Plenary Lecture3

March 30, Sat., 8:50-9:50 【Room A】1F, Conference Center

Chair: **Junichi Nabekura** (National Institute for Physiological Sciences, Japan)

PL3 Looking back on 30 years of autophagy research -dynamic equilibrium of the cell-

Yoshinori Ohsumi

Institute of Innovative Research (IIR), Tokyo Institute of Technology, Japan

Special Lecture5

March 30, Sat., 17:20-18:10 【Room B】3F, Conference Center

Chair: Yumiko Yoshimura (National Institute for Physiological Sciences, Japan)

SL5 Toward the Mysteries of Sleep

Masashi Yanagisawa
International Institute for Integrative Sleep Medicine (WPI-IIIS), University of Tsukuba, Japan

Special Lecture6

March 30, Sat., 17:20-18:10 【Room C】3F, Conference Center

Chair: Yukiko Hayashi (Tokyo Medical University, Japan)

SL6 The Beauty of Physiological Mechanisms in Skeletal Muscle Function and Fatigue

Graham Douglas Lamb
Department of Physiology, La Trobe University, Australia

Special Lecture7

March 30, Sat., 17:20-18:10 【Room F】5F, Conference Center

Chair: **Yoichi Ueta** (University of Occupational and Environmental Health, Japan)

SL7 The importance of understanding fetal physiology for detecting brain injury before birth

Laura Bennet

Department of Physiology, The University of Auckland, New Zealand

FAOPS2019 - PSJ and JSPFSM co-organized Special Guest Talk

Talk in Japanese

***Simultaneous tramslation to English will be available in the Main Hall (Room A).

March 30, Sat., 18:20-19:10 【Room A】1F, Conference Center

Towards the Summit with Sport Science

Ms. Nao Kodaira special talk with Professor Masahiro Yuki

(Co-organized by The Physiological Society of Japan, and Japanese Society of Physical Fitness and Sports Medicine)

Facilitator: Fusao Kato (Jikei University School of Medicine, Japan)

Main Guest Speaker: Nao Kodaira

Aizawa Hospital; Gold medal in women's 500m speed skating and silver medal in women's 1000m speed skating at the PyeongChang 2018 Winter Olympic Games, World record holder in women's 1000m speed skating.

Co-Speaker: Masahiro Yuki

Professor of the Shinshu University, Department of Sports Sciences Education, Faculty of Education; a national coach of Japan Skating Federation. Prof. Yuki coached Miss Kodaira since she was a student at Shinshu University.

Interviewers and Commentators:

Yukio Nishimura (Tokyo Metropolitan Institute of Medical Science; PSJ, Japan)

Mikako Sunaga (Nippon Sport Science University; JSPFSM, Japan)

Schuichi Koizumi (University of Yamanashi, Japan)

Planning: Hidefumi Waki (JSPFSM) , Fusao Kato (PSJ)

Symposium36 (Local Organizing Committee Symposium)

March 30, Sat., 10:00-12:00 【Room A】1F, Conference Center

S36 Inter-tissue communications underlying metabolic and feeding control in living body
(whole day symposium) part I

Chairs: Yasuhiko Minokoshi (National Institute for Physiological Sciences, Japan)
Shingo Kajimura (UCSF Diabetes Center, University of California, USA)

S36-1 Dietary nutrients and genes that regulate growth in *C. elegans*

Masamitsu Fukuyama[1)], Toshiaki Katada[1,2)]
[1]Laboratory of Physiological Chemistry, Graduate School of Pharmaceutical Sciences, University of Tokyo, Japan, [2]Molecular Cell Biology Laboratory, Research Institute of Pharmaceutical Sciences, Faculty of Pharmacy, Musashino University, Japan

S36-2 Nutri-developmental biology: nutritional adaptability and adipose tissue remodeling

Tadashi Uemura[1,5)], Yukako Hattori[1)], Kaori Watanabe[1)], Taiichi Tsuyama[1)], Yasutetsu Kanaoka[1)], Shoko Mizutani[1)], Kohei Shimono[1)], Hironobu Uchiyama[2)], Shunsuke Yajima[2,3)], Masayoshi Watada[4)]
[1]Grad. Sch. of Biostudies, Kyoto Univ., Japan, [2]NGRC, Tokyo Univ. of Agri., Japan, [3]Dept. of Bioscience, Tokyo Univ. of Agri., Japan, [4]Grad. Sch. of Sci. and Eng., Ehime Univ., Japan, [5]AMED-CREST, Japan

S36-3 The neural circuit for prey capture in zebrafish: from vision to the hypothalamic feeding center

Koichi Kawakami, Akira Muto, Deepak Ailani
Division of Molecular and Developmental Biology, National Institute of Genetics, Japan

S36-4 Hypothalamic control of glucose metabolism in skeletal muscle

Yasuhiko Minokoshi[1,2)]
Division of Endocrinology and Metabolism, National Institute for Physiological Sciences, Japan, [2]Department of Physiological Sciences, School of Life Science, SOKENDAI The Graduate University for Advanced Studies, Japan

S36-5 Fibroblast Growth Factor 21 mediates the inter-talk between major metabolic regulators

Karen SL Lam
Department of Medicine, The University of Hong Kong, Hong Kong

Part II starts from 15:10 at the same room.

Symposium37 (Local Organizing Committee Symposium)

March 30, Sat., 10:00-12:00 【Room B】3F, Conference Center

S37 Primate researches in Asian regions

Organizers: Suchinda Malaivijitnond (National Primate Research Center of Thailand-Chulalongkorn University, Thailand)
Atsushi Iriki (Center for Biosystems Dynamics Research, RIKEN, Japan)

S37–1 Advantages of using Thai cynomolgus macaques for infectious disease and cognitive research

Suchinda Malaivijitnond[1,2)], Srichan Bunlungsup[1)], Taratorn Kemthong[1)], Suthirote Meesawat[1)], Mallika Imwong[3)], Yuzuru Hamada[4)]

[1]National Primate Research Center of Thailand-Chulalongkorn University, Thailand, [2]Department of Biology, Faculty of Science, Chulalongkorn University, Thailand, [3]Department of Molecular Tropical Medicine and Genetics, Faculty of Tropical Medicine, Mahidol University, Thailand, [4]Evolutionary and Morphology Section, Primate Research Institute of Kyoto University, Japan

S37–2 Tool-Use Behavior in Burmese Long-Tailed Macaques and Possible Adaptation for Learning

Michael D Gumert

Nanyang Technological University, Singapore

S37–3 Ruminant-Like Primate, Proboscis Monkey in Borneo

Ikki Matsuda[1,2,3,4)]

[1]Chubu University Academy of Emerging Sciences, Japan, [2]Wildlife Research Center, Kyoto University, Japan, [3]Japan Monkey Centre, Japan, [4]Institute for Tropical Biology and Conservation, Universiti Malaysia, Malaysia

S37–4 Neurobiology of Primate Brain-Body-Environment Interactions under Evolutionary Perspectives

Atsushi Iriki

Lab. for Symbolic Cognitive Development, Center for Biosystems Dynamics Research, RIKEN, Japan

Symposium38 (Local Organizing Committee Symposium)

March 30, Sat., 10:00-12:00 【Room C】3F, Conference Center

S38 Cutting-edge research topics on skeletal muscle plasticity in health and diseases

(Co-organized by Japanese Society of Physical Fitness and Sports Medicine)

Organizers: Katsumasa Goto (Toyohashi SOZO University, Japan)
Gordon S Lynch (The University of Melbourne, Australia)
Hidefumi Waki (Juntendo University, Japan)

S38-1 Evidence for acute contraction-induced myokine secretion by cultured myotubes

Nobuharu L Fujii
Department of Health Promotion Sciences, Graduate School of Human Health Sciences, Tokyo Metropolitan University, Japan

S38-2 Sex difference in sarcopenia: mechanisms and interventions

Shuichi Machida
Graduate School of Health and Sports Science, Juntendo University Graduate School of Health and Sports Science, Juntendo University, Japan

S38-3 Therapeutic potential of slow muscle programming for muscle wasting and muscular dystrophy

Gordon S Lynch[1)], Justin P Hardee[1)], Karen J Martins[1)], Timur Naim[1)], Stefan M Gehrig[1)], Gregory R Steinberg[2)], Rene Koopman[1)], James G Ryall[1)]
[1]Centre for Muscle Research, Department of Physiology, The University of Melbourne, Australia, [2]Division of Endocrinology and Metabolism, Department of Medicine, McMaster University, Australia

S38-4 Adiponectin and skeletal muscle - new insights and potential implications

Katsumasa Goto
Department of Physiology, Graduate School of Health Sciences, Toyohashi SOZO University, Japan

Symposium39 (Local Organizing Committee Symposium)

March 30, Sat., 10:00-12:00 【Room D】4F, Conference Center

S39 Cutting-Edge Optical Imaging of Neuronal Circuits and Synapses

(Co-organized by Grant-in-Aid for Scientific Research on Innovative Areas 'ABiS' of MEXT, Japan)

(Co-sponsored by Spectra-Physics)

Chair: Haruo Kasai (The University of Tokyo, Japan)
Co-Chair: Junichi Nabekura (National Institute for Physiological Sciences, Japan)

S39-1 Mechanical forces of spine enlargement detected by presynaptic FRET/FLIM imaging

Haruo Kasai[1,2], Hasan Ucar[2], Jun Noguchi[3], Satoshi Watanabe[3], Sho Yagishita[1,2], Noriko Takahashi[4]

[1]Graduate School of Medicine, The University of Tokyo, Japan, [2]Intl. Res. Ctr. for Neurointelligence (WPI-IRCN), UTIAS, The Univ. of Tokyo, Japan, [3]Natl. Ctr. of Neurol. and Psychiatry, Japan, [4]Department of Physiology, Kitasato Univ. School of Medicine

S39-2 Multi-scale calcium imaging in the marmoset visual cortical network

Kenichi Ohki[1,2]

[1]Department of Physiology, Graduate School of Medicine, University of Tokyo, Japan, [2]International Research Center for Neurointelligence (IRCN), University of Tokyo, Japan

S39-3 Biochemical Signal Computation in Single Dendritic Spines

Ryohei Yasuda

Max Planck Florida Institute for Neuroscience, USA

S39-4 Super-resolution microscopy for neuroscience: new methods & applications

Valentin Nagerl

Interdisciplinary Institute for Neuroscience, University of Bordeaux, France

Symposium40

March 30, Sat., 10:00-12:00 【Room E】4F, Conference Center

S40 Social communication through sensory information

Chair: Sachine Yoshida (Toho University, Japan)
Co-Chair: Masakazu Ide (National Rehabilitation Center for Persons with Disabilities, Japan)

S40-1 TRPM2 in the sensation for warmth
Chun-Hsiang Tan
Graduate Institute of Clinical Medicine, Kaohsiung Medical University, Taiwan

S40-2 Physiological and behavioral changes in infants during mother-infant interaction
Sachine Yoshida
Department of Anatomy, Faculty of Medicine, Toho University, Japan

S40-3 Evolutionary changes in the function and diversity of color vision in primates
Chihiro Hiramatsu
Department of Human Science, Faculty of Design, Kyushu University, Japan

S40-4 BodySharing: How we can share our body experiences
Emi Tamaki[1,2)]
[1]Waseda University, Japan, [2]H2L Inc., Japan

Symposium41 (International Scientific Program Committee Symposium)

March 30, Sat., 10:00-12:00 【Room F】5F, Conference Center

S41 Leveraging novel techniques to research and translate synaptic transmission and plasticity (ISPP, Iran)

Chairs: Javad Mirnajafi-Zadeh (Tarbiat Modares University, Iran)
Vahid Sheibani (Neuroscience Research Center,Kerman University of Medical Sciences, Iran)

S41-1 Modulating the mesolimbic dopamine system by leptin: a circuit study

Azar Omrani, Veronne De Vrind, Inge G. Wolterink-Donselaar, Mieneke Luijendijk, Roger A.H. Adan
Department of Transnational Neuroscience, University Medical Center Utrecht, The Netherlands

S41-2 Addressing Therapeutic Challenges in Neuroscience with Digiceuticals

Bechara John Saab[1,2,3)]
[1]Mobio Interactive, Canada, [2]University of Zurich Psychiatric Hospital, Switzerland, [3]Royal Society of Medicine, UK

S41-3 Activity dependent LncRNA LoNA: Linking synaptic plasticity and memory

Qiang Liu, Juan Zhang, Dingfeng Li
University of Science and Technology of China, China

S41-4 Dual effects of dopamine on synaptic plasticity in normal and hyperexcitable brain

Javad Mirnajafi-Zadeh[1)], Mahboobeh Ahmadi[1)], Bechara John Saab[2)], Yaghoub Fathollahi[1)], Nahid Roohi[1)]
[1]Department of Physiology, Faculty of Medical Sciences, Tarbiat Modares University, Iran, [2]Research & Development, Mobio Interactive, Canada

S41-5 Does exercise reverse cognitive and synaptic plasticity deficits following sleep deprivation?

Vahid Sheibani, Hakimeh Saadati, Amin Rajizadeh, Khadijeh Esmaeelpour
Neuroscience Research Center, Kerman University of Medical Sciences, Iran

Sponsored Symposium

Symposium42

March 30, Sat., 10:00-11:30 【Room G】5F, Conference Center

S42 Physiological function of royal jelly contributing to healthy longevity - The effectiveness on Locomotive syndrome, Menopausal disorders, Infectious diseases -

(Co-sponsored by Yamada Bee Company, Inc.)

Chair: Yoshinori Marunaka (Kyoto Industrial Health Association, General Incorporated Foundation, Japan; Ritsumeikan University, Japan; Kyoto Prefectural University of Medicine, Japan)

S42-1 Royal Jelly Prevents the Progression of Sarcopenia

Hongmei Wu, Xue Bao, Yeqing Gu, Shunming Zhang, Ge Meng, Kaijun Niu
Nutritional Epidemiology Institute and School of Public Health, China

S42-2 Mitigation of postmenopausal neurological disorders by administration of royal jelly

Akira Minami
Department of Biochemistry, School of Pharmaceutical Sciences, University of Shizuoka, Japan

S42-3 10-hydroxydecanoic acid in royal jelly elicits antigen-specific mucosal IgA response

Shogo Misumi
Department of Environmental and Molecular Health Sciences, Faculty of Life Sciences, Kumamoto University, Japan

Symposium43

March 30, Sat., 10:00-12:00 【Room H】5F, Conference Center

S43 TRP channels and inflammation/fibrosis

Chair: Insuk So (Seoul National Univ, Korea)
Co-Chair: Ryuji Inoue (Fukuoka University, Japan)

S43-1 The regulation of TRPC5 channel activity by S-glutathionylation and S-palmitoylation

Chansik Hong[1)], Insuk So[2)]
[1]Department of Physiology, Chosun University School of Medicine, Korea, [2]Department of Physiology, Seoul National University College of Medicine, Korea

S43-2 TRPM7 mediated fibrogenesis in heart diseases

Lixia Yue, Zhichao Yue, Albert S. Yu, Jianlin Feng
Department of Cell Biology, Calhoun Cardiology Center, University of Connecticut School of Medicine, USA

S43-3 The role of TRPM7 channel in pathogenesis of pulmonary arterial hypertension and right heart failure

Lin Hai Kurahara[1)], Keizo Hiraishi[1)], Lixia Yue[2)], Aya Yamamura[3)], Jianlin Feng[2)], Yaopeng Hu[1)], Mikiko Aoki[4)], Ryuji Inoue[1)]
[1]Department of Physiology, Fukuoka University, Japan, [2]Cardiology/Cell Biology, University of Connecticut Health Center, USA, [3]Department of Physiology, Aichi Medical University, Japan, [4]Department of Pathology, Fukuoka University, Japan

S43-4 Critical role of TRPC6 Targeting Hepatic Stellate Cell in Liver Fibrosis

Seung-Kuy Cha[1,2)], Kyu-Hee Hwang[1,2)], Ji-Hee Kim[1,2)], Soo-Jin Kim[1,2)], Kyu-Sang Park[1,2)]
[1]Department of Physiology, Yonsei University Wonju College of Medicine, Korea, [2]Mitohormesis Research Center, Yonsei University Wonju College of Medicine, Korea

S43-5 The non-neuronal protection of transient receptor potential vanilloid 1 in vascular system

Tzong-Shyuan Lee
Graduate Institute and Department of Physiology, College of Medicine, National Taiwan University, Taiwan

Symposium44 (International Scientific Program Committee Symposium)

March 30, Sat., 10:00-12:00 【Room I】5F, Conference Center

S44 Cutting-edge approaches to long-lasting questions and novel aspects of inward rectifier K^+ channels -- A quarter-century anniversary of cDNA isolation (ISPP, Israel)

Chairs: Eitan Reuveny (Weizmann Institute of Science, Israel)
Yoshihiro Kubo (National Institute for Physiological Sciences, Japan)

S44-1 New insights into K^+ dependences of the strong inward rectifier potassium channel Kir2.1

Keiko Ishihara
Division of Integrated Autonomic Function, Department of Physiology, Kurume University School of Medicine, Japan

S44-2 The mechanism underlying rectification of ion flow in Kir2.1 and evolutionarily relevant channels

Chung-Chin Kuo
Department of Physiology and Neurology, National Taiwan University, Taiwan

S44-3 Regulation mechanisms of G-protein-gated inwardly rectifying K^+ channel by small molecules

I-Shan Chen[1,2], Chang Liu[1,2], Yoshihiro Kubo[1,2]
[1]Division of Biophysics and Neurobiology, Department of Molecular and Cellular Physiology, National Institute for Physiological Sciences, Japan, [2]Department of Physiological Sciences, School of Life Science, SOKENDAI, Japan

S44-4 The G protein coupled potassium channel in the mammalian brain

Eitan Reuveny
Weizmann Institute of Science, Israel

Symposium45

March 30, Sat., 10:00-12:00 【Room J】2F, Exhibition Hall

S45 New molecular insights into the synaptic tagging and capture hypothesis

Chair: Tomonori Takeuchi (Aarhus University, Denmark)
Co-Chair: Sreedharan Sajikumar (National University of Singapore, Singapore)

S45-1 Behavioural and molecular insights in facilitating memory persistence

Szu-Han Wang
Centre for Clinical Brain Sciences, University of Edinburgh, UK

S45-2 Inverse synaptic tagging : an inactive synapse-targeted mechanism to capture activity-induced Arc

Haruhiko Bito[1,3], Yuichiro Ishii[1], Hiroyuki Okuno[2]
[1]Dept of Neurochemistry, The University of Tokyo Graduate School of Medicine, Japan, [2]Dept of Biochemistry and Molecular Biology, Kagoshima University Graduate School of Medical and Dental Sciences, Japan, [3]WPI-IRCN, The University of Tokyo Institutes for Advanced Study, Japan

S45-3 Role of p75 neurotrophin receptor in sleep deprivation induced changes in synaptic plasticity

Sajikumar Sreedharan
Department of Physiology, National University of Singapore, Singapore

S45-4 Rapid reversal of microRNA-induced silencing: a novel mechanism mediating synaptic plasticity

Ted Abel[1,2], Alan Jung Park[4], Xiuping Fu[3], Aparna P. Shah[3], Mahesh Shivarama Shetty[1,2], Jay M Baraban[3]
[1]Iowa Neuroscience Institute, University of Iowa Carver College of Medicine and University of Iowa, USA, [2]Department of Molecular Physiology and Biophysics, University of Iowa, USA, [3]Solomon H. Snyder Department of Neuroscience, Johns Hopkins School of Medicine, USA, [4]Mortimer B. Zuckerman Mind Brain Behavior Institute, Columbia University, USA

S45-5 Dopaminergic memory boostby two distinct novelty systems

Tomonori Takeuchi[1,2,3]
[1]Department of Biomedicine, Aarhus University, Denmark, [2]The Danish Research Institute of Translational Neuroscience (DANDRITE), Aarhus University, Denmark, [3]Aarhus Institute of Advanced Studies (AIAS), Aarhus University, Denmark

Symposium46

March 30, Sat., 10:00-12:00 【Room K】2F, Exhibition Hall

S46 Plasticity of inhibitory signaling in Epilepsy: New Physiological Mechanisms

Chair: Andrew Moorhouse (UNSW Sydney, Australia)
Co-Chair: Atsuo Fukuda (Hamamatsu University School of Medicine, Japan)

S46-1 Neural circuits basis of temporal lobe epilepsy

Zhong Chen, Yi Wang, Cenglin Xu
Zhejiang University, China

S46-2 Conditional upregulation of KCC2 enhances inhibition during seizures in mice

Chelsea Goulton[1)], M Watanabe[2)], D Cheung[1,2)], A Khoshaba[1)], H Indada[2)], K Eto[2,3)], H Wake[2,4)], J Nabekura[2,3)], A Moorhouse[1)]
[1]Department of Physiology, School of Medical Sciences, UNSW Sydney, Australia, [2]National Institutes for Physiological Sciences, Japan, [3]The Graduate University for Advanced Studies (SOKENDAI), Japan, [4]Division of System Neuroscience, Kobe University Graduate School of Medicine, Japan

S46-3 Human epilepsy and animal model with mutations in KCC2

Atsuo Fukuda
Department of Neurophysiology, Hamamatsu University School of Medicine, Japan

