hippocampal CA1 region.

Eiichiro Tanaka, Aya Yamada and Hideho Higashi
Department of Physiology, Kurume University School of Medicine

P25

Effect of methamphetamine of NMDA response of the piriform cortex and hippocampus.

Nobuaki Hori[1], Kiku Nonaka[1], Michi Watanabe[2], Yushi Ito[2] and Norio Akaike[1]
[1]Research Division for Life Sciences, Kumamoto Health Science University
, [2]Department of Pharmacology, Graduate School of Medical Sciences, Kyushu University

P26

Cannabinoids modulate the activity of neurosecretory cells in the rat supraoptic nucleus.

Atsushi Soya[1], Ryota Serino[2], Tatsushi Onaka[4], Takeshi Terano[3], Jun Nakamura[3] and Yoichi Ueta[1]
[1]Department of Physiology, [2]Department of Internal Medicine, [3]Department of Psychiatry, School of Medicine, Uninersity of Occupational and Environmental Health, [4]Division of Integrative Physiology, Department of Physiology, Jichi Medical School

P27

Effects of non-narcotic antitussives on 5-HT(3)-receptor-mediated currents in acutely isolated rat nodose ganglion neurons.

Yoshiko Hatano[1,2], [2]Mami Noda[2] and Hitoshi Ishibashi[1]
[1]Department of Bio-signaling Physiology, Graduate School of Medical Sciences, Kyushu University, [2]Laboratory of Pathophysiology, Graduate School of Pharmaceutical Sciences, Kyushu University

P28

Effects of aging on ventral and dorsal horn neurons in the mice spinal cord.

Nobuaki Hori[1], Kiyomitsu Shoudai[2], Michi Watanabe[1], Yushi Ito[1], and Norio Akaike[2]
[1]Department of Pharmacology, Graduate School of Medical Sciences, Kyushu University,
[2]Research Division for Life Sciences, Kumamoto Health Science University

P29

Electrophysiological characterization of ventral horn neurons in the rat spinal cord.

Ryoko Hisamitsu, Hidemasa Furue and Megumu Yoshimura
Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University

P30

In vivo patch-clamp analysis of slow bursting in the rat somatosensory cortex.

Atsushi Doi[1], Masaharu Mizuno[1,2], Hidemasa Furue[1], Toshihiko Katafuchi[1] and Megumu Yoshimura[1]
[1]Department of Physiology, Graduate School of Medical Sciences, Kyushu University,
[2]Department of Brain Science and Engineering, Kyushu Institute of Technology

P31

Acrivation of PKC in the diabetic heart.

Hai Lin[1], Issei Imanaga[2], Koichi Ogawa[3]
[1]Department of Physiology, [2]General Research Center of Medical Sciences, [3]Department of Anatomy, School of Medicine, Fukuoka University

P32

Acute inflammation and nociceptive stimulus upregulate the prolactin-releasing peptode gene expression in the rat brain.

Takashi Mera[1], Hiroaki Fujihara[1], Takakazu Oka[2], Sadatoshi Tsuji[2] and Yoichi Ueta[1]

[1]Department of Physiology, and [2]Neurology, School of Medicine, University of Occupational and Environmental Health

P33

Central administrated adrenomedulliin 2 activates oxytocin-secreting neurons and sympathetic outflow in rats.

Hirofumi Hashimoto[1], Susumu Hyodo[2], Makoto Kawasaki[1], Lei Chen[1], Takashi Mera[1], Atsushi Soya[1], Takeshi Saito[1], Hiroaki Fujihara[1], Takashi Higuchi[3], Yoshio Takei[2] and Yoichi Ueta[1]

[1]Department of Physiology, School of Medicine, University of Occupational and Environmental Health, [2]Laboratory of Physiology, Department of Marine Bioscience, Ocean Research Institute, University of Tokyo, [3]Department of Integrative Physiology, University of Fukui

P34

Adrenomedullin 2 protects rat cerebral endothelial cells from oxidant damage in vitro.

Lei Chen[1], Bela Kis[2], Hirofumi Hashimoto[1], David W. Busija[2], Yoshio Takei[3], Hiroshi Yamashita[4] and Yoichi Ueta[1]

[1]Department of Physiology, School of Medicine, University of Occupational and Environmental Health, [2]Department of Physiology and Pharmacology, Wake Forest University Health Sciences, [3]Laboratory of Physiology, Ocean Research Institute, University of Tokyo, [4]Kyushu Nutorition Welfare University

P35

Effects of centrally administered neuropeptide W-30 on magnocellular neurosecretory cells in the supraoptic and paraventricular nuclei of rats.

Makoto Kawasaki[1], Tatsushi Onaka[2], Masamitsu Nakazato[3], Hirofumi Hashimoto[1], Hiroaki Fujihara[1] and Yoichi Ueta[1]

[1]Department of Physiology, School of Medicine, University of Occupational and Environmental Health, [2]Department of Physiology, Jichi Medical School, [3]Department of Third Internal Medicine, Miyazaki University

P36

Effects of chronic salt loading on body fluid homeostasis in vasopressin-eGFP transgenic rat.

Hiroaki Fujihara[1], Tomoki Fujino[1], David Murphy[2] and Yoichi Ueta[1]

[1]Department of Physiology, School of Medicine, University of Occupational and Environmental Health, [2]Molecular meuroendocrinology Research group, The Henry Wellcome Laboratories for Integrative Neuroscience and Endocrinology, University of Bristol

P37

Environmental oxidative stress and risk of DNA damage in mice.

Atsushi Takaki[1] and Seiji Shioda[2]

[1]Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University,
[2]Department of Anatomy, Showa University School of Medicine

P38

Homeostatics alterations induced by interleukin-1beta microinjection into the orbitofrontal cortex in the rat.

Balázs Lukáts, Róbert Egyed, Szilárd Papp, Gábor Takács, Csaba Szalay, László Lénárd and Zoltán Karádi

Institute of Physiology and Neurophysiology Research Group of the Hungarian Academy of Sciences, Pecs University, Medical School

P39

Central mechanisms of immunologically induced fatigue: involvement of IFN- and 5-HT system in the brain.

Sachiko Take, Toshihiko Katafuchi, Tetsuya Kondo and Megumu Yoshimura

Department of Integrative Physiology, Graduate School of Medical Sciences, Kyushu University

P40

Internal and external environmental signals modulate the performance of visual categorical discrimination of food and sex in rhesus monkey.

Takao Inoue, Sayuki Takara, Masaharu Mizuno and Shuji Aou
Department of Brain Science and Engineering, Kyushu Institute of Technology

P41

Genomic and non-genomic estrogen receptors in skeletal muscle.

Junna Hatae[1], Noboru Takami[2] and Ryuji Inoue[1]
[1]Department of Physiology and [2]Radioisotope Laboratory, School of Medicine, Fukuoka University

P42

Search for mediators of estrogenic inhibition of pulsatile LHRH secretion in female rhesus monkeys.

Masaharu Mizuno[1], Shuji Aou[1] and Ei Terasawa[2]
[1]Department of Brain Science and Engineering, Kyushu Institute of Technology, [2]Wisconsin National Primate Research Center, University of Wisconsin

P43

Low dose effects of pre- and postnatal exposure to bisphenol A on exploratory and emotinal behaviors in rats.

Tetsuya Fujimoto[1], Kazuhiko Kubo[2] and Shuji Aou[1]
[1]Department of Brain Science and Engineering, Kyushu Institute of Technology,
[2]Department of Otorhinolaryngology, Chidoribashi Hospital