S46-4 Altered Cl-homeostasis during epileptogenesis

Claudio Rivera[1,2,3)]
[1]Neuroscience Center, University of Helsinki, Finland, [2]Inserm Unité 1249, INMED, Marseille, 13009 France, [3]Aix-Marseille Université, UMR S1249, Marseille, 13009 France

S46-5 Upregulating KCC2 as a Target for Seizure Therapies

Dennis Lawrence Cheung[1)], Chelsea Sarah Goulton[2)], Miho Watanabe[3)], Junichi Nabekura[1)], Andrew John Moorhouse[2)]
[1]Division of Homeostatic Development, National Insititute for Physiological Sciences, Japan, [2]School of Medical Sciences, Faculty of Medicine, UNSW Sydney, Australia, [3]Department of Neurophysiology, Hamamatsu University School of Medicine, Japan

Sponsored Symposium

Symposium47

March 30, Sat., 13:30-15:00 【Room F】5F, Conference Center

S47 New Frontiers in Regenerative Medicine of Renal Function

(Co-sponsored by Shinkoiwa Clinic)

Chair: Yoshinori Marunaka (Kyoto Industrial Health Association, General Incorporated Foundation, Japan; Ritsumeikan University, Japan; Kyoto Prefectural University of Medicine, Japan)

S47–1 Failure to sense energy depletion in chronic kidney disease

Eisei Sohara, Hiroaki Kikuchi, Shinichi Uchida

Department of Nephrology, Tokyo Medical and Dental University, Japan

S47–2 Kidney reconstitution from iPS cells based on developmental biology

Ryuichi Nishinakamura

Institute of Molecular Embryology and Genetics, Kumamoto University, Japan

S47–3 Next generation Therapy for dialysis patients using iPS cells

Takashi Yokoo

Department of Internal Medicine, Jikei University School of Medicine, Japan

Symposium48 (Local Organizing Committee Symposium)

March 30, Sat., 15:10-17:10 【Room A】1F, Conference Center

S48 Inter-tissue communications underlying metabolic and feeding control in living body
(whole day symposium) part II

Chairs: Yasuhiko Minokoshi (National Institute for Physiological Sciences, Japan)
Shingo Kajimura (University of California, USA)

S48-1 Central insulin action and hepatic glucose metabolism

Hiroshi Inoue[1,2)], Yuka Inaba[1)], Emi Hashiuchi[2)]
[1]Institute for Frontier Science Initiative, Kanazawa University, Japan, [2]Graduate School of Medical Sciences, Kanazawa University, Japan

S48-2 Contribution of the hepatokine selenoprotein P to the various pathologies of type 2 diabetes

Hirofumi Misu
Department of Endocrinology and Metabolism, Kanazawa University, Japan

S48-3 NeuroImmunoMetabolic regulation of cardiac physiology and heart failure

Ichiro Manabe
Chiba University, Japan

S48-4 JMJD1A mediates acute and chronic thermogenic responses through complementary mechanisms

Juro Sakai[1,2)]
[1]Tohoku University School of Medicine, Molecular Physiology div., Japan, [2]The University of Tokyo, RCAST, Metabolic Medicine div., Japan

S48-5 Metabolic adaptation and maladaptation in the adipose tissue

Shingo Kajimura
University of California, USA

Symposium49 (Local Organizing Committee Symposium)

March 30, Sat., 15:10-17:10 【Room B】3F, Conference Center

S49 Frontiers in pain physiology - from detection to the survival behavior (under the auspices of Japanese Association for Study of Pain)

Chairs: Fusao Kato (Jikei University, Japan)
Seog Bae Oh (Seoul National University, Korea)

S49-1 Primary sensory neuron-secreted proteins modulate pain transmission in spinal level

Xu Zhang
Institute of Neuroscience and State Key Laboratory of Neuroscience, CAS Center for Excellence in Brain Science, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, China

S49-2 Immune Response to Peripheral Nerve Injury: Implication for Neuropathic Pain

Seog Bae Oh
Department of Neurobiology and Physiology School of Dentistry, Department of Brain and Cognitive Sciences College of Natural Sciences, Seoul National University, Korea

S49-3 How opioids and noxious stimuli regulate delivery of nociceptive information to the amygdala

Elena Bagley
Discipline of Pharmacology and Charles Perkins Centre, University of Sydney, Australia

S49-4 Lateralized amygdala plasticity independent of bilateral parabrachial activity in inflammatory pain

Yukari Takahashi[1,2], Yuta Miyazawa[1,2], Yae K Sugimura[1,2], Fusao Kato[1,2]
[1]Dept Neurosci, Jikei Univ Sch Med, Japan, [2]Cntr Neurosci Pain, Jikei Univ Sch Med, Japan

S49-5 No pain no gain and no protection: Chronic pain protects heart from ischemia-reperfusion injury

Chien-Chang Chen, Yi-Fen Cheng, Ya-Ting Chang, Wei-Hsin Chen, Hsi-Chien Shih, Bai-Chuiang Shyu
Institute of Biomedical Sciences, Academia Sinica, Taiwan

Symposium50 (International Scientific Program Committee Symposium)

March 30, Sat., 15:10-17:10 【Room C】3F, Conference Center

S50 Maternal influences on offspring development (AuPS, Australia)

Chair: Deanne Hryciw (Griffith University, Australia)

S50-1 Fetal origins of osteoarthritis induced by maternal xenobiotic exposure

Hui Wang[1,4], Liaobin Chen[3,4], Hao Kou[2,4], Yinxian Wen[3,4]

[1]Department of Pharmacology, School of Basic Medical Sciences, Wuhan 430071, China, [2]Department of Pharmacy, Zhongnan Hospital of Wuhan University, Wuhan 430071, China, [3]Department of Orthopedic Surgery, Zhongnan Hospital of Wuhan University, Wuhan 430071, Chin, [4]Hubei Provincial Key Laboratory of Developmentally Originated Disease, Wuhan 430071, China

S50-2 How can maternal deprivation cause neurodevelopmental disorders?

Ken-Ichi Ohta, Shingo Suzuki, Takanori Miki

Department of Anatomy and Neurobiology, Faculty of Medicine, Kagawa University, Japan

S50-3 Role of linoleic acid in offspring development: Focus on inflammation and the placenta

Deanne Helena Hryciw[1,2], Nirajan Shrestha[3], James SM Cuffe[3], Olivia J Holland[3], Amanda Cox[3], Andrew Bulmer[3], Anthony V Perkins[3], Andrew J McAinch[2,4]

[1]School of Environment and Science, Griffith University, Australia, [2]Institute for Health and Sport, Victoria University, Australia, [3]School of Medical Science, Griffith University, Australia, [4]Australian Institute for Musculoskeletal Science (AIMSS), Victoria University, Australia

Symposium51

March 30, Sat., 15:10-17:10 【Room D】4F, Conference Center

S51 Cutting-edge Research in Neural Network Dynamics

(Organized by Women in Physiology of Japan (WPJ))

Chair: Akiko Arata (Hyogo College of Medicine, Japan)
Co-Chair: Yumiko Yoshimura (National Institute for Physiological Sciences, Japan)

S51–1 State-dependent multi-sensory integration in the posterior parietal cortex

Seung-Hee Lee
Department of Biological Sciences, KAIST, Korea

S51–2 Involvement of V1 neurons preferring low-contrast stimuli in difficult orientation discrimination

Rie Kimura[1,2)], Yumiko Yoshimura[1,2)]
[1]Division of Visual Information Processing, National Institute for Physiological Sciences, Japan, [2]Department of Physiological Sciences, SOKENDAI, Japan

S51–3 mGRASP for high-resolution structural and functional synapse mapping

Jinhyun Kim[1,2)]
[1]Korea Institute of Science and Technology, Korea, [2]University of Science and Technology, Korea

S51–4 Synaptic communication from subplate neurons controls neuronal migration in the developing neocortex

Chiaki Ohtaka-Maruyama
Neural Network Project, Tokyo Metropolitan Institute of Medical Science, Japan

Symposium52

March 30, Sat., 15:10-17:10 【Room E】4F, Conference Center

S52 Sports and Brain

(Co-sponsored by De Luca Foundation)

Chair: Kazuyuki Kanosue (Waseda University, Japan)
Co-Chair: Yukio Nishimura (Tokyo Metropolitan Institute of Medical Science, Japan)

S52-1 Functional organization of spinal motor map in sport athletes

Toshiki Tazoe
Neural Prosthesis Project, Department of Dementia and Higher Brain Function, Tokyo Metropolitan Institute of Medical Science, Japan

S52-2 Neural Correlates of Intuitive Decision - Making in Soccer

Xiaohong Wan[1,2)], Tomohisa Nagano[3)], Keiji Tanaka[2)]
[1]School of Pychology, Beijing Normal University, China , [2]Cognitive Brain Mapping Laboratory, RIKEN Center for Brain Science, Japan, [3]Faculty of Policy Management, Keio University, Japan

S52-3 The Paralympic Brain - Brain reorganization appeared in Paralympic athletes -

Kimitaka Nakazawa
Department of Life Sciences, The University of Tokyo, Japan

S52-4 Why is muscle relaxation difficult during sports?

Kouki Kato, Kazuyuki Kanosue
Faculty of Sport Sciences, Waseda University, Japan

Symposium53

March 30, Sat., 15:10-17:10 【Room F】5F, Conference Center

S53 Dynamic signaling of axon and presynaptic terminals revealed by direct recordings

Chair: Shin-ya Kawaguchi (Society-Academia Collaboration for Innovation, Kyoto University, Japan)

Co-Chair: Haruyuki Kamiya (Hokkaido University Graduate School of Medicine, Japan)

S53-1 Control of synaptic outputs by dynamic axonal excitability

Shin-Ya Kawaguchi[1,2,3)]

[1]Society-Academia Collaboration for Innovation, Kyoto University, Japan, [2]Graduate School of Science, Kyoto University, Japan, [3]Institute for Advanced Study, Kyoto University, Japan

S53-2 Analog signaling in molecular layer interneurons of the cerebellar cortex

Federico F Trigo[1,2)]

[1]Brain Physiology Laboratory, France, [2]University Paris Descartes, France

S53-3 Presynaptic properties at lemniscal fiber terminals in the somatosensory thalamus

Mitsuharu Midorikawa, Mariko Miyata

Department of Physiology, Division of Neurophysiology, School of Medicine, Tokyo Women's Medical University, Japan

S53-4 Regulation of neuronal signaling by axonal ion channels and neurotransmitter receptors

Yousheng Shu

State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, China

S53-5 Dynamic control of spike signaling by axonal afterdepolarization

Haruyuki Kamiya

Department of Neurobiology, Hokkaido University Graduate School of Medicine, Japan

Symposium54

March 30, Sat., 15:10-17:10 【Room G】5F, Conference Center

S54 Ca^{2+} signaling in health and disease

Chair: Xiaoqiang Yao (Chinese University of Hong Kong, China)
Co-Chair: Ryuji Inoue (Fukuoka University School of Medicine, Japan)

S54-1 A multi-hierarchical study on the arrhythmogenicity of a Ca-activated cation channel TRPM4

Ryuji Inoue[1)], Yaopeng Hu[1)], Yanghua Shen[2)], Keizo Hiraishi[1)], Lin Hai Kurahara[1)], Jun Ichikawa[1)], Tomohiro Numata[1)], Xin Zhu[2)]
[1]Department of Physiology, Fukuoka University School of Medicine, Japan, [2]Department of Biomedical Information Technology, Aizu University, Japan

S54-2 TRPP2 acts through autophagy to exert cyto-protective role in human stem cell-derived cardiomyocytes

Xiaoqiang Yao, Jun Lu
School of Biomedical Sciences, Chinese University of Hong Kong, China

S54-3 Ca^{2+} signaling in early fate decision of cardiac lineage cells

Huangtian Yang, Yijie Wang, Jijun Huang, Ji Liang, Liming Chu
Laboratory of Molecular Cardiology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, China

S54-4 Use of tetrandrine to treat flavivirus infection

Jianbo Yue, Lihong Huang
Department of Biomedical Sciences, City University of Hong Kong, China

S54-5 Structure-function Study of TRPP Channels

Xiaodong Liu[1)], Yuxia Liu[1,2)]
[1]Beihang University, China, [2]Tsinghua University, China

Symposium55

March 30, Sat., 15:10-17:10 【Room H】5F, Conference Center

S55 Brain pathways linking between emotion, behaviour and autonomic responses

Chair: Youichirou Ootsuka (Flinders University, Australia)
Co-Chair: Tomoyuki Kuwaki (Kagoshima University, Japan)

S55-1 Contribution of medullary raphe serotonergic neurons in the stress-induced autonomic responses

Yoko Ikoma[1,4)], Ikue Kusumoto[1)], Akihiro Yamanaka[2)], Youichirou Ootsuka[1,3)], Tomoyuki Kuwaki[1)]

[1]Department of Physiology, Graduate School of Medical & Dental Sciences, Kagoshima University, Japan, [2]Department of Neuroscience II, Research Institute of Environmental Medicine, Nagoya University, Japan, [3]Centre for Neuroscience, Department of Human Physiology, School of Medicine, Flinders University, Australia, [4]Super-network Brain Physiology, Graduate School of Life Sciences, Tohoku University, Japan

S55-2 Lateral habenula-ventral tegmental area pathways for emotional hyperthermia

Youichirou YoYo Ootsuka[1)], Mariana Brizuela[1)], Steven J Swoap[2)], Anna Antipov[1)], William W Blessing[1)]

[1]Centre for Neuroscience, College of Medicine and Public Health, Flinders University, Australia, [2]Department of Biology, Williams College, USA

S55-3 The medial amygdala is critical for endocrine and behavioural responses to emotional stress

Christopher Vincent Dayas

School of Biomedical Sciences and Pharmay, University of Newcastle, Australia

S55-4 Striatopallidal output pathways promoting and preventing motivated behaviour

Gavan McNally

School of Psychology, UNSW Sydney, Australia

Symposium56

March 30, Sat., 15:10-17:10 【Room I】5F, Conference Center

S56 Optical neuroscience: reading and manipulating neural computation behind cognition, memory, and behavior

Chair: Masakazu Agetsuma (National Institute for Physiological Sciences, Japan)
Co-Chair: Luis Alberto Carrillo-Reid (National Autonomous University of Mexico, Mexico)

S56-1 Multiscale understanding of synaptic pathology of psychiatric disorders

Akiko Hayashi-Takagi
Lab of Medical Neurosci, IMCR, Gunma Univ, Japan

S56-2 Population coding of fear memory in prefrontal cortex

Masakazu Agetsuma[1,2,3], Yoshiyuki Arai[3], Atsushi Kasai[4], Hitoshi Hashimoto[4], Takeharu Nagai[4]
[1]Division of Homeostatic Development, National Institute for Physiological Sciences, Japan, [2]Japan Science and Technology Agency, PRESTO, Japan, [3]The Institute of Scientific and Industrial Research, Osaka University, Japan, [4]Graduate School of Pharmaceutical Sciences, Osaka University, Japan

S56-3 SLM-based methods for 3d control and imaging in the brain

Darcy Peterka
Zuckerman Mind Brain Behavior Institute, Columbia University, USA

S56-4 Manipulation of behavioral performance by targeted activation of cortical ensembles

Luis Alberto Carrillo-Reid
Department of Developmental Neurobiology and Neurophysiolgy, National Autonomous University of Mexico, Mexico

S56-5 Brain states through brainwide neuromodulation in zebrafish

Misha Benjamin Ahrens
Howard Hughes Medical Institute, Janelia Research Campus, USA

Symposium57

March 30, Sat., 15:10-17:10 【Room J】2F, Exhibition Hall

S57 Alternative GPCR and G-protein signaling in cardiovascular disease and therapy

Chair: Utako Yokoyama (Yokohama City University, Japan)
Co-Chair: Motohiko Sato (Aichi Medical University, Japan)

S57–1 The Membrane-Intracellular Organelle Interface: A Compartment for GPCR Regulation of Cell Physiology

Hemal Patel
UC San Diego, USA & VA San Diego, USA

S57–2 Role of activator of G-protein signaling (AGS) 8 in neovascularization

Hisaki Hayashi, Motohiko Sato
Department of Physiology, Aichi Medical University, Japan

S57–3 Uncovering new GPCR signaling pathways in prostaglandin E_2-mediated vascular inflammation

Utako Yokoyama, Al Mamun, Hiromi Taro, Yoshihiro Ishikawa
Cardiovascular Research Institute, Yokohama City University, Japan

S57–4 Age-dependent dimer formation of AT1R and P2Y6R promotes angiotensin II-induced hypertension

Akiyuki Nishimura[1)], Caroline Sunggip[2)], Takuro Numaga-Tomita[2,3,4)], Motohiro Nishida[1,2,3,4)]

[1]Department of Translational Pharmaceutical Sciences, Graduate School of Pharmaceutical Sciences, Kyushu University, Japan, [2]National Institute for Physiological Sciences (NIPS), National Institutes of Natural Sciences, Japan, [3]Department of Creative Research, Exploratory Research Center on Life and Living Systems (ExCELLS), National Institutes of Natural Sciences, Japan, [4]School of Life Sciences, SOKENDAI, Japan

S57–5 A novel physiological role of tetrahydrobiopterin, a key GTP metabolite, in cardiovascular system

Jin Han[1)], Hyoung Kyu Kim[1)], Ippei Shimizu[2)], Tohru Minamino[2)], Bernd Nilius[3)]

[1]Cardiovascular and Metabolic Disease Center, Inje University, Korea, [2]Department of Cardiovascular Biology and Medicine, Niigata University Graduate School of Medical and Dental Sciences, Japan , [3]KU Leuven, Department of Cellular and Molecular Medicine, Belgium

Symposium58

March 30, Sat., 15:10-17:10 【Room K】2F, Exhibition Hall

S58 Zinc physiology and pathophysiology

Chair: Toshiyuki Fukada (Tokushima Bunri University, Japan)
Co-Chair: Taiho Kambe (Kyoto University, Japan)

S58-1 Role of the zinc homeostatic system in skin and skeletal muscle development

Toshiyuki Fukada
Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Japan

S58-2 Zn^{2+} sensitivity of Hv1 channel: an evolutionary perspective

Adisorn Ratanayotha[1,2], Takafumi Kawai[1], Yasushi Okamura[1]
[1]Laboratory of Integrative Physiology, Department of Physiology, Graduate School of Medicine, Osaka University, Japan, [2]Department of Anatomy, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand

S58-3 How does zinc signaling control the fate determination of beige fat cells?

Ayako Fukunaka
Institute for Molecular & Cellular Regulation Gunma University, Japan

S58-4 Physiology and biochemistry of zinc enzymes

Taiho Kambe
Graduate School of Biostudies, Kyoto University, Japan

Symposium59

March 30, Sat., 15:10-17:10 【Room M】3F, Exhibition Hall

S59 Contribution of microglia in health and disease of the brain

Chair: Mami Noda (Kyushu University, Japan)
Co-Chair: Bo Peng (Shenzen Institutes of Advanced Technology, China)

S59-1 Deciphering the origins of repopulated microglia in the central nervous system

Bo Peng
Chinese Academy of Sciences, China

S59-2 Microglia in Post-stroke Axon Remyelination and Tissue Repair

Dandan Sun
Department of Neurology, University of Pittsburgh, USA

S59-3 Roles of lipid receptors expressed by microglia in traumatic nerve injury

Hiroshi Kiyama
Department of Functional Anatomy & Neuroscience, Nagoya University Graduate School of Medicine, Japan

S59-4 Sex- and age-dependent effect of thyroidism on microglia and brain function

Mami Noda
Kyushu University, Graduate School of Pharmaseutical Sciences, Japan

Luncheon Seminar6

Talk in Japanese

March 30, Sat., 12:20-13:20 【Room A】1F, Conference Center

LS6 Plasmalogen: The effects on Alzheimer's disease and its mechanism

(Co-sponsored by The Japanese Plasmalogen Society)

Chair: Junichi Nabekura (National Institute for Physiological Sciences, Japan)

LS6-1 Plasmalogens improve the memory and other functions in Alzheimer's disease and Mild Cognitive Impairment

Takehiko Fujino

The Japanese Plasmalogen Society, Japan

LS6-2 Plasmalogens are the key phospholipids to regulate memory and neuro-inflammation in the brain

Hossain Md Shamim

Faculty of Medical Sciences, Kyushu University, Japan

Luncheon Seminar7

Talk in Japanese

March 30, Sat., 12:20-13:20 【Room B】3F, Conference Center

LS7 Frailty and Ninjin'yoeito

(Co-sponsored by Kracie Pharmaceutical, Ltd.)

Chair: Yoshinori Marunaka (Kyoto Industrial Health Association, General Incorporated Foundation, Japan; Ritsumeikan University, Japan; Kyoto Prefectural University of Medicine, Japan)

LS7-1 Anti-frailty strategy:Ninjin-yoeito stimulates appetite center and restores feeding

Toshihiko Yada[1,2)]

[1]Kansai Electric Power Medical Research Institute Center for Integrative Physiology, Division of Integrative Physiology, Japan, [2]Kobe University Graduate School of Medicine Division of System Physiology, Japan

LS7-2 Frailty and Ninjin'yoeito - toward healthy longevity

Akio Inui

Kagoshima University Graduate School of Medical and Dental Sciences Pharmacological Department of Herbal Medicine, Japan

Luncheon Seminar8

March 30, Sat., 12:20-13:20 【Room C】3F, Conference Center

LS8 Imaging intracellular temperature using fluorescence lifetime imaging microscopy (FLIM) reveals novel thermal signaling

(Co-sponsored by Leica Microsystems K.K.)

Chair: Makoto Tominaga (National Institute for Physiological Sciences (NIPS), Japan; Exploratory Research Center on Life and Living Systems (ExCELLS), Japan)

Kohki Okabe[1,2]
[1]Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan, [2]PRESTO, JST, Japan

Luncheon Seminar9

Talk in Japanese

March 30, Sat., 12:20-13:20 【Room D】4F, Conference Center

LS9 ABiS Luncheon Event: Neurophysiological Sciences Assisted by Imaging Support Network

(Co-sponsored by Grant-in-Aid for Scientific Research on Innovative Areas "Advanced Bioimaging Support (ABiS)" of MEXT, Japan)

Chair: Masanobu Kano (National Institute for Physiological Sciences, Japan; University of Tokyo, Japan)

LS9-1 Support system for the electron microscopic investigation of ultrastructure and molecular localization
Yugo Fukazawa
University of Fukui, Japan

LS9-2 Causal link between cerebellar LTD and motor learning revealed by the optogenetic tool PhotonSABER and SDS-FRL
Shinji Matsuda
University of Electro-Communications, Japan

LS9-3 What's "ABiS"
ABiS-Office

Luncheon Seminar10

J Talk in Japanese

March 30, Sat., 12:20-13:05 【Room H】5F, Conference Center

LS10 The effects of Bedding based on Physiology of sleep

(Co-sponsored by airweave inc.)

Chair: Motohiro Ozone (The Jikei University school of Medicine, Japan)

LS10-1 Investigation of sleep surface selection and its influence on sleep

Shintaro Chiba[1,2)]

[1]Ota Memorial Sleep center, Japan, [2]Department of Otorhinolaryngology, The Jikei University school of Medicine, Japan

LS10-2 The effects of high rebound mattress topper on sleep and approach to the medical field

Motokuni Takaoka

airweave inc., Japan

Technical Workshop2

March 30, Sat., 12:20-13:20 【Room G】5F, Conference Center

TW2 How to take advantage of new tools and techniques with Narishige products

(Co-sponsored by NARISHIGE SCIENTIFIC INSTRUMENT LAB.)

Chair: Hidemasa Furue (Hyogo College of Medicine, Japan)

TW2–1 Adeno-associated virus vector micro injection into mice brain to reveal function of neural circuitry involved in the regulation of sleep/wakefulness

Akihiro Yamanaka

Research Institute of Environmental Medicine, Nagoya University, Japan

TW2–2 Intrinsic plasticity of cerebellar Purkinje cells in motor learning circuits: Application of micro manipulators to patch clamping

Sang Jeong Kim

Department of Physiology, Seoul National University College of Medicine, Korea

TW2–3 Synaptic responses evoked by optogenetic activation of descending pain modulatory system: Recording from anesthetized animals placed in a stereotaxic apparatus

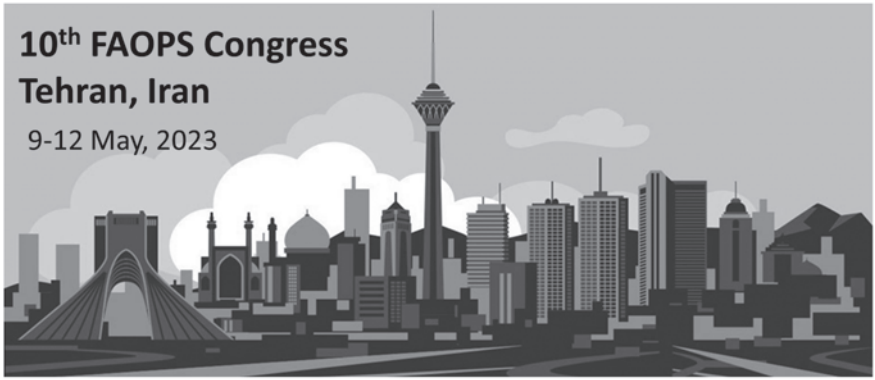
Hidemasa Furue

Department of Neurophysiology, Hyogo College of Medicine, Japan

Iran Lunch

March 30, Sat., 12:20-13:20 【Room I】5F, Conference Center

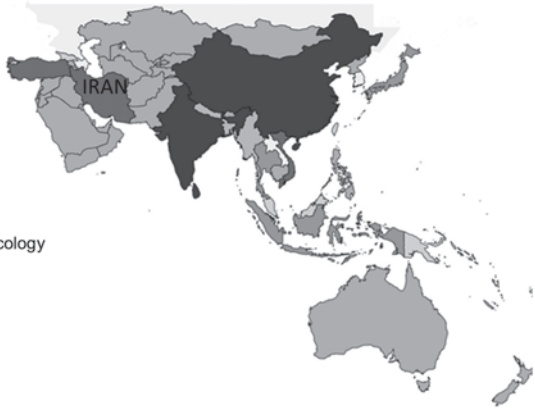
Iran lunch



Please join the Iran lunch!

Date: March 30, 2019, 12:20 - 13:20
Place: Room I (504 + 505)

The next FAOPS congress will be held in Tehran, Iran. Let's have a lunch together and get more familiar with the host of the next FAOPS congress, Tehran, Iran.



Javad Mirnajafi-Zadeh
1st vice president of FAOPS (2015-2019)
Email: mirnajaf@modares.ac.ir
Tel: +98-21-8288 3865
Fax: +98-21- 8288 4555
On behalf of:
Iranian Society of Physiology and Pharmacology

Educational Lecture2

Talk in Japanese

March 30, Sat., 8:00-8:40

【Room D】4F, Conference Center

EDL2 Mechanomedicine

EDL2-1 Mechanomedicine

Keiji Naruse
Cardiovascular Physiology, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Japan

This lecture provides the credit in the qualification update for Physiology Educator accredited by Physiological Society of Japan.

Poster (The 2nd Poster Presentation Day)

March 30, Sat., 13:20-14:10/14:10-15:00 | 1F, Exhibition Hall

★Young Scientist Travel Award, ★★Young Scientist Travel Award & Masao Ito Memorial Award

PSJ Awards

see P.96~97 for each presentation.

Skeletal muscle & locomotion (2)

2P-001 Application of CGRP upregulates MyHC I mRNA through cAMP-dependent manner in C2C12 cells

Yoshiaki Mori[1)], Junko Yamaji[2)]

[1]Department of Rehabilitation Sciences, Kansai University of Welfare Sciences, Japan, [2]Department of Nutrition Sciences, Kansai University of Welfare Sciences, Japan

2P-002 Essential role of calcineurin but not cAMP in mRNA expression of MyHC II and IL-6 in murine myocytes

Junko Yamaji[1)], Yoshiaki Mori[2)]

[1]Dept. of Nutrition sciences, Kansai University of Welfare Sciences, Japan, [2]Dept. of Rehabilitation sciences, Kansai University of Welfare Sciences, Japan

2P-003 Differential Scanning Calorimeter reveals interaction between water and myoproteins

Naoya Nakahara[1)], Tetsuo Ohno[1)], Masako Kimura[2)], Sumiko Kimura[1)], Shigeru Takemori[1)]

[1]Dept. Mol. Physiol., Jikei Univ. Sch. Med., Japan, [2]Dept. Integr. Physiol., Kagawa Nutri. Univ., Japan

2P-004 Microscopic heat pulses induce activation of cardiac thin filaments in the *in vitro* motility assay

Shuya Ishii[1)], Kotaro Oyama[1,2,3,4)], Tomomi Arai[1,2)], Hideki Itoh[1,5)], Seine A. Shintani[6)], Madoka Suzuki[4,7)], Fuyu Kobirumaki-Shimozawa[2)], Shin'Ichi Ishiwata[8)], Norio Fukuda[2)]

[1]Department of Physics, School of Advanced Science and Engineering, Waseda University, Japan, [2]Department of Cell Physiology, The Jikei University School of Medicine, Japan, [3]Quantum Beam Science Research Directorate, National Institutes for Quantum and Radiological Science and Technology, Japan, [4]PRESTO, Japan Science and Technology Agency, Japan, [5]Epithelial Biology Laboratory, Institute of Medical Biology, Agency for Science, Technology and Research, Singapore, [6]Department Biomedical Sciences, Chubu University, Japan, [7]Institute for Protein Research, Osaka University, Japan, [8]Faculty of Science and Engineering, Waseda University, Japan

2P-005 Functional organization of spinal motor map depends on sport experience

Kazutake Kawai[1,2)], Toshiki Tazoe[2)], Yukio Nishimura[2)]

[1]College of Sports Sciences, Nihon University, Japan, [2]Neural Prosthesis Project, Department of Dementia and Higher Brain Function, Tokyo Metropolitan Institute of Medical Science

2P-006 Thalamocortical Axon Activity in Motor Cortex Exhibits Layer-Specific Dynamics during Motor Learning

Yasuhiro R. Tanaka[1,2,3)], Yasuyo H. Tanaka[1,2,3)], Masashi Kondo[1,2)], Shin-Ichiro Terada[1,2,4)], Yasuo Kawaguchi[3,5,6)], Masanori Matsuzaki[1,2,3,5,7)]

[1]Department of Physiology, The University of Tokyo, Japan, [2]Division of Brain Circuits, NIBB, Japan, [3]CREST, JST, Japan, [4]Graduate School of Biostudies, Kyoto University, Japan, [5]SOKENDAI, Japan, [6]Division of Cerebral Circuitry, NIPS, Japan, [7]WPI-IRCN, The University of Tokyo Institutes for Advanced Study, Japan

2P–007 Leg muscle activity during postural control under optokinetic stimulation in healthy subjects

Junya Komagata[1,2)], Atsushi Sugiura[1)], Hiroshi Takamura[2)], Yujiro Masu[2)], Toshihiro Kitama[1)]

[1]Center for Life Science Research, University of Yamanashi, Japan, [2]Department of Physical Therapy, Health Science University, Japan

2P–008 Effects of neonatal dopamine depletion on behavioral responses to anxiogenic tasks in adult rats

Masanori Ogata, Hisanao Akita, Hitoshi Ishibashi

Department of Physiology, School of Allied Health Sciences, Kitasato University, Japan

2P–009 Primary motor cortex single cell activity during quadrupedal vs. bipedal gait in Japanese macaques

Marc A Maier[1)], Katsumi Nakajima[2,3)], Kazunori Morita[2,3)], Akira Murata[2)], Masahiko Inase[2)]

[1]FR3636, CNRS / Universite Paris Descartes, Sorbonne Paris Cite, France , [2]Department of Physiology, Kindai University, Faculty of Medicine, Japan , [3]Department of Physiology, School of Medicine, Iwate Medical University, Japan

2P–010 Features of fine motor skills in 5-year-old children with developmental coordination disorders

Misaki Mikami[1)], Shuhei Koeda[1)], Ayako Osato[2)], Takahito Masuda[3)], Manabu Saito[2)], Kazuhiko Nakamura[2,4)], Junko Yamada[1)]

[1]Hirosaki University Graduate School of Health Sciences, Japan, [2]Department of Neuropsychiatry, Hirosaki University Graduate School of Medicine, Japan, [3]Hirosaki University Faculty of Education, Japan, [4]Research Center for Child Mental Development, Hirosaki University Graduate School of Medicine, Japan

2P–011 Serotonin-induced synchronization to both respiratory rhythm and body movement in the pons

Hirotaka Ooka, Chiaki Uchida, Reona Furukawa, Akiko Arata

Department of Physiology, Hyogo College of Medicine, Mukogawa, Japan

2P–012 Neuronal tuning to speed and acceleration of locomotion in mouse cerebellar cortex

Koji Ikezoe, Kazuo Kitamura

Faculty of Medicine, University of Yamanashi, Japan

2P–013 Characteristics of eye movements of 5-year-old children with developmental coordination disorder

Manabu Saito[1,2,4)], Shuhei Koeda[3)], Misaki Mikami[3)], Taiahiro Aoki[5)], Kazutaka Yoshida[1)], Yui Sakamoto[1)], Junko Yamada[3)], Kenji Tsuchiya[6)], Taiichi Katayama[7)], Kazuhiko Nakamura[1,2),]

[1]Department of Neuropsychiatry, Hirosaki University Graduate School of Medicine, Japan, [2]Research Center for Child Mental Development, Hirosaki University Graduate School of Medicine, Japan, [3]Hirosaki University Graduate School of Health Sciences, Japan, [4]Department of Neuropsychiatry, Hirosaki University Hospital, Japan, [5]JVC KENWOOD Corporation, Japan, [6]Hamamatsu University school of Medicine, japan, [7]Osaka University Graduate School of Medicine, Japan

2P–014 Postural adjustments associated with transition from quadrupedal to bipedal locomotion in monkeys

Takashi Suzuki[1)], You Komagiri[1)], Kazunori Morita[1)], Akira Murata[2)], Masahiko Inase[2)], Katsumi Nakajima[1)]
[1]Dept. Physiol., Iwate Med. Univ., Japan, [2]Dept. Physiol., Facult. Med., Kindai Univ., Japan

2P-015 Distinctive compositions of nicotinic acetylcholine receptors in slow and fast muscles

Buntaro Zempo[1)], Yasuhiro Yamamoto[1)], Tory Williams[2)], Fumihito Ono[1,2)]
[1]Department of Physiology, Division of Life Sciences, Faculty of Medicine, Osaka Medical College, Japan, [2]Laboratory of Molecular Physiology, NIAAA, NIH.

2P-016 The effects of sensory and cognitive functions on motor coordination in 5-years old children

Ayako Osato[1)], Misaki Mikami[2)], Manabu Saito[1)], Shuhei Koeda[2)], Tamaki Mikami[3)], Yui Sakamoto[1)], Kazutaka Yoshida[1)], Yuri Matsubara[1)], Junko Yamada[2)], Kazuhiko Nakamura[1,3),]
[1]Department of Neuropsychiatry, Hirosaki University Graduate School of Medicine, Japan, [2]Hirosaki University Graduate School of Health Sciences, Japan, [3]Research Center for Child Mental Development, Hirosaki University Graduate School of Medicine, Japan

Exercise (2)

2P-017 Habitual physical exercise attenuates classical brown adipose tissue mass in interscapular region

Junetsu Ogasawara[1)], Ken Shirato[2)], Amire Alimu[1)], Takahiko Yoshida[1)]
[1]Depertment of Social Medicine, Asahikawa Medical University, School of Medicine, Japan, [2]Department of Molecular Predictive Medicine and Sport Science, Kyorin University, School of Medicine

2P-018 Changes in Atf3 and Ankrd2 following denervation induced skeletal muscle atrophy

Ippei Yamato[1)], Shuichi Soeda[2)], Tetsuro Tamaki[2)]
[1]Department of Medical Education, Tokai University School of Medicine, Japan, [2]Department of Human Structure and Function, Tokai University School of Medicine

2P-019 Understanding Cardiac Hypertrophy Process After Training with Different Intensity In Wistar Rats

Julia Windi Gunadi[1)], Vita Murniati Tarawan[2)], Ronny Lesmana[2,4)], Setiawan Setiawan[2)], Hanna Goenawan[2,4)], Teresa Liliana Wargasetia[3)], Roro Wahyudianingsih[5)], Gina Melawati Sukma[6)], Septo Andry Soesanto[6)], Rizky Regia Triseynesya[6)]
[1]Physiology Department, Faculty of Medicine, Maranatha Christian University, Indonesia, [2]Physiology Division, Basic Medical Science Department, Faculty of Medicine, Padjadjaran University, [3]Biology Department, Faculty of Medicine, Maranatha Christian University, [4]Biological Activity Division, Central Laboratory, Padjadjaran University, [5]Anatomy Pathology, Faculty of Medicine, Maranatha Christian University, [6]Faculty of Medicine, Maranatha Christian University

2P-020 Alteration of Autophagy Gene Expression by Different Intensity of Exercise in Skeletal Muscles

Vita Murniati Tarawan[1)], Julia Windi Gunadi[2)], Ronny Lesmana[1,5)], Hanna Goenawan[1,5)], Setiawan Setiawan[1)], Teresa Liliana Wargasetia[3)], Wahyu Widowati[3)], Yenni Limyati[4)], Julidea Anggiriani Sipayung[6)], Debby Eka Meilina[6)]
[1]Physiology Division, Basic Medical Science Department, Faculty of Medicine, Padjadjaran University, Indonesia, [2]Physiology Department, Faculty of Medicine, Maranatha Christian University, [3]Biology Department, Faculty of Medicine, Maranatha

Christian University, [4]Physical Medicine and Rehabilitation Department Immanuel Hospital Bandung, [5]Biological Activity Division, Central Laboratory, Padjadjaran University, [6]Faculty of Medicine, Maranatha Christian University

★ **2P-021** (Y-01) Effect of Swimming Exercise to Cardiac PGC-1α and HIF-1α Gene Expression in Mice

Nova Sylviana[1,2)], Hanna Goenawan[1,2)], Ronny Lesmana[1,2)], Badai Batara Tiksnadi[3)], Hasrayati Agustina[4)], Bethy S Hernowo[4)], Vita Murniati Tarawan[1)], Unang Supratman[2)], Ambrosius Purba[1)], Setiawan Setiawan[1,2)]

[1]Department Biomedical Sciences, Faculty Medicine, Padjadjaran University, Bandung, Indonesia , [2]Laboratorium Central, Universitas Padjadjaran, Indonesia, [3]Department of Cardiology and Vascular Medicine, Universitas Padjadjaran-Hasan Sadikin Hospital, Indonesia , [4]Department of Pathology Anatomy, Universitas Padjadjaran-Hasan Sadikin Hospital, Indonesia

2P-022 Influence exercise intensity moderate (walking) delay changes of physiology aging for elderly

Gusbakti R[1)], S Sri Mukti[2)]

[1]Department Physiology, Faculty of medicine, Universitas Muhammadyah Sumatera Utara, Indonesia, [2]Department Physiology Faculty of Medicine Univ. Gunadarma, Indonesia

2P-023 Drastic changes in arterial pressure during high intensity of treadmill exercise in rats

Kei Tsukioka[1)], Ko Yamanaka[1)], Hisashi Naito[2)], Hidefumi Waki[1)]

[1]Department of Physiology, Grduate School of Health and Sports Science, Juntendo University, Japan, [2]Department of Exercise Physiology, Grduate School of Health and Sports Science, Juntendo University, Japan

2P-024 Differential improvement of performance by motor imagery of human ankle dorsal and plantar flexion

Nan Liang[1,2)], Ayumi Tsubota[2)], Masato Mukai[2)], Aiko Takezawa[2)], Takahiro Masuhara[2)], Kanji Matsukawa[2)]

[1]Department of Human Health Sciences, Graduate School of Medicine, Kyoto University, Japan, [2]Department of Integrative Physiology, Graduate School of Biomedical and Health Sciences, Hiroshima University

2P-025 The long-term exercise doesn't affect blood humoral immunity

Kihachiro Fukada[1)], Hidehiko Kushi[2)], Terue Takashina[1)]

[1]Institute of Humanities and Social Sciences, Nihon University, Japan, [2]Graduate School of Literature and Social Sciences, Nihon University, Japan

2P-026 Seasonal effect on resting energy expenditure is age and percent body fat dependent

Duong Duc Pham, Jeong Hun Lee, Ki Hwan Hong, Youn Joo Jung, Sung Jin Kim, Chae Hun Leem

Department of Physiology, College of Medicine, University of Ulsan, Korea

2P-027 Exercise Prevents Hypertension by Modulating Sleep-Related Cardiovascular Autonomic Function in SHRs

Chieh-Wen Chen[1,2)], Terry B. J. Kuo[1,2,3,5,6)], Pei-Chi Hsu[1)], Jai-Yi Li[2,7)], Kuan-Liang Kuo[4,8)], Cheryl C. H. Yang[1,2,3,5)]

[1]Institute of Brain Science, National Yang-Ming University, Taiwan, [2]Sleep Research Center, National Yang-Ming University, Taiwan, [3]Brain Research Center, National Yang-Ming University, Taiwan, [4]Institute of BioMedical Informatics, National Yang-Ming University, Taiwan, [5]Department of Education and Research, Taipei City Hospital,Taiwan, [6]Graduate Institute of Biomedical Informatics, College of Medical Science and

Technology, Taipei Medical University, Taiwan, [7]Department of Health and Leisure Management, Yuanpei University of Medical Technology,Taiwan, [8]Family Medicine Department, Taipei City Hospital Ren-Ai Branch, Taiwan

2P-028 Does sport discipline at a young age influence the incidence of hypertension? -J-Fit⁺study-

Hiroshi Kumagai[1,2)], Yuki Someya[3,4)], Masaki Yoshioka[5)], Eri Miyamoto-Mikami[1)], Youngju Choi[6)], Yoshimitsu Kohmura[1)], Koya Suzuki[1)], Shuichi Machida[1)], Hisashi Naito[1)], Seiji Maeda[6)], Noriyuki Fuku[1)]

[1]Graduate School of Health and Sports Science, Juntendo University, Japan., [2]Research Fellow of Japanese Society for the Promotion of Science, Japan., [3]Department of Metabolism & Endocrinology, Graduate School of Medicine, Juntendo University, Japan., [4]Sportology Center, Graduate School of Medicine, Juntendo University, Japan., [5]Graduate School of Comprehensive Human Sciences, University of Tsukuba, Japan., [6]Faculty of Health and Sport Sciences, University of Tsukuba, Japan

2P-029 Regular exercise suppresses obesity-associated HCC development

Naoki Takada[1)], Miho Kumagai[2)], Tatsuya Ando[2,3)], Fumitaka Kamachi[1,2)], Naoko Ohtani[1,2)]

[1] Department of Pathophysiology, Osaka City University Graduate School of Medicine, [2]Department of Applied Biological Science, Faculty of Science and Technology, Tokyo University of Science, [3]Division of Clinical Laboratory, Gifu University, School of Medicine

2P-030 Lower urinary tract symptoms are associated with reduced peak aerobic capacity in old people

Yu Takeda[1)], Shizue Masuki[1,2)], Mayuko Morikawa[1,2,3)], Hiroshi Nose[3)]

[1]Department of Sports Medical Sciences, Shinshu University Graduate School of Medicine, [2]Institute for Biomedical Sciences, Shinshu University, [3]Jukunen Taiikudaigaku Research Center

2P-031 Assessment of thermal load during exercise in junior high school students using wearable sensors

Issei Kato, Kei Nagashima, Shuri Marui, Yuta Masuda

Department of Human science, University of waseda, Japan

★ **2P-032** (Y-02) Respiratory Muscle Training (RMT), Aerobic Fitness and Performance in Sri Lankan Rowers

Dilani Priyashanthi Perera[1)], Anoja Ariyasinghe[2)], Anula Kariyawasam[2)]

[1]Department of Physiotherapy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka, [2]Department of Physiology, Faculty of Medicine, University of Peradeniya, Sri Lanka

2P-033 The expression and distribution of mitsugumin53 in skeletal muscle after lengthening contraction

Yuhei Hibino[1)], Yuki Katanosaka[2)], Kimiaki Katanosaka[1)]

[1]Department of Life and Health Science, Chubu University, Japan , [2]Department of Cardiovascular Physiology, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Japan

2P-034 Neuroendocrine response to long-term exercise

Terue Takashina[1)], Hidehiko Kushi[2)], Kihachiro Fukada[1)]

[1]Institute of Humanities and Social Sciences, Nihon University, Japan, [2]Graduate School of Literature and Social Sciences, Nihon University, Japan

2P-035 The relationship of body mass index and aerobic capacity in primary school students in Jakarta

Nurul Paramita, Sophie Yolanda, Imelda Rosalyn Sianipar,
Dewi Irawati Soeria Santoso
Department of Medical Physiology, Universitas Indonesia, Indonesia

2P-036 The analgesic effect of voluntary running in a rat model of persistent inflammatory pain

Risa Yamauchi[1,2)], Hideshi Ikemoto[1)], Takayuki Okumo[1,3)], Nachi Ebihara[1)], Mana Tsukada[1)], Hiroyuki Horikawa[1,2)], Shi-Yu Guo[1)], Yan-Qing Liu[1,4)], Tadashi Hisamitsu[1)], Masataka Sunagawa[1),]
[1]Department of Physiology, School of Medicine, Showa University, Japan, [2]Faculty of Arts and Sciences at Fujiyoshida, Showa University, Japan, [3]Department of Orthopaedic Surgery, Showa University Fujigaoka Hospital, Japan, [4]Department of Combined Traditional Chinese and Western Medicine, Yangzhou University School of Medicine, China

2P-037 A Randomised Controlled Trial Evaluating Effect of Walking Advice on Improving Depressive Symptoms

Mei-Yuk Lam, Ka-Tik Cheung
School of Medical and Health Sciences, Tung Wah College, China

2P-038 Acute effects of mechanical compression in hypoxia on arterial stiffness

Masato Nishiwaki
Faculty of Engineering, Osaka Institute of Technology, Japan

★ **2P-039** (Y-03) Factors affecting oxygen pulse in a healthy Thai population

Tichanon Promsrisuk, Napatr Sriraksa, Ratchaniporn Kongsui
Division of Physiology, School of Medical Sciences, University of Phayao, Thailand

2P-040 Circulatory dynamics and autonomic nervous activities between sprinters and distance runners

Xinru Sun[1)], Madoka Nozawa[1)], Sayaka Saito[1)], Junko Hoshi[1)], Hiromasa Tanno[1)], Emi Kanno[1)], Ryoko Maruyama[1)]
[1]Department of Health Sciences, Tohoku University Graduate School of Medicine, Japan

2P-041 Exercise habit is correlated to lower fall risks among elderly people living in urban areas

Hisayo Yokoyama[1)], Hitoshi Watanabe[1)], Kazumi Saito[2)], Ayane Shibata[2)], Yuta Suzuki[1)], Daiki Imai[1)], Kazunobu Okazaki[1)], Akira Ogita[1)]
[1]Research Center for Urban Health and Sports, Osaka City University, Japan, [2]Social Welfare Bureau, Osaka City

2P-042 Asymmetry of plantar flexor muscle but not Achilles tendon in high jumpers

Keigo Tomoo, Tadashi Suga, Yusuke Izui, Hiromasa Ueno, Masafumi Terada, Akinori Nagano, Tadao Isaka
Depoartment of Sports and Health Science, Ritsumeikan University, Japan

Circulation & Respiration: Cardiac Physiology (2)

2P-043 nNOS regulation of myocyte contraction and $[Ca^{2+}]_i$ handling with fatty acid supplementation

Yin Hua Zhang
Department of Physiology, Seoul National University, College of Medicine, Korea

2P-044 A novel superforated-patch technique revealed the Ca^{2+}-triggered arrhythmogenesis from the T-tubules

Takao Shioya
Department of Physiology, Faculty of Medicine, Saga University, Japan

2P-045 Propagation of repolarization induced in a cell array of human ventricular cell models

Shotaro Kiyokawa, Natsuki Yamamoto, Akinori Noma, Akira Amano
Department of Bioinfomatics, Graduation school of Lifescience, University of Ritsumeikan, Japan

2P-046 Screening for novel RyR2 inhibitor by ER Ca^{2+} monitoring

Mai Tamura[1)], Nagomi Kurebayashi[1)], Takashi Murayama[1)], Shuichi Mori[2)], Mari Ishigami-Yuasa[2)], Hiroyuki Kagechika[2)], Junji Suzuki[3)], Kazunori Kanemaru[4)], Masamistu Iino[4)], Takashi Sakurai[1),]
[1]Dept Pharmacol, Fac Med, Juntendo Univ, Japan, [2]Tokyo Med Dent Univ, Japan, [3]Univ California San Francisco, USA, [4]Nihon Univ Sch Med, Japan

2P-047 Molecular architecture of catecholamine-induced arrhythmogenicity in rat pulmonary vein

Yosuke Okamoto[1)], Naing Ye Aung[2)], Yoshinobu Nagasawa[3)], Daichi Takagi[1)], Kyoichi Ono[1)]
[1]Department of cell physiology, Akita University Graduate School of Medicine, Japan, [2]Pathological and Image analysis center, Cancer Research center, Yamagata University Faculty of Medicine, [3]Department of Pharmacology and Therapeutics, Faculty of Pharmaceutical Sciences, Toho University

2P-048 High throughout screening of RyR2 inhibitors as candidates for novel antiarrhythmic drugs

Masatoshi Ito[1)], Nagomi Kurebayashi[1)], Takashi Murayama[1)], Mai Tamura[1)], Mari Ishigami- Yuasa[2)], Shuichi Mori[2)], Hiroyuki Kagechika[2)], Junji Suzuki[3)], Kazunori Kanemaru[4)], Masamitsu Iino[4)], Takashi Sakurai[1)]
[1]Dept Pharmacol, Fac Med, Juntendo Univ, Tokyo, Japan, [2]Tokyo Med Dent Univ, Japan, [3]Univ Calfornia, USA, [4]Nihon Univ Sch Med, Japan

2P-049 Anti-arrhythmic force of leak current enhancement in manufactured atrial fibrillation of rat

Kako Andoh, Yoriko Katoh, Yosuke Okamoto, Yui Takahashi, Daichi Takagi, Kyoichi Ono
Department of Cell Physiology, Akita Graduate School of Medicine, Japan

2P-050 Interventricular difference in calcium sensitivity with lower expression of calcium binding proteins

Young Keul Jeon[1,2,3)], Ji Hyun Jang[1,2,3)], Juhan Woo[1,2,3)], Hae Jin Kim[1,2,3)], Su Han Cho[1,2,3)], Yin Hua Zhang[1,2,3)], Sung Joon Kim[1,2,3)]
[1]Department of Physiology, Seoul National University, College of Medicine, Republic of Korea, [2]Department of Biomedical Sciences, Seoul National University, College of Medicine, Republic of Korea, [3]Ischemic/Hypoxic Disease Institute, Seoul National University College of Medicine, Republic of Korea

★★**2P-051** (Y-04) Mitochondrial fusion promoter attenuates left ventricular dysfunction in pre-diabetic rats

Chayodom Maneechote[1,2,3)], Siripong Palee[1,2,3)], Nattayaporn Apaijai[1,2,3)], Thidarat Jaiwongkam[1,2,3)], Sasiwan Kerdphoo[1,2,3)], Siriporn C Chattipakorn[1,2,4)], Nipon Chattipakorn[1,2,3)]

[1]Cardiac Electrophysiology Research and Training Center, Faculty of Medicine, Chiang Mai University, Thailand, [2]Center of Excellence in Cardiac Electrophysiology Research, Chiang Mai University, Thailand, [3]Cardiac Electrophysiology Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [4]Department of Oral Biology and Diagnostic Sciences, Faculty of Dentistry, Chiang Mai University, Thailand

2P-053 The use of fetal heart rate variability to identify evolving brain injury after asphyxia

Kyohei Yamaguchi[1)], Christopher Arther Lear[2)], Alistair Jan Gunn[2)], Tomoaki Ikeda[1)], Laura Bennet[2)], Yoshiki Maeda[1)]

[1]Department of Obstetrics & Gynecology, Mie University Faculty of Medicine, Japan, [2]The Fetal Physiology and Neuroscience Group, Department of Physiology, The University of Auckland, New Zealand

2P-054 Generation mechanism of transient EAD in a mathematical ventricular model

Yuichiro Ito, Hiroyuki Kitajima, Toru Yazawa

Department of Engineering and Design, Kagawa University, Japan

2P-055 Alternans in a Mathematical Crustacean Cardiac Model

Hiroyuki Kitajima, Toru Yazawa

Department of Engineering and Design, Kagawa University, Japan

2P-056 Dynamical mechanisms of phase-2 early afterdepolarizations in human ventricular myocyte models

Yasutaka Kurata[1)], Kunichika Tsumoto[1)], Mamoru Tanida[1)], Yuhichi Kuda[1)], Ichiro Hisatome[2)]

[1]Department of Physiology II, Kanazawa Medical University, Japan, [2]Division of Regenerative Medicine and Therapeutics, Institute of Regenerative Medicine and Biofunction, Tottori University Graduate School of Medical Science

2P-057 Mechanisms of L-type Ca^{2+} channel blockers to produce EAD in drug-induced arrhythmia

Shingo Murakami, Akira Kimura

Department of Electrical, Electronic, and Communication Engineering, Faculty of Science and Engineering, Chuo University , Japan

★★2P-058 (Y-05) Crossbridge thermodynamics in right heart failure

June-Chiew Han[1)], Toan Pham[1)], Kenneth Tran[1)], Andrew J. Taberner[1,2)], Denis S. Loiselle[1,3)]

[1]Auckland Bioengineering Institute, The University of Auckland, New Zealand, [2]Department of Engineering Science, The University of Auckland, New Zealand, [3]Department of Physiology, The University of Auckland, New Zealand

★★2P-059 (Y-06) LysoPC plays a crucial role in cholesterol-induced nonobese MS cardiomyopathy

Jiung-Pang Huang, Li-Man Hung

Department of Biomedical Sciences, Chang Gung University,Taiwan

2P-060 Successful establishment of a murine model of cardiac reverse remodeling

Tatsuyuki Sato[1)], Norihiko Takeda[1)], Yu Nakagama[2)], Masaki Wake[1)], Katsura Soma[1)], Hiroaki Semba[1)], Takayuki Isagawa[3)], Issei Komuro[1)]

[1]Department of Cardiovascular Medicine, University of Tokyo Graduate School of Medicine, Japan, [2]Department of Pediatrics, University of Tokyo Graduate School of Medicine, Japan, [3]Department of Cardiovascular Medicine, Nagasaki University Graduate School of Biomedical Sciences, Japan

2P-062 Forced expression of DFCP1 attenuates cardiac fibroblasts activation via promoting autophagic flux

Xiaojing Liu[1,2)]

[1]Laboratory of Cardiovascular Diseases, University of Sichuan, China, [2]Department of Cardiology, University of Sichuan, China

2P-063 Chronic isoproterenol stimulation induced different cardiac disorders in *Tric*-deficient mice

Daiju Yamazaki

Division of Pharmacology, National Institute of Health Sciences, Japan

2P-064 SDH deficiency induced metabolic switch and dilated cardiomyopathy

Wenwen Li, Xianhua Wang, Heping Cheng, Qi Ma

Peking University, China

2P-065 Chronic response of renal and lumbar sympathetic nerve activity to myocardial infarction in rats

Misa Yoshimoto, Shizuka Ikegame, Fumi Hyodo, Yuki Shiwa, Kenju Miki

Department of Health Science, University of Nara women's University, Japan

★ **2P-066** (Y-07) Inhibition of $p16^{INK4a}$ protects against myocardial ischemia/reperfusion injury

Zhou Qiulian, Bei Yihua, Meng Xiangmin, Xiao Junjie

Institute of Cardiovascular Sciences, School of Life Science, Shanghai University, China

2P-067 The cytotoxic effect of 2-APB in H9c2 cells

YanCheng Shen[1)], KunTa Yang[2,3)]

[1]Department of Pharmacology and Toxicology, School of Medicine, Tzu Chi University, Taiwan, [2]Department of Physiology, School of Medicine, Tzu Chi University, Taiwan , [3]Institute of Medical Sciences, Tzu Chi University, Taiwan

2P-068 Protective Effect of Intermittent Hypoxia Against Oxidative Stress Injury in Rat Cardiomyocytes

I-Chieh Wang[1)], Chih-Feng Lien[2)], Kun-Ta Yang[3)]

[1]PhD Program in Pharmacology and Toxicology, Tzi Chi University, Taiwan, [2]Institute of Medical Sciences, Tzu Chi University, Taiwan, [3]Department of Physiology, School of Medicine, Tzu Chi University, Taiwan

2P-070 The cardiac end-systolic pressure-volume (force-length) relation is contraction-mode dependent

Kenneth Tran[1)], Toan Pham[1,2)], Andrew J Taberner[1,3)], Denis S Loiselle[1,2)], June-Chiew Han[1)]

[1]Auckland Bioengineering Institute, University of Auckland, New Zealand, [2]Department of Physiology, University of Auckland, New Zealand, [3]Department of Engineering Science, University of Auckland, New Zealand

2P-071 Glycolytic pathway is activated in rat embryonic heart just after the beginning of the heartbeat

Tatsuya Sato[1,2)], Nobutoshi Ichise[1)], Takeshi Kobayashi[1)], Hiroya Yamazaki[1)], Yoshinori Terashima[1)], Shunsuke Jimbo[1)], Noritsugu Tohse[1)]

[1]Department of Cellular Physiology and Signal Transduction, Sapporo Medical university School of Medicine, Japan, [2]Department of Cardiovascular, Renal, and Metabolic Medicines, Sapporo Medical university School of Medicine, Japan

2P-072 Rapid heating induces high-frequency sarcomeric oscillations in living rat neonatal cardiomyocytes

Seine A. Shintani[1)], Kotaro Oyama[2,3)], Shin'Ichi Ishiwata[4)], Norio Fukuda[5)]
[1]Department of Biomedical Sciences, College of Life and Health Sciences, The Chubu University, Japan, [2]Quantum Beam Science Research Directorate, National Institutes for Quantum and Radiological Science and Technology, Japan, [3]PRESTO, Japan Science and Technology Agency, Japan, [4]Department of Physics, Faculty of Science and Engineering, Waseda University, [5]Department of Cell Physiology, The Jikei University School of Medicine, Japan

2P-073 Roles of Epac1 in the regulation of contractility in cardiac muscle

Yoshiki Ohnuki, Kenji Suita, Satoshi Okumura
Department of Physiology, Tsurumi University School of Dental Medicine, Japan

2P-074 *In vivo* nano-analysis of the dynamics of individual sarcomeres in the beating mouse heart

Fuyu Kobirumaki-Shimozawa[1)], Kotaro Oyama[2,3)], Togo Shimozawa[4)], Shin'Ichi Ishiwata[5)], Norio Fukuda[1)]
[1]Department of Cell Physiology, The Jikei University School of Medicine, Japan, [2]National Institutes for Quantum and Radiological Science and Technology, [3]PRESTO, Japan Science and Technology Agency, [4]Technical Division, School of Science, The University of Tokyo, [5]Department of Physics, Faculty of Science and Engineering, Waseda University

2P-075 Role of pannexin hemichannel on stretch-induced mitochondrial hyperpolarization in cardiomyocytes

Daisuke Katsura[1)], Gentaro Iribe[1)], Keiko Kaihara[1)], Keiji Naruse[1)]
[1]Department of Cardiovascular Physiology, Okayama University, Japan

2P-076 Comparison of cardiomyocyte kinetics of rat left ventricle and turtle ventricle

Yoshihiro Ujihara[1,2)], Akira Hanashima[2)], Takeshi Honda[2)], Aya Kodama[2)], Ken Hashimoto[2)], Satoshi Mohri[2)]
[1]Department of Electrical and Mechanical Engineering, Nagoya Institute of Technology, Japan, [2]First department of Physiology, Kawasaki Medical School, Japan

2P-077 Hydrogen Sulfide Exerts Cardioprotection in Sepsis by Inhibiting Endoplasmic Reticulum Stress

Yuming Wu[1,4,5)], Yuhong Chen[1,2)], Sheng Jin[1)], Xu Teng[1)], Zhenjie Hu[2)], Xuan Qiu[3)]
[1]Department of Physiology, Hebei Medical University, China, [2]Intensive care unit, The Fourth Hospital of Hebei Medical University, China, [3]Department of endocrinology, The Third Hospital of Hebei Medical University, China, [4]Hebei Collaborative Innovation Center for Cardio-Cerebrovascular Disease, China, [5]Key Laboratory of Vascular Medicine of Hebei Province, China

2P-078 Physiological Studies on the Protective Effect Ofmelatonin against Doxorubicin Cardiotoxicity

Faten Mahmoud Diab
Physiology Department, Faculty of Medicine, Ain Shams University, Egypt

2P-079 Optogenetic cardiac pacing in freely-moving mice

Jun Kaminosono[1)], Yuki Kambe[2)], Tomoyuki Kuwaki[1)], Akira Yamashita[1)]
[1]Dept. Physiol.1, Grad. Sch. Med. Dent. Sci., Kagoshima Univ., Japan, [2]Dept. Pharmacol., Grad. Sch. Med. Dent. Sci., Kagoshima Univ., Japan

2P-080 The prevalence of low physical activity and its association with other risk factors in Iran

Majid Askaripour[1)], Masoomeh Kahnooji[2)], Mahboobeh Yeganeh[2)], Fatemeh Tavakoli[3)], Mitra Shadkam[4)], Farzaneh Rostamzadeh[1)],

Hamid Najafipour[2)]
[1]Physiology Research Center, Institute of Basic and Clinical Physiology Sciences and Department of Physiology and Pharmacology Kerman University of Medical Sciences, Kerman, Iran, [2]Cardiovascular Research Center, Institute of Basic and Clinical Physiology Sciences and Shafa hospital, Kerman University of Medical Sciences, Iran, [3]Department of Biostatistics and Epidemiology, Kerman University of Medical Sciences, Iran , [4]Endocrinology and Metabolism Research Center, Institute of Basic and Clinical Physiology sciences, Kerman University of Medical Sciences, Iran

2P-081 Development of light-controllable nitric oxide releasing small compounds and biological application

Naoya Ieda, Hana Okuno, Ayaka Yamauchi, Yuji Hotta, Mitsuyasu Kawaguchi, Kazunori Kimura, Hidehiko Nakagawa
Graduate School of Pharmaceutical Sciences, Nagoya City University, Japan

Circulation & Respiration: Lung Physiology (2)

2P-082 Airway epithelial integrin β4 expression deficiency leads to lung dysplasia in mice

Yang Xiang[1)], Yu Chen[1,2)], Wang Jiang[1)], Di Wu[1)], Jinmei Wang[1)], Chi Liu[1)], Xiaoqun Qin[1)]
[1]Department of Physiology, Xiangya School of Medicine, Central South University, China, [2]Department of laboratory medicine, Hunan Normal University of medicine, China

2P-083 $S1P_2$ aggravates lung fibrosis through altering alveolar macrophage polarization in mice

Yasuo Okamoto[1,2)], Juanjuan Zhao[1)], Kazuaki Yoshioka[1)], Sho Aki[1)], Kazuhiro Ishimaru[1)], Noriko Takuwa[1,3)], Yoh Takuwa[1)]
[1]Dept. of Physiology, Kanazawa Univ. Sch. Med., Japan, [2]Dept. of Pharmacology, Kawasaki Medical School, [3]Dept. of Health & Med. Sci., Nursing Univ.

2P-084 Lung Functions and Feno Levels during Phases of Menstrual Cycle in Asthmatic and Healthy Females

Kushani Rasangika Atukorala[1)], Sharaine Fernando[1)], Nalinda Silva[1)], Lakmali Amarasiri[2)]
[1]Department of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, [2]Department of Physiology, Faculty of Medicine, University of Colombo

2P-085 The role of miR-126 on LPS-induced acute lung injury in mice

Yongsheng Gong, Haizeng Zhang, Danyang Chen, Qiuyun Tian, Sunzhong Mao, Xiaofang Fan, Shufang Liu
Institute of Hypoxia Medicine,School of Basic Medical Sciences,Wenzhou Medical University, China

2P-086 Chloramphenicol induces autophagy and inhibits the HIF1α pathway in NSCLC cells

Ching-Hao Li[1)], Po-Lin Liao[2)], Yu-Wen Cheng[3)], Shih-Hsuan Huang[3)], Han-Lin Hsu[4)], Jaw-Jou Kang[2)]
[1]Department of Physiology, School of Medicine, College of Medicine, Taipei Medical University, Taiwan, [2]Institute of Food Safety and Health Risk Assessment, School of Pharmaceutical Sciences, National Yang-Ming University, Taiwan, [3]College of Pharmacy, Taipei Medical University, Taiwan, [4]Division of Pulmonary Medicine, Department of Internal Medicine, Taipei Medical University-Wan Fang Hospital, Taiwan

★ **2P-087** (Y-09) Influence of Tobacco smoking on carboxyhaemglobin levels and blood lipid levels

Prasanna Herath[1)], Savithri Wimalasekera[2)], Thamara Amarasekara[3)]
[1]Department of Nursing and Midwifery, Faculty of Allied Health Sciences , General Sir John Kotelawala Defence University, Sri Lanka, [2]Department of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, [3]Department of Allied Health Sciences, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

2P-088 Stimulation of nitric oxide production in vascular endothelial cells by *Raphanus sativus* extract

Misato Wakamatsu[1)], Rei Kuroda[1)], Kimiko Kazumura[2)], Yuji Minami[3)], Katsuko Kajiya[3)]
[1]Department of Biochemical Science & Technology, Graduate School of Agriculture, Kagoshima University, Japan, [2]Central Research Laboratory, Hamamatsu Photonics K.K., Japan, [3]Department of Food Science & Biotechnology, Faculty of Agriculture, Kagoshima University, Japan

2P-089 The vasodilatory effect of Tiliacorinine 12′-*O*-acetate in rat aorta

Luckika Panthiya[1)], Jiraporn Tocharus[2)], Rungusa Pantan[1)], Archawin Nakaew[3)], Apichart Suksamrarn[3)], Chainarong Tocharus[1)]
[1]Department of Anatomy, Faculty of Medicine, Chiang Mai University, Thailand, [2]Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [3]Department of Chemistry and Center of Excellence for Innovation in Chemistry, Faculty of Science, Ramkhamhaeng University, Thailand

2P-090 Effects of adiponectin against $CoCl_2$induced apoptosis of SMCs via HIF-1α/cAMP/PKA/Cx43 pathway

Jingjie Xiao[1,2)], Wei Zhang[1,3)], Lei Wu[1,4)], Liang Zhang[1,2)], Yang Wang[1,2)], Li Li[1,2)], Junqiang Si[1,2)], Xinzhi Li[1,5)], Ketao Ma[1,2)]
[1]Key Laboratory of Xinjiang Endemic and Ethnic Diseases, Medicine School of Shihezi University, China, [2]Department of Physiology Medicine School of Shihezi University Shihezi, China, [3]Department of Gerontology, the First Affiliated Hospital, Medicine School of Shihezi University, China, [4]Department of Cardiology, the First Affiliated Hospital, Medicine School of Shihezi University, Shihezi, China, [5]Department of Pathophysiology, Medicine School of Shihezi University, Shihezi, China

2P-091 Hemodynamic responses to hyperbaric treatment in skeletal muscle of obesity and type 2 diabetes rats

Natsuki Goto[1)], Naoto Fujita[1)], Ryosuke Ochi[1)], Wataru Nino[1)], Kazuyoshi Hisatsune[1)], Hisao Nishijo[2)], Susumu Urakawa[1)]
[1]Dept of Musculoskeletal Functional Research and Regeneration, Grad. Sch. of Biomedical & Health Sciences, Hiroshima Univ., Japan, [2]Dept. of System Emotional Science, Grad. Sch. of Medical and Pharmaceutical Science, Univ. of Toyama, Japan

2P-092 Differential changes of flow-induced vasodilation mechanisms in coronary arteries from SHR and WKY

Suhan Cho, Hae Jin Kim, Ming Zhe Yin, Sung Joon Kim
Department of Physiology, Seoul National University College of Medicine, Korea

2P-093 Measurement of pulmonary arterial capacitance in the pathogenesis of pulmonary hypertension in rats

Hirotsugu Tsuchimochi[1)], Ryohei Fukuba[1,2)], Takashi Sonobe[1)], Shigeki Taniguchi[2)], James T Pearson[1,3)]
[1]Department of Cardiac Physiology, National Cerebral and Cardiovascular Research

Center, Japan, [2]Department of Thoracic and Cardiovascular Surgery, Nara Medical University School of Medicine, Japan, [3]Department of Physiology, Monash University, Australia

2P–094 Advanced method for vessel identification and assessment of concurrent dynamic vascular events

Naoki Honkura[1,2)], Mark Richerds[2)], Tetsumei Urano[1)], Lena Claesson-Welsh[2)]

[1]Department of Medical Physiology, Hamamatsu University school of Medicine, Japan, [2]Department of Immunology, Genetics and Pathology, Rudbeck Laboratory, Uppsala University, Sweden

2P–095 Resveratrol stimulates Na^+-Ca^{2+}exchanger to reduce cytosolic Ca^{2+}in rat aortic smooth muscle cells

Yunting Zhang[1)], F Yan[2)], Xiaoqiang Yao[1)]

[1]Department of Biomedical Sciences, The Chinese University of Hong Kong, China, [2]Department of Physiology, Guangzhou University of Chinese Medicine, China

2P–096 The involvement of calpain in abnormal vascular smooth muscle contraction induced by SPC and U46619

Hiroko Kishi[1)], Qian Lu[1)], Tomoka Morita[1)], Ying Zhang[1)], Bochao Lyu[1)], Min Zhang[1)], Nan Li[1)], Sei Kobayashi[1)]

[1]Department of Molecular and Cellular Physiology, Yamaguchi University Graduate School of Medicine, Japan

2P–097 Effects of Capsaiciniod Nonivamide on Obesity-Related Vascular Dysfunction in Obese Rat

Sivanan Sivasinprasasn[1)], Naruemon Wikan[1)], Apichart Suksamrarn[2)], Jiraporn Tocharus[3)], Chainarong Tocharus[1)]

[1]Department of Anatomy, Faculty of medicine, Chiang Mai University, Thailand, [2]Department of Chemistry and Center of Excellence for Innovation in Chemistry, Faculty of Science, Ramkhamhaeng University, Thailand, [3]Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand

2P–098 Deficiency of HIF2α in VSMCs Protects Against Angiotensin II-Induced Abdominal Aortic Aneurysm

Yanting Song[1)], Dan Qi[1)], Xia Wang[1)], Ye Liu[1)], Huihua Li[1,2)], Jie Du[2,3)], Aijuan Qu[1,2)]

[1]Department of Physiology and Pathophysiology, School of Basic Medical Sciences, Capital Medical University, China, [2]Key Laboratory of Remodeling-Related Cardiovascular Diseases, Ministry of Education, [3]Beijing Anzhen Hospital of Capital Medical University and Beijing Institute of Heart Lung and Blood Vessel Diseases, China

2P–099 Intermedin reduces neointima formation by regulating vascular smooth muscle cell phenotype

Yong Fen Qi, Qing Zhu, Xian-Qiang Ni, Wei-Wei Lu, Jin-Sheng Zhang, Jin-Ling Ren, Di Wu, Yao Chen, Lin-Shuang Zhang, Yan-Rong Yu, Chao-Shu Tang

Peking University Health Science Center, China

2P–100 Role of mitochondrial phosphate transporters in vascular calcification

Nhung Thi Nguyen, Tuyet Thi Nguyen, Soo-Jin Kim, Luong Dai Ly, Dat Da Ly, Seung-Kuy Cha, Kyu-Sang Park

Department of Physiology, Wonju College of Medicine, Yonsei University, Korea

2P–101 Evolutional relationship between hearts and elastic protein connectins

Akira Hanashima, Yoshihiro Ujihara, Mayuko Tada, Mai Iwasa, Aya Kodama,

Takeshi Honda, Ken Hashimoto, Satoshi Mohri
First Department of Physiology, Kawasaki Medical school

2P–102 Changes in the Right Coronary Microvascular Function in Pulmonary Arterial Hypertension

Mark T Waddingham[1)], Huiling Jin[2)], Takashi Sonobe[2)], Hirotsugu Tsuchimochi[2)], Ryotaro Asano[1)], Keiji Umetani[3)], Mikiyasu Shirai[1)], Takeshi Ogo[1)], James T Pearson[2)]
[1]Department of Advanced Medical Research for Pulmonary Hypertension, National Cerebral and Cardiovascular Center Research Institute, Japan, [2]Department of Cardiac Physiology, National Cerebral and Cardiovascular Center Research Institute, Japan, [3]Japan Synchrotron Radiation Research Institute, Japan

2P–103 Decreased Kir and Kv of right coronary artery SMC in pulmonary arterial hypertensive rats

Sung Eun Kim[1,2)], Ming Zhe Yin[1,2)], Hae Jin Kim[1)], Yin Hua Zhang[1,2,3)], Sung Joon Kim[1,2,3)]
[1]Department of physiology, Seoul National University College of Medicine, [2]Department of Biomedical Sciences, Seoul National University College of Medicine, [3]Ischemic/Hypoxic Disease Institute Seoul National University College of Medicine

★★2P–104 (Y-10) FUNDC2 regulates platelet activation through AKT/GSK-3β/cGMP axis

Qi Ma[1)], Weilin Zhang[2)], Heping Cheng[1)], Junling Liu[3)], Quan Chen[2)]
[1]Institute of Molecular Medicine, Peking University, China, [2]Institute of Zoology, Chinese Academy of Sciences, Beijing, China, [3]School of Medicine, Shanghai Jiao Tong University, China

2P–105 A Mathematical Model of Cardiac Cycle Driven by the Human Ventricular Cell Model

Sayaka Niwa[1)], Yukiko Himeno[2)], Akinori Noma[2)], Akira Amano[2)]
[1]Bioinformatics course, Graduate School of Life Sciences, Ritsumeikan University, Japan, [2]Department of Bioinformatics, College of Life Sciences, Ritsumeikan University, Japan

2P–106 Atypical antipsychotic drug olanzapine leads to aggravation of atherosclerosis in apoE-null mice

Chia-Hui Chen[1)], Song-Kun Shyue[2)], Chiao-Po Hsu[3,4)], Tzong-Shyuan Lee[1,5)]
[1]Department of Physiology, School of Medicine, National Yang-Ming University,Taiwan, [2]Cardiovascular Division, Institute of Biomedical Sciences, Academia Sinica, Taiwan, [3]Division of Cardiovascular Surgery, Department of Surgery, Taipei Veterans General Hospital, Taiwan, [4]Faculty of Medicine, School of Medicine, National Yang-Ming University, Taipei, Taiwan; 5Graduate Institute and Department of Physiology, College of Medicine, National Taiwan University, Taiwan, [5]Graduate Institute and Department of Physiology, College of Medicine, National Taiwan University, Taiwan

2P–107 Effect of Total Cholesterol on Blood Pressure and the Difference between Genders

Reza Ishak Estiko, Miranti Dewi Pramaningtyas
Faculty of Medicine, Universtas Islam Indonesia, Indonesia

2P–108 The prevalence of hypertension and incidence in Southeastern Iran: A Community-based Study

Soodeh Rajabi[1)], HamidReza Nasri[2)], Farzaneh Rostamzadeh[3)], Freidoon Jahangir[4)], Mahboobeh Yeganeh-Hajahmadi[1)], Mitra Shadkam[5)], Hamid Ajafipour[2)]
[1]Physiology Research Center, Institute of Basic and Clinical Physiology Sciences, and Department of Physiology and Pharmacology, Kerman University of Medical Sciences,

Iran, [2]Cardiovascular Research Center, Institute of Neuropharmacology and Department of Physiology and Pharmacology, Kerman University of Medical Sciences, Iran, [3]Endocrinology and Metabolism Research Center, Institute of Basic and Clinical Physiology Sciences and Department of Physiology and pharmacology, Kerman University of Medical Sciences, Iran, [4]Department of Biostatistics and Epidemiology, Kerman University of Medical Sciences, Iran, [5]Gasteroentrology and Hepathology Research Center, Institute of Basic and Clinical Physiology Sciences, Kerman University of Medical Sciences, Iran

Endocrine, Reproduction & Development (2)

★ **2P–110** (Y-11) Genistein and running exercise modulates HDAC3 and the fibrosis markers in OVX rats with NASH

Namthip Witayavanitkul[1)], Duangporn Werawatganon[1)], Naruemon Klaikeaw[2)], Prasong Siriviriyakul[1)]

[1]Department of Physiology, Faculty of Medicine, Chulalongkorn University, Thailand, [2]Department of Pathology, Faculty of Medicine, Chulalongkorn University, Thailand

2P–111 DHA Protects Against Hepatic Steatosis by Activating Sirt1 in Nonalcoholic Fatty Liver Disease Mice

Xiao Luo[1,2)], Xinqian Gu[2,3)], Xiaomin Su[2,3)], Xin Liu[4)], Zhangya He[2,3)], Xiaomin Li[2,3)], Ru Jia[5)], Bei Han[2,3)], Yan Yu[2,3)], Xiaoqin Luo[2,3),]

[1]Department of Physiology and Pathophysiology, School of Basic Medical Sciences, Xi'an Jiaotong University Health Science Center, China, [2]Department of Nutrition and Food Safety, School of Public Health, Xi'an Jiaotong University, China, [3]Nutrition and Food Safety Engineering Research Center of Shaanxi Province, School of Medicine, Xi'an Jiaotong University, China, [4]Department of Epidemiology and Health Statistics, School of Public Health, Xi'an Jiaotong University, China, [5]Department of Prosthodontics, Stomatological Hospital, College of Stomatology, Xi'an Jiaotong University, China

2P–112 Neurosecretory protein GL, a hypothalamic small protein, regulates appetite and energy homeostasis

Kenshiro Shikano[1,2)], Daichi Matsuura[2)], Takaya Saito[2)], Eiko Iwakoshi-Ukena[2)], Megumi Furumitsu[2)], Kazuyoshi Ukena[2)]

[1]Department of Neurophysiology, Faculty of Medicine, Oita University, Japan, [2]Section of Behavioral Sciences, Graduate School of Integrated Arts and Sciences, Hiroshima University, Japan

2P–113 Effect of long term high-fat diet and calorie restriction on the hepatic NAD metabolism in mice

Xiaojing Wei[1)], Ru Jia[2)], Qiqi Wang[1)], Jiaqi Huang[1)], Xiao Luo[1)], Jianqun Yan[1)]

[1]Department of Physiology and Pathophysiology, School of Basic Medical Sciences, Xi'an Jiaotong University Health Science Center, China, [2]Department of Prosthodontics, College of Stomatology, Stomatological Hospital, Xi'an Jiaotong University, China

2P–114 Effect of flaxseed on a inflammatory response in patients with hypercholesterolemia-preliminary data

Dominika Kanikowska[1)], Rafał Rutkowski[1)], Krzysztof Pawlaczyk[2)], Maki Sato[3)], Monika Misian[2)], Andrzej Brębowicz[1)], Janusz Witowski[1)]

[1]Department of Pathophysiology, Poznan University of Medical Sciences, Poland, [2]Department of Nephrology, Transplantology, and Internal Medicine, Poznan University of Medical Sciences, Poland, [3]Department of Physiology, Aichi Medical University, Japan

2P–115 The hypothalamic feeding-related neuropeptides in the streptozotocin-induced diabetic rat

Satomi Sonoda[1,2)], Kenya Sanada[1)], Hiroki Beppu[1)], Kazuaki Nishimura[1)],

Haruki Nishimura[1)], Kentaro Tanaka[1)], Hiromichi Ueno[1)],
Mitsuhiro Yoshimura[1)], Takashi Maruyama[1)], Yoshiya Tanaka[2)], Yoichi Ueta[1)]
[1]Department of Physiology, School of Medicine, University of Occupational and Environmental Health, Japan, [2]The First Department of Internal Medicine, School of Medicine, University of Occupational and Enviromental Heatlth, Japan

2P–116 Effects of estradiol on an orexigenic function of ghrelin in ovariectomized rats fed high-fat diet

Naoko Yokota-Nakagi[1,2)], Mizuho Kawakami[1)], Haruka Takahashi[1)],
Akira Takamata[1)], Yuki Uchida[1)], Keiko Morimoto[1)]
[1]Department of Environmental Health, Faculty of Life Science and Human Technology, Nara Womens University, Japan, [2]Department of Health and Nutrition, Faculty of Health Science, Kyoto Koka Womens University, Japan

2P–117 Possible involvement of central nesfatin-1 neurons in xenin-induced feeding suppression in rats

Hirofumi Hashimoto, Yoshiteru Seo
Department of Regulatory Physiology, Dokkyo Medical University, Japan

2P–118 Adrenomedullin enhances chorda tympani nerve responses to sugars in mice

Shusuke Iwata[1)], Mayuko Inoue[1)], Keiko Yasumatsu[1)], Ryusuke Yoshida[2,3)],
Yuzo Ninomiya[1,4)]
[1]Div Sensory Physiol, R&D Cent for Taste and Odor Sensing, Kyushu Univ, Japan, [2]Sect Oral Neurosci, Grad Sch Dent Sci, Kyushu Univ, Japan, [3]OBT Res Cent, Grad Sch Dent Sci, Kyushu Univ, Japan, [4]Monell Chemical Senses Center, USA

2P–119 Dietary fat modulation of oral fatty acid sensitivity and preference in young men and women

Yuho Yamauchi, Mamiko Inoshita, Kyoko Ueshima, Yuki Uchida,
Keiko Morimoto
Dept.Environm. Health, Facult. Human Life & Environm, Sci., Nara Women's Univ., Japan

2P–120 Nutritional status of Japanese children with developmental disorders

Shuhei Koeda[1)], Misaki Mikami[1)], Manabu Saito[2,3)], Tamaki Mikami[3)],
Kazuhiko Nakamura[2,3)], Junko Yamada[1)]
[1]Hirosaki University Graduate School of Health Sciences, Japan, [2]Department of Neuropsychiatry, Hirosaki University Graduate School of Medicine, Japan, [3]Research Center for Child Mental Development, Hirosaki University Graduate School of Medicine, Japan

★★2P–121 (Y-12) The influence of central leptin signalling upon Obesity-induced hypertension

Stephanie Elise Simonds, Jack T Pryor, Tony Tiganis, Michael A Cowley
Monash University, Australia

★★2P–122 (Y-13) FKBP51 defect is resistant to diet induced obesity, inflammation and insulin resistance

Luen-Kui Chen[1)], Chi-Chang Juan[1,2,3)]
[1]Institute of Physiology, School of Medicine, National Yang-Ming University, [2]Department of Medical Research, Taipei Veterans General Hospital, [3]Department of Education and Research, Taipei City Hospital, Taiwan

2P–123 Leptin is a key regulator of glucose homeostasis in obesity

Jack Pryor, Stephanie Simonds, Michael Cowley
Department of Physiology, Monash University, Australia

2P–124 Visfatin promotes monocyte-endothelial cell adhesion via activation of p38-PI3K-Akt signaling

Chi-Chang Juan[1,2,3], Yu-Ting Lin[1], Deng-Yuan Jian[1,4], Luen-Kui Chen[1], Tse-Ting Kuan[1], Shao-Yun Wu[1]

[1]Institute of Physiology, National Yang-Ming University, Taiwan, [2]Department of Medical Research, Taipei Veterans General Hospital,Taiwan, [3]Department of Education and Research, Taipei City Hospital, Taiwan, [4]Division of Nephrology, Wen-Lin Hemodialysis Unit ,Taiwan

2P–125 Pin1 suppress thermogenesis through promoting the degradation of PRDM16

Masa-ki Inoue, Yusuke Nakatsu, Takeshi Yamamotoya, Yasuka Matsunaga, Yuki Inoue, Koji Ueda, Yu Mizuno, Tomoichiro Asano

Department of Medical Science, Graduate School of Medicine, University of Hiroshima, Japan

★ **2P–127** (Y-14) Effect of Dapagliflozin on Glucose Metabolism and Renal and Hepatic PEPCK Expression in Obese Rats

Myat Theingi Swe, Krit Jaikumkao, Laongdao Thonak, Anchalee Pongchaidecha, Anusorn Lungkaphin

Epithelial Transport and Intracellular Signaling Regulation Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand

2P–128 Tentonin 3/TMEM150C contributes to glucose-stimulated insulin secretion in pancreatic β-cells

Jungwon Wee[1,2], Gyusang Hong[1], Sungmin Pak[1], Uhtaek Oh[1]

[1]Brain Science Institue, Korea Institute of Science and Technology, Korea, [2]Molecular Medicine and Biopharmaceutical Sciences, Seoul National University, Korea

2P–129 Cytosolic phospholipase A2 in hypothalamus modulates systemic glucose metabolism differently by meal

Ming-Liang Lee[1], Hirokazu Matsunaga[1], Takahiro Hayasaka[2], Yuko Okamatsu[1], Kazuhiro Kimura[1], Chitoku Toda[1]

[1]Dept Biochemistry, Graduate School of Veterinary Medicine, Hokkaido University, [2]Dept Surgery, Graduate School of Medicine, Hokkaido University

2P–130 Heterotypic endosomal fusion as an initial trigger for insulin-induced GLUT4 translocation

Hiroyasu Hatakeyama[1,2,3], Makoto Kanzaki[3]

[1]Department of Physiology, Kitasato University School of Medicine, Japan, [2]Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Japan, [3]Graduate School of Biomedical Engineering, Tohoku University, Japan

2P–131 Exogenous pyruvate maintains glycolysis-TCA cycle flux in Schwann cell under high glucose conditions

Hideji Yako[1], Naoko Niimi[1], Ayako Kato[2], Shizuka Takaku[1], Koichi Kato[2], Kazunori Sango[1]

[1]Diabetic Neuropathy Project, Tokyo Metropolitan Institute of Medical science, Japan, [2]Laboratory of Medicine, Aichi Gakuin University, School of Pharmacy

2P–132 Early life stress effect on pancreatic PDH level and Krebs cycle enzymes activity in young adult rat

Mina Salimi[1], Forouzan Sadeghimahalli[2,4], Homeira Zardooz[1,2], Fariba Khodagholi[3], Fatemeh Shaerzadeh[5], Roxana Karbaschi[2]

[1]Neurophysiology Research Center, Shahid Beheshti University of Medical Sciences, Iran, [2]Department of Physiology, School of Medicine, Shahid Beheshti University of

Medical Sciences, Iran, [3]Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Iran, [4]Eduction Development Center, Mazandaran University of Medical Science, Iran, [5]Department of Physiology, Hormozgan University of Medical Sciences, Iran

2P–133 Chronic maternal separation impaired glucose-dependent insulin secretion from pancreatic islets

Homeira Zardooz[1,2)], Soheila Maghami[2)], Roxana Karbaschi[2,3)], Mina Salimi[1,2)], Forouzan Sadeghimahalli[4)]

[1]Neurophysiology Research Center, Shahid Beheshti University of Medical Sciences, Iran , [2]Department of Physiology, School of Medicine, Shahid Beheshti University of Medical Sciences, Iran, [3]Faculty of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Iran, [4]Education Development Center, Mazandaran University of Medical Sciences, Iran

2P–134 Effect of maternal high-fat diet on HB9 expression and pancreatic insulin secretion in male rats

Roxana Karbaschi[1,2,3)], Homeira Zardooz[1,2)], Mina Salimi[1,2)], Forouzan Sadeghimahalli[4)], Rezvan Arian[2,5)]

[1]Department of physiology, School of Medicine, Shahid Beheshti University of Medical Sciences, Iran, [2]Neurophysiology Research Center, Shahid Beheshti University of Medical Sciences, Iran. , [3]Faculty of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Iran. , [4]Education Development Center, Educational Assistant, Mazandaran University of Medical Science,Iran, [5]Department of Dentistry, Shahid Beheshti University of Medical Sciences, Iran

2P–135 Postnatal stress induces morphological changes in islets of Langerhans in stressed adult male rats

Forouzan Sadeghimahalli[1,2)], Homeira Zardooz[2,3)], Mina Salimi[3)], Roxana Karbaschi[2)]

[1]Educational Development Center, Mazandaran University of Medical Sciences, Iran, [2]Department of Physiology, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Iran, [3]Neurophysiology Research Center, Shahid Beheshti University of Medical Sciences, Iran

★ **2P–136** (Y-15) Correlation of median nerve parameters with TSH values in hypothyroid patients

Shital Gupta[1)], Rita Khadka[1)], Dilip Thakur[1)], Bishnu Hari Poudel[1)], Kishun Deo Mehta[2)], Robin Maskey[3)]

[1]Department of Basic & Clinical Physiology, B.P.Koirala Institute of Health Science, Nepal, [2]Department of Biochemistry, B.P.Koirala Institute of Health Science, Nepal, [3]Department of Internal Medicine, B.P.Koirala Institute of Health Sciences, Nepal

2P–137 Role of PCSK9 in lipid metabolic disorders and ovarian dysfunction in polycystic ovary syndrome

Meijiao Wang[1)], Dan Zhao[1)], Liangzhi Xu[2,3)], Wenjing Guo[1)], Li Nie[1)], Yun Long[1)], Min Liu[1)], Yichen Wang[1)], Xueqin Zhang[1)], Dongzhi Yuan[1)], Limin Yue[1)]

[1]Department of Physiology, West China School of Basic Medical Sciences and Forensic Medicine, Sichuan University, China, [2]Reproductive endocrinology and regulation joint laboratory, West China Second University Hospital, Sichuan University, China, [3]Department of Obstetrics & Gynecology, West China Second University Hospital, China

2P–138 Norepinephrine inhibits Th17 cells via beta2-adrenoreceptor signaling in collagen-induced arthritis

Yi-Hua Qiu, Yan Liu, Yu-Ping Peng

Department of Physiology, School of Medicine, Nantong University, China

2P–139 Roles of macrophages and PAI-1 in diabetic delayed bone repair in female mice

Naoyuki Kawao[1)], Takeshi Shimoide[1)], Yukinori Tamura[1)], Kiyotaka Okada[1)], Katsumi Okumoto[2)], Shinji Kurashimo[2)], Yoshitaka Horiuchi[2)], Kohei Tatsumi[1)], Osamu Matsuo[1)], Hiroshi Kaji[1),]

[1]Department of Physiology and Regenerative Medicine, Kindai University Faculty of Medicine, Japan, [2]Life Science Research Institute, Kindai University

2P–140 Mechanical allodynia caused by peripheral nerve hyperexcitability in adult-onset hypothyroid mice

Machiko Suda[1)], Yusuke Takatsuru[2)], Noriyuki Koibuchi[1)]

[1]Department of Integrative Physiology, Gunma University, Japan, [2]Department of Medicine, Johmoh Hospital, Japan

2P–141 Ketogenic diet induces slow-type shift of skeletal muscle in male rat

Yuji Ogura[1)], Mitsutoshi Kurosaka[1)], Chiaki Kakehashi[1)], Ryo Kakigi[2)], Tatsuo Akema[1)], Toshiya Funabashi[1)]

[1]Department of Physiology, St. Marianna University School of Medicine, Japan, [2]Department of Physiology, Juntendo University Faculty of Medicine, Japan

2P–142 Administration of xylooligosaccharides from rice husk delayed the progression of diabetic rat model

Narissara Lailerd[1)], Parichart Toejing[1)], Nuntawat Khat-Udomkiri[2)], Sasithorn Sirilun[2)], Chaiyavat Chaiyasut[2)]

[1]Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [2]Innovation Center for Holistic Health, Nutraceuticals and Cosmeceuticals, Faculty of Pharmacy, Chiang Mai University, Thailand

2P–143 Improvement of organ bath technique as *ex vivo* systems in the insulin secretion assay

Motoshi Ouchi[1)], Asuka Morita[1)], Keitaro Satoh[2)], Hidefumi Wakashin[3)], Hiroe Kon[4)], Misao Terada[4)], Tomoe Fujita[1)]

[1]Department of Pharmacology and Toxicology, Dokkyo Medical University School of Medicine, Japan, [2]Department of Pharmacology, Asahi University School of Dentistry, [3]Department of Regulatory Physiology, Dokkyo Medical University School of Medicine, [4]Laboratory Animal Research Center, Dokkyo Medical University

2P–144 Responsiveness of vomeronasal cells to a male-attractant, imorin in the newt, *Cynops pyrrhogaster*

Fumiyo Toyoda[1)], Tomoaki Nakada[2)], Kouhei Matsuda[3)], Takashi Nakakura[4)], Itaru Hasunuma[5)], Kazutoshi Yamamoto[6)], Sakae Kikuyama[6)]

[1]Department of Neurophysiology, Nara Medical University, Japan, [2]Department of Comparative and Behavioral Medicine, Nippon Veterinary and Life Science University, Japan, [3]Laboratory of Regulatory Biology, Graduate School of Science and Engineering, University of Toyama, Japan, [4]Department of Anatomy and Cell Biology, Teikyo University School of Medicine, Japan, [5]Department of Biology, Faculty of Science, Toho University, Japan, [6]Department of Biology, Faculty of Education and Integrated Sciences, Waseda University, Japan

2P–145 Uterine environment regulates nurturing behavior in the offspring with prolactin as a key factor

Taku James Sairenji[1)], Shinnosuke Masuda[1)], Oh Kwan Ee[1)], Ryosuke Kaneko[2)], Saya Kodohira[3)], Yuri Shirakawa[3)], Chieko Yamazaki[3)], Noriaki Shimokawa[1,3)], Noriyuki Koibuchi[1)]

[1]Department of Integrative Physiology, Gunma University, Japan, [2]Bioresource Center, Gunma University, Japan, [3]Department of Nutrition, Takasaki University of Health and

Welfare, Japan

2P–146 Effect of maternal high-fat diet and exercise during gestation on placental signaling

Lin Song, Bo Sun, Jianqun Yan
Department of Physiology & Pathophysiology, Xi' an Jiaotong University, China

2P–147 Fetal heart rate variability: a biomarker for evolving fetal hypoxic-ischaemic brain injury

Yoshiki Maeda[1,2)], Christopher A Lear[1)], Michi Kasai[1,3)], Michael J Beacom[1)], Victoria King[1)], Joanne Davidson[1)], Tomoaki Ikeda[2)], Alistair Jan Gunn[1)], Laura Bennet[1)]
[1]Department of physiology, The University of Auckland, New Zealand, [2]Department of Obstertrics and Gynecology, Mie University, Japan, [3]Department of Obstetrics and Gynecology, Yokohama Municipal University, Japan

2P–148 Evaluation of spontaneous behaviors on an elevated plus maze using bisphenol A exposure model

Tetsuya Fujimoto[1)], Shuji Aou[2)]
[1]Department of Physiology, Osaka Dental University, Japan, [2]Department of Human Intelligence Systems, Kyushu Institute of Technology, Japan

2P–149 Genistein and daidzein augments thyroid hormone-mediated dendritogenesis of cerebellar Purkinje cell

Winda Ariyani[1)], Wataru Miyazaki[1)], Yu Lu[2)], Toshiharu Iwasaki[3)], Noriyuki Koibuchi[1)]
[1]Department of Integrative Physiology, Gunma University, Japan, [2]Department of Physiology, College of Basic Medical Sciences, Jilin University, China., [3]Department of Liberal Arts and Human Development, Kanagawa University of Human Services, Japan

2P–150 Positive effects of reduced nocturnal screen light on sleep in bedtime phone users

Chuan Li, Augustine WL Li, Chun Lok Wu, Zenab Bibi
School of Medical and Health Sciences, Tung Wah College, Hong Kong

2P–151 Association of sex and sex hormones with the functional brain network at rest

Tomohiro Donishi[1)], Masaki Terada[2)], Yoshiki Kaneoke[1)]
[1]Department of System Neurophysiology, Graduate School of Wakayama Medical University, Japan, [2]Wakayama-Minami Radiology Clinic, Japan

2P–152 The relationships between embryogenic outcome and membrane potential of mouse ova

Masao Miyake[1)], Susumu Yoshie[1)], Satoru Kaneko[2)], Akihiro Hazama[1)]
[1]Department of Cellular and Integrative Physiology, Fukushima Medical University, Japan, [2]Ichikawa General Hospital, Tokyo Dental College, Japan

2P–153 Regulation of hyperactivation by interactions among oviductal hormones in hamster sperm

Masakatsu Fujinoki
Department of Physiology, Dokkyo Medical University, Japan

2P–154 Proteomics analysis of whole testis in cordycepin treatment in streptozotocin-induced diabetic mice

Wirasak Fungfuang[1)], Kongphop Paranyakul[1)], Krittika Srisuksai[1)], Sittiruk Roytakul[2)]
[1]Department of Zoology, Faculty of Science, Kasetsart University, Thailand, [2]Proteomics Research Laboratory, National Center for Genetic Engineering and Biotechnology, Thailand

★★2P–155 (Y-16)
Overexpression of Anthrax toxin receptor 2 (ANTXR2) promotes early development of endometriosis

Shih-Chieh Lin[1)], Hsiu-Chi Lee[2)], Ching-Ting Hsu[1)], Yi-Han Huang[1)], Wan-Ning Li[2)], Pei-Ling Hsu[1)], Meng-Hsing Wu[3)], Shaw-Jenq Tsai[1)]

[1]Department of Physiology, College of Medicine, National Cheng Kung University, Taiwan, [2]Institute of Basic Medical Sciences, College of Medicine, National Cheng Kung University, [3]Department of Obstetrics & Gynecology, College of Medicine, National Cheng Kung University and Hospital

2P–156
Promoting follicle development by inducing ovarian angiogenesis

Kouji Komatsu, Satoru Masubuchi

Department of Physiology, Aichi Medical University, Japan

2P–157
Repression of COUP-TFII by proinflammatory cytokines contributes to endometriotic lymphangiogenesis

Wan-Ning Li[1)], Kuei-Yang Hsiao[5)], Chu-An Wang[3)], Ning Chang[2)], Meng-Hsing Wu[4)], Shaw-Jenq Tsai[1,2)]

[1]The Institute of Basic Medical sciences, College of Medicine, National Cheng Kung University, Taiwan, [2]Departments of Physiology, College of Medicine, National Cheng Kung University, Taiwan, [3]Institute of Molecular Medicine, College of Medicine, National Cheng Kung University, Taiwan, [4]Obstetrics & Gynecology, College of Medicine, National Cheng Kung University, Taiwan, [5]Graduate Institute of Biochemistry, National Chung Hsing University, Taiwan

2P–158
Effects of exposure to mild hyperbaric oxygen on the outcome of infertility treatment

Tsuyoshi Shimizu[1)], Fumihiko Yoshikawa[2)], Yahiro Netsu[3)], Kaori Kamijou[3)], Hiromi Hoshina[2)], Akihiko Ishihara[4)]

[1]Shimizu Institute of Space Physiology Suwa Maternity Clinic, Japan, [2]Suwa Reproduction Center, Suwa Maternity Clinic, Japan, [3]Suwa Maternity Clinic, Hospital for Obstetrics,Gynecology and Pediatrics, Japan, [4]Laboratory of Cell Biology and Life Science, Graduate School of Human and Environmental Studies, Kyoto University, Japan

2P–159
Insufficient in utero prolactin exposure causes impaired maternal behavior in the offspring

Oh Kwan Ee[1)], Shinnosuke Masuda[1)], Taku James Sairenji[1)], Noriaki Shimokawa[2)], Noriyuki Koibuchi[1)]

[1]Department of Integrative Physiology, Gunma University Graduate School of Medicine, Japan, [2]Department of Nutrition, Takasaki University of Health and Welfare, Japan

2P–160
Dominantly expressed Serpina3n suppresses the phenotypes of osteoblasts of female mice

Masayoshi Ishida[1)], Naoyuki Kawao[1)], Kiyotaka Okada[1)], Kohei Tatsumi[1)], Kazuko Sakai[2)], Kazuto Nishio[2)], Hiroshi Kaji[1)]

[1]Department of Physiology & Regenerative Medicine, Kindai University Faculty of Medicine, Japan, [2]Department of Genome Biology, Kindai University Faculty of Medicine

2P–161
The role of CTCF in the mammalian cochlea

Ji-Hyun Ma[1)], Jeong-Oh Shin[1)], Jong-Joo Lee[2)], Hyoung-Pyo Kim[2,3)], Jinwoong Bok[1,3,4)]

[1]Department of Anatomy, Yonsei University, Korea, [2]Department of Environmental Medical Biology, Republic of Korea, [3]BK21 PLUS project for Medical Science, [4]Department of Otorhinolaryngology, Yonsei University College of Medicine

2P-162 Electric axon guidance in embryonic retina: Regulation of integrin activities by extracellular Ca^{2+}

Masayuki Yamashita

Center for Medical Science, International University of Health and Welfare, Japan

2P-163 Improvement of motor function induced by skeletal muscle contraction in spinal cord injury rats

Norito Hayashi[1,2)], Naoyuki Himi[1)], Emi Nakamura-Maruyama[1)], Naohiko Okabe[1)], Issei Sakamoto[1,2)], Toru Hasegawa[2)], Osamu Miyamoto[1)]

[1]Department of Physiology2, Kawasaki Medical School, Japan, [2]Department of Orthopedics, Kawasaki Medical School, Japan

2P-164 TRPV4 is functionally expressed in cultured mouse Schwann cells

Xiaona Feng[1,2,3)], Yasunori Takayama[1,2)], Makoto Tominaga[1,2,3)]

[1]Division of Cell Signaling, National Institute for Physiological Sciences, Japan , [2]Thermal Biology Group, Exploratory Research Center on Life and Living Systems (ExCELLS), [3] Department of Physiological Sciences, The Graduate University for Advanced Studies (SOKENDAI)

2P-165 Spontaneous network activity in the embryonic CNS analyzed with voltage-sensitive dye recording

Katsushige Sato[1)], Yoko Momose-Sato[2)]

[1]Department of Health and Nutrition Sciences, Faculty of Human Health, Komazawa Women's University, Japan, [2]Department of Nutrition and Dietetics, College of Nutrition, Kanto-Gakuin University, Japan

2P-166 Optical analysis of functional development of the mouse vestibular nucleus

Yoko Momose-Sato[1)], Katsushige Sato[2)]

[1]Department of Nutrition and Dietetics, College of Nutrition, Kanto-Gakuin University, Japan, [2]Department of Health and Nutrition Sciences, Faculty of Human Health, Komazawa Women's University, Japan

2P-167 Sexual differentiation of the preoptic area by estrogen-induced cell migration through Rac1 pathway

Tomohiro Hamada[1)], Yasuo Sakuma[2)]

[1]Clinical Departments Laboratory, Nippon Medical School, Japan, [2]Faculty of Rehabilitation, School of Allied Health Sciences, University of Tokyo Health Sciences, Japan

2P-168 Neuronal differentiation induced by vitamin K and generation of derivatives to treat brain diseases

Yoshihisa Hirota[1,2)], Yuta Takagi[2)], Yutaro Yamashita[1)], Mayu Okazeri[1)], Yoshitomo Suhara[1,2)]

[1]Department of Bioscience and Engineering , College of Systems Engineering and Sciences, Shibaura Institute of Technology, Japan, [2]Systems Engineering and Science , Graduate School of Engineering and Science, Shibaura Institute of Technology

2P-169 Intranasal IGF-1 reduced neonatal LPS-induced behavioral deficits and inflammation in juvenile rats

Lu-Tai Tien[1)], Yih-Jing Lee[1)], Chih-Hsueh Tseng[1)], Lir-Wan Fan[2)]

[1]School of Medicine, Fu Jen Catholic University, Taiwan, [2]Department of Pediatrics, Division of Newborn Medicine, University of Mississippi Medical Center, USA

2P–170 Early exercise inhibits inflammation and promotes neuroprotection in intracerebral hemorrhage rats

Keigo Tamakoshi, Keishi Hayao, Hideaki Takahashi, Hiroyuki Tamaki
Department of Physical Therapy, Niigata University of Health and Welfare, Japan

2P–171 Glial cells missing 1 promote cell differentiation and angiogenesis in the mammalian brain

Yoshitaka Hayashi, Satoshi Fuke, Takahiro Fuchigami, Naoko Morimura, Natsu Koyama, Seiji Hitoshi
Department of Integrative Physiology, Shiga University of Medical Science, Japan

2P–172 The effect of forced limb training of rats under photochemically induced focal cerebral ischemia

Junko Yamada, Kazuki Akahira, Misaki Mikami, Yuuri Kato, Chihiro Sato
Department of Comprehensive Rehabilitation Science, Hirosaki University Graduate School of Health Sciences, Japan

2P–173 Role of SAD-A kinase in radial neuronal migration during development of cerebral cortex

Keiko Nakanishi[1,2)], Hiroyuki Niida[3,4)], Hidenori Tabata[5)], Yoshikazu Johmura[3,6)], Kenichiro Yamada[7)], Koh-Ichi Nagata[5)], Nobuaki Wakamatsu[7)], Masashi Kishi[8)], Yujiro Higashi[2)], Makoto Nakanishi[3,6),]

[1]Department of Pediatrics, Central Hospital, Aichi Human Service Center, Japan, [2]Department of Perinatology, Institute for Developmental Research, Aichi Human Service Center, Japan, [3]Department of Cell Biology, Graduate School of Medical Sciences, Nagoya City University, Japan, [4]Department of Molecular Biology, Hamamatsu University School of Medicine, Japan, [5]Department of Molecular Neurobiology, Institute for Developmental Research, Aichi Human Service Center, Japan, [6]Division of Cancer Cell Biology, Department of Cancer Biology, Institute of Medical Sciences, The University of Tokyo, Japan, [7]Department of Genetics, Institute for Developmental Research, Aichi Human Service Center, Japan, [8]Neuroscience Laboratory, Research Institute, Nozaki Tokushukai Hospital, Japan

2P–174 Voluntary and forced rehabilitation to promote motor palsy recovery in intracerebral hemorrhage rats

Chihiro Sato[1)], Kunikazu Tanji[2)], Shuji Shimoyama[2)], Misaki Mikami[1)], Kazuki Akahira[1)], Junko Yamada[1)]

[1]Department of Health Science, University of Hirosaki, Japan , [2]Department of Medicine, University of Hirosaki, Japan

2P–175 Alteration of gut microbiota and cerebellar structures in Glyphosate-exposure rat

Kana Miyamoto[1)], Ken Futagami[1)], Kwon Soon Thomas Tiong[1)], Yuu Hirose[1)], Jianzhong Hu[2)], Yoko Nomura[3)], Yasunari Kanda[4)], Sachiko Yoshida[1)]

[1]Department of Environmental and Life Science, Toyohashi University of Technology, Japan, [2]Icahn school of medicine at Mount Sinai, USA, [3]Queens College, the City University of New York, USA, [4]National Institute of Health Sciences, Japan

2P–176 Analysis of rat fetal movement before and after anesthetic drug using non-anesthesia pregnant rat

Suzuka Hashiguchi[1,2)], Hodaka Natsuka[1,2)], Marin Tanimoto[1,2)], Akira Tamaki[1)], Akiko Arata[2)]

[1]Physical Ther. for Int. Disorders, Sch. of Rehabilitation, Hyogo Univ of Helth Sci., Japan, [2]Department of Physiology, Hyogo College of Medicine, Japan

2P–177 Altered gut flora and cerebellar development abnormalities in VPA rat model of ASD

Kwong Soon Thomas Tiong[1)], Seita Sato[1)], Kana Miyamoto[1)], Yuu Hirose[1)], Yasunari Kanda[2)], Sachiko Yoshida[1)]

[1]Department of Environmental and Life Sciences, Toyohashi University of Technology, Japan, [2]Division of Pharmacology, National Institute of Health Sciences, Japan

2P–178 Histological analysis of peripheral nerve injury in methylmercury-exposed rat

Yo Shinoda[1)], Shunsuke Ehara[1)], Satoshi Tatsumi[1)], Tatsuro Amemiya[1)], Eiko Yoshida[2)], Tsutomu Takahashi[1)], Toshiyuki Kaji[2)], Yasuyuki Fujiwara[1)]

[1]Tokyo University of Pharmacy and Life Sciences, Japan, [2]Tokyo University of Science

2P–179 The role of Cdon in differentiation of mouse embryonic stem cells into motor neurons

Seul-Yi Lee[1,3)], Hye-Been Kim[2,3)], Jong-Sun Kang[2,3)], Hana Cho[1,3)]

[1]Department of Physiology, Korea, [2]Department of Molecular Cell Biology, [3]Cell Network Research Center, Sungkyunkwan University School of Medicine, Korea

2P–180 PlexinA1 is crucial for the midline crossing of callosal axons during corpus callosum development

Md Mosharaf Hossain[1)], Takuji Ito[2)], Takamasa Tsuzuki[1)], Fumitaka Imaizumi[1)], Kana Kamiya[1)], Mitsuki Okada[1)], Ikuko Takahashi[1)], Takayuki Negishi[1)], Kazunori Yukawa[1)]

[1]Department of Pharmacy, Meijo University, Japan, [2]Aichi Medical University

2P–181 The maintenance of adult neural stem cells by *Klf5* gene

Anri Kuroda[1)], Takahiro Fuchigami[1)], Natsu Koyama[1)], Masatsugu Ema[2)], Seiji Hitoshi[1)]

[1]Department of Physiology, Shiga University of Medical Science, Japan, [2]Research Center for Animal Life Science, Shiga University of Medical Science, Japan

2P–182 Upregulation of heat shock factor and Factor XIII-A after optic nerve injury in zebrafish

Kayo Sugitani[1)], Kazuhiro Ogai[2)], Yoshiki Koriyama [3)], Satoru Kato[2)]

[1]Div Health Sci, Grad Sch Med Sci, Kanazawa Univ, Japan , [2]Wellness Promotion Science Center, Institute of Medical, Pharmaceutical and Health Sci., Kanazawa Univ., Japan, [3]Grad. Sch. Pharm Sci, Suzuka University of Med Sci, Japan

2P–183 Oligodendrocyte progenitor cells during development and upon sensory loss in mouse visual cortex

Hyeryun Shin, Hideki Derek Kawai

Department of Bioinformatics, Soka University, Japan

2P–184 Enhanced neuronal migration through activated glia promotes post-stroke neuronal regeneration

Naoko Kaneko[1)], Vicente Herranz-Pérez[2,3)], Takeshi Otsuka[4)], Hiromi Sano[5)], Nobuhiko Ohno[6,7)], Taichi Omata[1)], Huy Bang Nguyen[7)], Truc Quynh Thai[7)], Jose Manuel García-Verdugo[2)], Kazunobu Sawamoto[1,8)],

[1]Department of Developmental and Regenerative Biology, Nagoya City University Graduate School of Medical Sciences, Japan, [2]Laboratory of Comparative Neurobiology, Instituto Cavanilles, Universidad de Valencia, CIBERNED, [3]Predepartamental Unit of Medicine, Faculty of Health Sciences, Universitat Jaume I, [4]Division of Cerebral Circuitry, National Institute for Physiological Sciences, [5]Division of System Neurophysiology, National Institute for Physiological Sciences, [6]Department of Anatomy, Division of Histology and Cell Biology, Jichi Medical University School of Medicine, [7]Division of

Neurobiology and Bioinformatics, National Institute for Physiological Sciences, [8]Division of Neural Development and Regeneration, National Institute for Physiological Sciences

2P–185 Postnatal development of core fields in the mouse auditory cortex

Feifan Chen, Wenjie Song, Makoto Takemoto, Masataka Nishimura, Ryohei Tomioka

Department of Sensory and Cognitive Physiology, University of Kumamoto, Japan

2P–186 Moduration of CRMP2 Accelerates Motor Function Recovery from Brain Damage

Susumu Jitsuki[1)], Hiroki Abe[1)], Waki Nakajima[1)], Aoi Jitsuki-Takahashi[1)], Hitoshi Masuyama[2)], Takashi Komori[2)], Nobuyuki Mochizuki[2)], Tomohiro Okuda[2)], Yoshio Goshima[3)], Takuya Takahashi[1),]

[1]Department of Physiology, Yokohama City University, Japan, [2]Pharmacology Research Department, Toyama Chemical Co., LTD., Japan, [3]Department of Molecular Pharmacology and Neurobiology, Yokohama City University, Japan

2P–187 Neurochemical differentiation of hypothalamic MCH neurons derived from mouse embryonic stem cells

Yu Kodani[1)], Hidetaka Suga[2)], Yoko S Kaneko[1)], Miho Kawata[1)], Akira Nakashima[3)], Hiroshi Nagasaki[1)]

[1]Department of Physiology, Fujita Health University School of Medicine, Japan, [2]Department of Endocrinology & Diabetes, Nagoya University, Graduate School of Medicine, Japan, [3]Department of Physiological Chemistry, Fujita Health University School of Medicine, Japan

Neuroscience: Synapse & neural cellular communication (2)

2P–188 Accelerated climbing fiber synapse elimination in cerebellar Purkinje cells lacking protocadherin 10

Takaki Watanabe[1,2)], Shutaro Inoue[1)], Tsubasa Akamatsu[1)], Honoka Suzuki[1)], Manabu Abe[3)], Kenji Sakimura[3)], Naofumi Uesaka[1,2)], Masanobu Kano[1,2)]

[1]Dept. of Neurophysiol., Grad. Sch. of Med., Univ. of Tokyo, Japan, [2]WPI-IRCN, UTIAS, Univ. of Tokyo, Japan, [3]Dept. of Cell. Neurobiol., Brain Res. Inst., Niigata Univ., Japan

2P–189 Vesicular GABA Uptake can be Rate-Limiting for Recovery of IPSCs from Synaptic Depression

Manami Yamashita[1,2)], Shin-ya Kawaguchi[3)], Tetsuya Hori[4)], Tomoyuki Takahashi[5)]

[1]Department of Physiology, Osaka Medical College, Japan, [2]Laboratory of Molecular Synaptic Function, Graduate School of Brain Science, Doshisha University, Japan, [3]Society-Academia Collaboration for Innovation, Kyoto University, Japan, [4]Department of Neurophysiology, Graduate School of Life and Medical Sciences, Doshisha University, Japan, [5]Cellular and Molecular Synaptic Function Unit, Okinawa Institute of Science and Technology (OIST) Graduate University, Japan

2P–190 M1 receptor-mediated presynaptic inhibition of IPSCs in basal forebrain cholinergic neurons

Toshihiko Momiyama, Takuma Nishijo

Department of Pharmacology, The Jikei University School of Medicine, Japan

2P–191 Construction Rules of the Axospinous Synapses Revealed by FIB-SEM Imaging

Yugo Fukazawa[1,2,3)], Taito Sakurai[1,4)], Ruwaida Elhanbaly[1,5)], Tatsuya Ishikawa[1,6)]

[1]Division of Brain Structure and Function, University of Fukui, Japan, [2]Life Science Innovation Center, University of Fukui, Japan, [3]Research Center for Child Mental

Development, University of Fukui, Japan, [4]Rakuhoku High School, Japan, [5]Department of Anatomy, Histology and Embryology, Faculty of Veterinary Medicine, Assiut University, Egypt, [6]Department of Functional Anatomy, Kanazawa University Graduate School of Medical Sciences, Japan

2P–192 Analysis of the central circadian clock in AVP neuron-specific VGAT deficient mice

Takashi Maejima[1)], Emi Hasegawa[2)], Yusuke Tsuno[1)], Michihiro Mieda[1)]
[1]Department of Integrative Neurophysiology, Kanazawa University Graduate School of Medical Sciences, Japan, [2]International Institute for Integrative Sleep Medicine, University of Tsukuba, Japan

2P–193 Regulation of reciprocal current in the mouse accessory olfactory bulb by vasopressin V1a receptors

Mutsuo Taniguchi, Yoshihiro Murata, Masahiro Yamaguchi, Hideto Kaba
Department of Physiology, Kochi Medical School, Kochi University, Japan

2P–194 The activity of metabotropic glutamate receptor affects drebrin localization in dendritic spines

Nobuhiko Kojima[1)], Mai Sawabe[1)], Kaiin Shu[1)], Kenji Hanamura[2)], Tomoaki Shirao[2)]
[1]Faculty of Life Sciences, Toyo University, Japan, [2]Gunma University, Graduate School of Medicine, Japan

2P–195 Dopamine induced long-lasting calcium increase in orexin neurons via D_1-like receptor

Yasutaka Mukai[1,2,3,4)], Kenji F Tanaka[5)], Takeharu Nagai[6)], Akihiro Yamanaka[1,2,3)]
[1]Department of Neuroscience II, RIEM, Nagoya University, Japan, [2]Department of Neuralregulation, Graduate School of Medicine, Nagoya University, Japan, [3]CREST, Japan Science and Technology Agency, Japan, [4]Research Fellowship for Young Scientists (DC1), Japan Society for the Promotion of Science, Japan, [5]Department of Neuropsychiatry, Graduate School of Medicine, Keio University, Japan, [6]Department of Biomolecular Science and Engineering, ISIR, Osaka University, Japan

2P–196 Drebrin depletion affects stability of microtubules in dendrites

Noriko Koganezawa, Hiroyuki Yamazaki, Tomoaki Shirao
Department of Neurobiology and Behavior, Gunma University Graduate School of Medicine, Japan

2P–197 Induction of electrophysiologically-active brain organoids showing human midbrain-specific structure

Takeshi Ken Matsui[1,3)], Nobuyuki Eura[1)], Hitoki Nanaura[1)], Tomo Shiota[1)], Yasuhiko Saitoh[2)], Kazuma Sugie[1)], Eiichiro Mori[3)]
[1]Department of Neurology, Nara Medical University, Japan, [2]Department of Physiology I, Nara Medical University, Japan, [3]Department of Future Basic Medicine, Nara Medical University, Japan

2P–198 C1ql1-Bai3 Signaling Dynamically Modulates Climbing Fiber Synapses in Adult Cerebellum

Takahiro Aimi, Wataru Kakegawa, Michisuke Yuzaki
Department of Physiology, Keio University School of Medicine, Japan

2P–199 Layer 5 sublayer-dependent excitatory-inhibitory connections in the rat frontal cortex

Mieko Morishima[1,2)], Yasuo Kawaguchi[1,2)]
[1]Division of Cerebral Circuitry, National Institute for Physiological Sciences, Japan, [2]SOKENDAI

2P–200 Phasic inhibition in the interval of carbachol-induced β oscillation in rat hippocampal

Toyohiro Sawada, Kiyohisa Natsume
Dept. of Brain Sci. and Eng., Grad. Sch. of Life Sci. and Sys. Eng., Kyusyu Inst. of Tech., Japan

Neuroscience: Neuron-glia interactions / functions of glia

2P–201 Exendin-4 promotes myelination in a co-culture of DRG neurons and immortalized Schwann cells IFRS1

Kazunori Sango, Shizuka Takaku, Masami Tsukamoto, Naoko Niimi, Hideji Yako
Diabetic Neuropathy Project, Tokyo Metropolitan Institute of Medical Science, Japan

2P–202 Loss-of-function of glial ABCA1 increases the risk for pathogenesis of glaucoma

Youichi Shinozaki[1)], Kazuhiko Namekata[2)], Kenji Kashiwagi[3)], Nobuhiko Ohno[4,5)], Akiko Takeda[1)], Takayuki Harada[2)], Schuichi Koizumi[1)]
[1]Department of Neuropharmacology, University of Yamanashi, Japan, [2]Vis. Res. Project, Tokyo Metr. Inst. Med. Sci., Japan, [3]Dept. Ophthalmol, Interdiscip. Grad. Sch. Med. Univ. Yamanashi, JAPAN, [4]Dev. Neurobiol. Bioinfo., Natl. Inst. Physiol. Sci., Japan, [5]Div. Anatomy, Jichi Med. Univ. Japan

2P–203 Müller glial swelling activates TRPV4 and triggers photoreceptor cell death at body temperature

Koji Shibasaki[1)], Hidetaka Matsumoto[2)], François Seghers[3)], David Krizaj[4)], Hideo Akiyama[2)], Yasuki Ishizaki[1)], Philippe Gailly[3)]
[1]Dep. Mol. Cellular Neurobiology, Gunma Univ. Grad. Sch. Medicine, Japan, [2]Dep. Opthalmology, Gunma Univ., Japan, [3]Instit. Neurosci., Univ. Catholique de Louvain, Belgium, [4]Moran Eye Instit., Univer. Utah School of Medicine, United States

2P–204 Stress-Induced Microglial Activation Occurs through a beta-Adrenergic Receptor

Shuei Sugama, Hisayuki Ohata, Yasuhiro Takenaka, Yoshihiko Kakinuma
Department of Physiology, Nippon Medical School, Japan

2P–205 Electrophysiological approach with ex vivo trigeminal ganglia to clarify neuron-glia interactions

Asako Kubo[1)], Shiori Sugawara[1,2)], Koichi Iwata[1)]
[1]Department of Physiology, School of Dentistry Nihon University, Japan, [2]Department of Psychosomatic Dentistry, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Japan

2P–206 The role of primary somatosensory cortex in causing mirror image pain

Tatsuya Ishikawa[1,2)], Kei Eto[2,3)], Noriyuki Ozaki[1)], Hitoshi Ishibashi[4)], Junichi Nabekura[2,3)]
[1]Department of Functional Anatomy, Kanazawa University, Japan, [2]Department of Development Physiology, National Institute for Physiological Sciences, Japan, [3]Department of Physiological Sciences, The Graduate School for Advanced Study, Japan, [4]Department of Physiology, Kitasato University School of Allied Health Sciences, Japan

2P–207 Visualization of spatiotemporal interaction of neurons and astrocytes

Eiji Shigetomi[1)], Yukiho J Hirayama[1)], Kazuhiro Ikenaka[2)], Kenji F Tanaka[3)],

Haruhiko Bito[4)], Schuichi Koizumi[1)]

[1]University of Yamanashi, Interdisciplinary Graduate School of Medicine, University of Yamanashi, Japan, [2]Division of Neurobiology and Bioinformatics, NIPS, Japan, [3]Department of Neuropsychiatry, Keio University School of Medicine, Japan, [4]Department of Neurochemistry, Graduate School of Medicine, University of Tokyo, Japan

2P–208 Activation of TRPV4 induced significant ATP release in Müller glia

Shouta Sugio[1,2)], Hidetaka Matsumoto[3)], Mai Oda[2)], Yasuki Ishizaki[2)], Koji Shibasaki[2)]

[1]Division of System Neuroscience, Kobe University School of Medicine, Japan, [2]Department of Molecular and Cellular Neurobiology, Gunma University School of Medicine, Japan, [3]Department of Ophthalmology, Gunma University School of Medicine, Japan

2P–209 Excitatory synaptic transmission is reduced by astrocytes previously exposed to amyloid β 1-40

Kohei Oyabu[1)], Hiroyuki Kawano[1)], Hideaki Yamamoto[2)], Kei Eto[3,4)], Yuna Adaniya[1)], Kaori Kubota[1,5)], Takuya Watanabe[1,5)], Ayumi Hirano-Iwata[6,7)], Junichi Nabekura[4,8,9)], Shutaro Katsurabayashi[1)], Katsunori Iwasaki[1,5)]

[1]Department of Neuropharmacology, University of Fukuoka, Japan, [2]Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Japan, [3]Division of Homeostatic Development, Department of Fundamental Neuroscience, National Institute for Physiological Sciences, Japan, [4]Department of Physiological Sciences, The Graduate University for Advanced Studies (SOKENDAI), Japan, [5]A.I.G. Collaborative Research Institute for Aging and Brain Sciences, Fukuoka University, Japan, [6]Advanced Institute for Materials Research, Tohoku University, Japan, [7]Research Institute of Electrical Communication, Tohoku University, Japan, [8]Division of Homeostatic Development, Department of Developmental Physiology, National Institute for Physiological Sciences, Japan, [9]CREST, Japan Science and Technology Agency (JST), Japan

2P–210 Acute stress induced the alterations of astrocytes and glutamate receptors in the hippocampus of rat

Ratchaniporn Kongsui[1)], Rohan Frederick Walker[2,3)], Napatr Sriraksa[1)], Tichanon Promsrisuk[1)]

[1]Division of Physiology, School of Medical Sciences, University of Phayao, Thailand, [2]School of Biomedical Sciences and Pharmacy and the Priority Research Centre for Stroke and Brain Injury, University of Newcastle, Australia, [3]Hunter Medical Research Institute, Australia

2P–211 Visualizing the Interaction of Immune Cells and Peripheral Sensory Fibers in Mice Neuropathic Model

Han-Yuan Yeh[1)], Chen-Chi Wang[2)], Han-Hsiung Chi[1)], Jye-Chang Lee[1)], Masakazu Agetsuma[3)], Junichi Nabekura[3)]

[1]Department of Life Science, National Taiwan University, Taiwan, [2]Center of Experimental Animals, National Institute of Physiological Science, Japan, [3]Division of Homeostatic Development, National Institute of Physiological Science, Japan

2P–212 Tonic release of D-serine through Best1 channel is critical for long term depression

Wuhyun Koh[1,2,4)], Jaekwang Lee[3)], Mijeong Park[3)], Ye Eun Chun[2,4)], Hey Yun Kim[6)], Junsung Woo[2)], Soo-Jin Oh[6)], Changjoon Justin Lee[1,2,4,5)]

[1]Center for Glia-Neuron Interaction, Korea Institute of Science and Technology (KIST), Korea, [2]Center for Functional Connectomics, Korea Institute of Science and Technology, Republic of Korea, [3]Center for Neural Science, Korea Institute of Science and Technology, Republic of Korea, [4]Bio-med Department, University of Science and Technology (UST),

Republic of Korea, [5]KU-KIST School of Converging Science and Technology, Korea University, Republic of Korea, [6]Convergence Research Center for Dementia DTC, Korea Institute of Science and Technology, Republic of Korea

★ 2P–213 (Y-17) TRPA1 channel is critical for gliotransmitter release from astrocyte by eliciting calcium entry

Jung Moo Lee[1,2)], Soo-Jin Oh[2,3)], Wuhyun Koh[2,4)], Changjoon Justin Lee[1,2)]
[1]KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, [2]Center for Glia-Neuron Interaction, Korea Institute of Science and Technology (KIST), Republic of Korea, [3]Convergence Research Center for Diagnosis, Treatment and Care System of Dementia, Korea Institute of Science and Technology, Republic of Korea, [4]Division of Bio-Medical Science & Technology, KIST School, Korea University of Science and Technology, Republic of Korea

2P–215 Astrocytes mediate persistent respiratory augmentation in the recovery phase after hypoxic exposure

Isato Fukushi[1)], Yosuke Kono[1,2)], Kotaro Takeda[1,3)], Shuntaro Okazaki[4)], Shigefumi Yokota[5)], Itaru Yazawa[6)], Hiroshi Onimaru[7)], Yasumasa Okada[1)]
[1]Clinical Research Center, Murayama Medical Center, Japan, [2]Department of Pediatrics, Faculty of Medicine, University of Yamanashi, [3]School of Health Sciences, Fujita Health University, [4]Faculty of Human Sciences, Waseda University, [5]Department of Anatomy and Neuroscience, Shimane University School of Medicine, [6]Global Research Center for Innovative Life Science, Hoshi University, [7]Department of Physiology, Showa University School of Medicine

2P–216 AQP4 involvement in normalization of extracellular potassium after acute ischemic stroke

Hiromu Monai[1,2)], Xiaowen Wang[2)], Kazuko Yahagi[2)], Nanhong Lou[3)], Humberto Mestre[3)], Qiwu Xu[3)], Youichiro Abe[4)], Masato Yasui[4)], Youichi Iwai[2)], Hajime Hirase[2)]
[1]Ochanomizu University, Japan, [2]RIKEN Center for Brain Science, [3]University of Rochester Medical Center, [4]Keio University

2P–217 Efficacy of *Cinnamomi Cortex* & Coumarin on cold allodynia by oxaliplatin : modulating spinal gila

Ji Hwan Lee[1,2)], Woojin Kim[1)], Sun Kwang Kim[1,2)]
[1]Department of Physiology, Korean Medicine, Kyung Hee University, Korea, [2]Department of Science in Korean Medicine, Graduate School, Kyung Hee University, Korea

2P–218 Pioglitazone reversed the developmental programming of fructose in the astrocytic glucose metabolism

Kay LH Wu, Chih-Wei Wu, Chung-Ying Hung
Institute for Translational Research in Biomedicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan

2P–219 Microglial activation caused by lipopolysaccharide and trimethyltin administration in the rat brain

Toshiyuki Saito[1,2)], Wakako Nakajima[1)], Nobuhiro Ishida[1)], Takayo Imori[2)]
[1]Department of Life Sciences, Kyoto Sangyo University, Japan, [2]Graduate School of Life Sciences, Kyoto Sangyo University, Japan

2P–220 Brain area-dependent astrocyte heterogeneity detected in mice by dopamine receptor expressions

Katsuhiro Nagatomo[1)], Kazuto Kobayashi[2)], Yoshio Yamamoto[3)], Katsuya Yamada[1)]
[1]Dept. Physiol., Hirosaki Univ. Grad. Sch. Med., Japan, [2]Dept. Mol. Genet., Inst. Biomed. Sci., Fukushima Med. Univ. Sch. Med., Japan, [3]Lab. Vet. Anat. Cell Biol., F. Agri., Iwate Univ., Japan

2P-221 Social defeat stress reduces newly born oligodendrocytes and induces anxiety-like behavior in mice

Takeshi Shimizu, Sawa Kondo, Akimasa Ishida, Naoki Tajiri, Hideki Hida
Department of Neurophysiology and Brain Science, Graduate School of Medical Sciences, Nagoya City University, Japan

2P-222 Rediscovery of GIT1 hetero mice as more practical model for hyperactivity

Yoo Sung Kim[1)], Junsung Woo[2)], C. Justin Lee[2)], Bo-Eun Yoon[1)]
[1]Department of Molecular Biology, University of Dankook, Korea, [2]Center for Neuroscience and Functional Connectomics, Korea Institute of Science and Technology, Korea

Neuroscience: Imaging of brain

2P-223 Functional connectivity changes after rTMS used to detect plasticity decline associated with obesity

Shuyan Han[1)], Takahiro Osada[1)], Akitoshi Ogawa[1)], Masaki Tanaka[1)], Masaaki Hori[2)], Shigeki Aoki[2)], Takahiro Shimizu[3)], Hiroyuki Enomoto[4)], Ritsuko Hanajima[3)], Yoshikazu Ugawa[4)], Seiki Konishi[1)]
[1]Department of Neurophysiology, Juntendo University School of Medicine, Japan, [2]Department of Radiology, Juntendo University School of Medicine, Japan, [3]Department of Neurology, Tottori University School of Medicine, Japan, [4]Department of Neuro-Regeneration, Fukushima Medical University, Japan

2P-224 Visualization of the activation pattern causality during pain chronification using DREADD-MEMRI

Daigo Arimura[1,2,3)], Kei Shinohara[3)], Yukari Takahashi[1,2)], Tomokazu Tsurugizawa[1,2,4)], Ryo Ikeda[3)], Keishi Marumo[3)], Fusao Kato[1,2)]
[1]Department of Neuroscience, The Jikei University School of Medicine, Japan, [2]Center for Neuroscience of Pain, The Jikei University School of Medicine, Japan, [3]Department of Orthopaedics, The Jikei University School of Medicine, Japan, [4]Neurospin, France

2P-225 Correlation analysis of sister mitral and tufted cells

Yusuke Tsuno[1,2)], Matt Wachowiak[1)]
[1]Department of Neurobiology and Anatomy, University of Utah, USA, [2]Department of Integrative Neurophysiology, Graduate School of Medical Science, Kanazawa University, Japan

2P-226 Novel fluoropolymer nanosheets extending *in vivo* two-photon imaging of living mouse brain

Taiga Takahashi[1,2)], Kenji Yarinome[3)], Hong Zhang[4)], Ryosuke Kawakami[5)], Yosuke Okamura[3,4)], Tomomi Nemoto[1,2)]
[1]Research Institute for Electronic Science, Hokkaido University, Japan, [2]Graduate School of Information Science and Technology, Hokkaido University, Japan, [3]Graduate School of Engineering, Tokai University, Japan, [4]Micro/Nano Technology Center, Tokai University, Japan, [5]Department of Molecular Medicine for Pathogenesis, Graduate School of Medicine, Ehime University, Japan

2P-227 Wide-field imaging of neural activity with high spatial resolution

Masanori Matsuzaki, Shin-Ichiro Terada, Eriko Yoshida
Department of Physiology, The University of Tokyo, Japan

2P-228 3-D visualization of avian brainstem auditory circuits using Brainbow labeling and tissue clearing

Hiroshi Sekikawa[1,2)], Ryo Egawa[2)], Hiroshi Kuba[2)]
[1]Dept. of Med., Japan, [2]Cell. Physiol., Grad. Sch. of Med., Nagoya Univ.

2P–229 Anesthesia alters orientation and direction selective properties in mouse superior colliculus

Masatoshi Kasai, Tadashi Isa
Department of Neuroscience, Graduate School of Medicine, Kyoto University, Japan

2P–230 Analysis of a novel higher visual area, ECT, in the mouse ventral stream

Nana Nishio[1,2)], Hiroaki Tsukano[2)], Ryuichi Hishida[2)], Manabu Abe[3)], Junichi Nakai[4)], Meiko Kawamura[3)], Atsushi Aiba[5)], Kenji Sakimura[3)], Katsuei Shibuki[2)], Kenichi Ohki[1),]
[1]Dept. Physiol, Univ of Tokyo, Japan, [2]Dept Neurophysiol, BRI, Niigata Univ., Japan, [3]Dept Cell Neurobiol, BRI, Niigata Univ., Japan, [4]BBSSI, Saitama Univ., Japan, [5]Animal Resources, CDBIM, Univ. of Tokyo., Japan

2P–231 An fMRI Study of Brain Network Involved in Elderly Teeth Tapping

Yosinori Sahara[1)], Hideyuki Fukami[1,2)]
[1]Department of Physiology, Iwate Medical University School of Dentistry, Japan, [2]Department of Oral Health Science, Baika Women's University, Japan

2P–232 Hippocampus abnormalities evaluated by density imaging in COPD patients

Natsuko Iizuka[1,2)], Yuri Masaoka [1)], Masaki Yoshida [3)], Ryo Manabe [4)], Koji Kamagata [5)], Yuki Takenaka [5)], Kentaro Okuda [6)], Akira Yoshikawa[1)], Satomi Kubota [1,2)], Masahiro Ida [7)], Masahiko Izumizaki [1)]
[1]Dept Physiol, Showa Univ, Japan, [2]Dept Neulol, Showa Univ, Japan, [3]Dept Ophthalmol, Jikei Univ, Japan, [4]Dept Respiratory Medicine and Allergology, Showa Univ, Japan, [5]Dept Radiol, Juntendo University Graduate School of Medicine, Japan, [6]Dept Medicine, Ebara Hospital, Japan, [7]Dept Radiol, Ebara Hospital, Japan

2P–233 Relationship between Resting-State Functional Connectivity and cognitive function

Akira Yoshikawa[1)], Yuri Masaoka[1)], Masaki Yoshida[2)], Nobuyoshi Koiwa[3)], Satomi Kubota[1,4)], Ryo Manabe[1,5)], Natsuko Iizuka[1,4)], Masahiro Ida[6)], Masahiko Izumizaki[1)]
[1]Department of Physiology, Showa University School of Medicine, Japan, [2]Department of Ophthalmology, Jikei University School of Medicine, Japan, [3]Human Arts and Sciences Research Center, University of Human Arts and Sciences, Japan, [4]Department of Neurology, Showa University School of Medicine, Japan, [5]Department of Medicine, Division of Respiratory Medicine and Allergology, Showa University School of Medicine, Japan, [6]Department of Radiology, Comprehensive Stroke Center, Ebara Hospital, Japan

2P–234 Decoder construction for MEG signals in a subitizing task

Kouji Takano[1)], Kenji Kansaku[1,2,3)]
[1]Department of Rehabilitation for Brain Functions, Research Institute of National Rehabilitation Center For Persons with Disabilities, Japan, [2]Department of Physiology and Biological Information, Dokkyo Medical University School of Medicine, Japan, [3]Brain Science Inspired Life Support Research Center, The University of Electro-Communications, Japan

2P–235 Application of a Spatiotemporal Neural Network to Segment Low Contrast Calcium Fluorescence Images

Pelonomi Moiloa, Noriyasu Homma, Makoto Osanai
Tohoku University, Japan

2P–236 Circuitry changes in Parkinson's disease assessed by qAIM-MRI

Makoto Osanai[1,2)], Satomi Kikuta[1,3)], Pelonomi Moiloa[2)], Hiroki Tanihira[1)],

Noriyasu Homma[1,2)]
[1]Tohoku University Graduate School of Medicine, Japan, [2]Graduate School of Biomedical Engineering, Tohoku University, [3]Primate Research Institute, Kyoto University

2P–237 Positron Emission Tomography Tracer for AMPA receptors Characterizes Psychiatric Disorders in Human

Mai Hatano
Department of Physiology, University of Yokohama City University, Japan

★ **2P–238** (Y-18) Molecular profiling of the subthalamic nucleus

Jiwon Kim[1,2)], Hyungju Jeon[1)], Hojin Lee[1,2)], Linqing Feng[1)], Jinhyun Kim[1,2)]
[1]Center for Functional Connectomics, Korea Institute of Science and Technology (KIST), Republic of Korea, [2]Division of Bio-Medical Science & Technology, KIST-School, University of Science and Technology (UST), Republic of Korea

2P–239 Dynamics of local networks in the motor cortex during sleep and wakefulness

Takeshi Kanda[1)], Takehiro Miyazaki[1)], Daiki Nakatsuka[1)], Hideitsu Hino[2)], Masashi Yanagisawa[1)]
[1]University of Tsukuba, Japan, [2]The Institute of Statistical Mathematics

2P–240 Relation between Montreal Cognitive Assessment and amygdala-hippocampus volumes in the elderly

Satomi Kubota[1,2)], Yuri Masaoka[1)], Masaki Yoshida[3)], Ryuta Kinno[2)], Akira Yoshikawa[1)], Ryo Manabe[4)], Natsuko Iizuka[1,2)], Masahiro Ida[5)], Kenjirou Ono[2)], Masahiko Izumizaki[1)]
[1]Department of Physiology, Showa University, Japan, [2]Department of Neurology, Showa University, Japan, [3]Department of Opthalmology, Jikei University, Japan, [4]Department of Respiratory Medicine and Allergology, Showa University, Japan, [5]Department of Radiology, Ebara Hospital, Japan

2P–241 Sensory integration and behavioral choice regulated by the metabotropic glutamate receptor

Yuji Suehiro, Shohei Mitani
Department of Physiology, Tokyo Women's Medical University School of Medicine, Japan

2P–242 Two-photon imaging of neuronal activity in motor cortex of non-human primate during reaching tasks

Teppei Ebina, Yoshito Masamizu, Keitaro Obara, Masanori Matsuzaki
Department of Physiology, Graduate School of Medicine, The University of Tokyo, Japan

2P–243 Calcium imaging data from premotor area predict features of upcoming movement

Wing-Ho Yung, Chunyue Li, Ya Ke
School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong

2P–244 *In vivo* Ca^{2+} imaging of mouse brain by two-photon excitation spinning-disk confocal microscopy

Mitsutoshi Ataka[1,2)], Takafumi Kamada[1,2)], Kohei Otomo[1,2)], Tomomi Nemoto[1,2)]
[1]Graduate School of Information Science and Technology, Hokkaido University, Japan, [2]Laboratory of Molecular and Cellular Biophysics, Research Institute for Electronic Science, Hokkaido University, Japan

2P–245 Uptake and Release of Mn Ions from Neuron as a Basis of Mn MRI

Akio Inoue[1)], Yuriko Inoue[2)], Hiromitsu Ezure[2)], Naruto Ohtsuka[2)],

Yoshinobu Manome[3)], Koichi Shiraishi[4)], Akitoshi Inoue[5)]
[1]Human Brain Research Center, Graduate School of Medicine, Kyoto University, [2]Department of Anatomy, Showa University, School of Medicine, [3]Division of Molecular and Cellular Bilogy, Research Center for Medicine, Jikei University, School of Medicine, [4]Division of Medical Engineering, Jikei University, School of Medicine, [5]Department of Molecular and Functional Biology, Kansai Medical University

2P–246 Two-photon laser ablation cut sole neural processes without severe damage on surrounding astrocytes

Kazushi Yamaguchi[1)], Ryosuke Kawakami[1,2)], Tomomi Namoto[1,2)]
[1]Graduate School of Information Science and Technology, Hokkaido University, Japan, [2]Research Institute for Electronic Science, Hokkaido University, Japan

2P–247 Topical pH change in the brain by visual stimulation revealed by CCD pH image sensor

Junko Ishida[1)], Hiroshi Horiuchi[1)], Masakazu Agetsuma[1)], Kazuaki Sawada[2)], Junichi Nabekura[1)]
[1]Division of Homeostatic Development, National Institute for Physiological Sciences, Japan, [2]Department of Electronic and Information Engineering, Toyohashi University of Technology, Japan

2P–248 Differential characteristics of D1 and D2-type medium spiny neuron via cortico-striatal stimulation

Ryo Inagaki[1,2)], Masato Sasagawa[3)], Noriyasu Homma[3)], Makoto Osanai[3)]
[1]Tohoku University Graduate School of Medicine, Japan, [2]Brain/MINDS, [3]Tohoku University Graduate School of Medicine, Graduate School of Biomedical Engineering, Tohoku University

Neuroscience: Learning, memory & neuronal plasticity (2)

2P–249 Error signals in the red nucleus drive adaptation in reaching

Masato Inoue[1)], Shigeru Kitazawa[2,3,4)]
[1]Global Center for Medical Engineering and Informatics, Osaka University, Japan, [2]Graduate School of Frontier Biosciences, Osaka University, [3]Graduate School of Medicine, Osaka University, [4]Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology, and Osaka University

2P–250 Modulatory effects of dopamine on synaptic plasticity in hippocampus of kindled mice

Nahid Roohi, Yaghoub Fathollahi, Mahboubeh Ahmadi, Javad Mirnajafi-Zadeh
Department of Physiology, Tarbiat Modares University of Medical Sciences, Iran

2P–251 LTD is regulated by drebrin isoforms conversion likely due to the difference in the isoform dynamics

Tomoaki Shirao[1)], Kenji Hanamura[1)], Nobuhiko Kojima[2)], Hiroki Yasuda[3)], Yuko Sekino[4)]
[1]Dept. of Neurobiology and Behavior, Gunma Univ. Grad. Sch. of Med., Japan, [2]Dept. of Life Sci., Faculty of Life Sci, Toyo University, Japan, [3]Dept. of Physiol., Saga Univ. Sch. of Med., Japan, [4]Lab. of Human-Cell based Drug Discovery, Grad. Sch. of Pharm. Sci., Univ. of Tokyo, Japan

2P–253 A strategy of NMDA receptor-dependent oscillation in the visual cortex of rats

Hiroshi Yoshimura
Department of Molecular Oral Physiology, Institute of Biomedical Sciences, Tokushima University Graduate School, Japan

2P-254 Retrieval-Induced Forgetting in Young Mice

Asahi Haijima, Noriyuki Koibuchi
Department of Integrative Physiology, Gunma University Graduate School of Medicine, Japan

2P-255 The mitochondrial system of hippocampal adult-born neurons in the Tg2576 mouse model

Trinovita Andraini[1,2], Kevin Richetin[2], Petnoi Petsophonsakul[2], Laurent Roybon[3], Marie-Christine Miquel[2], Claire Rampon[2]
[1]Department of Physiology, Medical Faculty, Universitas Indonesia, Indonesia, [2]Centre de Recherches sur la Cognition Animale, Centre de Biologie Intégrative, Université de Toulouse, France , [3]Stem Cell Laboratory for CNS Diseases Modeling, Department of Experimental Medical Science, Wallenberg Neuroscience Center, Lund Stem Cell Center and MultiPark, Lund University, Sweden

2P-256 Effects of PDIA3 on Neurogenesis in the Dentate Gyrus of Normal and Ischemic Gerbils

In Koo Hwang[1], Woosuk Kim[1], Dae Young Yoo[2], Su Bin Cho[3], Jong Whi Kim[1], Yeo Sung Yoon[1], Dae Won Kim[4]
[1]Department of Anatomy, College of Veterinary Medicine, Seoul National University, South Korea, [2]Department of Anatomy, College of Medicine, Soonchunhyang University, South Korea, [3]Department of Biomedical Sciences, and Research Institute for Bioscience and Biotechnology, Hallym University, South Korea, [4]Department of Biochemistry and Molecular Biology, Research Institute of Oral Sciences, College of Dentistry, Gangneung-Wonju National University, South Korea

2P-257 Different mechanism of actions of testosterone and estradiol on cognitive impairment in male rats

Taratorn Fainanta, Sukanya Jaroenporn, Thaweechai Saetae, Patteera Wititsuwankul, Suchinda Malaivijitnond
Department of Biology, Chulalongkorn University, Thailand

2P-258 Modulation of dentate granule cell activity during fear memory extinction in freely moving mice

Alvaro Carrier Ruiz[1,2], Yuki Sugaya[1,2], Masanobu Kano[1,2]
[1]Department of Neurophysiology, Graduate School of Medicine, The University of Tokyo, Japan, [2]WPI-IRCN, UTIAS, The University of Tokyo, Japan

2P-259 Impairment of memory and hippocampal synaptic plasticity induced by high-fat diet in animal model

Yun-Chi Chang[1], Han-Fang Wu[1], Ting-Yi Lu[1], Yi-Ju Chen[1], Hui-Ching Lin[1,2,3]
[1]Department and Institute of Physiology, National Yang Ming University, Taiwan, [2]Ph.D. Program for Neural Regenerative Medicine, College of Medical Science and Technology, Taipei Medical University,Taiwan, [3]Brain Research Center, National Yang-Ming University,Taiwan

2P-260 Overexpression of K+ Cl- cotransporter promotes activity dependent synaptic plasticity and learning

Kayo Nakamura, Junichi Nabekura
Department of Physiological Sciences, National Institute for Physiological Science, Japan

2P-261 Investigating the effects of muscle wasting on Alzheimer's disease

Ya-Hsin Hsiao, Yung-Shuen Lin, Fang-Yu Lin
Department of Pharmacology, College of Medicine, National Cheng Kung University, Taiwan

2P–262 HSYA improves cognitive function in MCAO rats via recovering synaptic plasticity in the hippocampus

Lu Yu[1)], Yanhong Duan[2)], Zheng Zhao[2)], Wendi He[2)], Ming Xia[1)], Qiujuan Zhang[3)], Xiaohua Cao[2)]

[1]Comprehensive Department of Traditional Chinese Medicine, Putuo Hospital Affiliated to Shanghai University of Traditional Chinese Medicine, China, [2]Key Laboratory of Brain Functional Genomics, Ministry of Education, Shanghai Key Laboratory of Brain Functional Genomics, School of Life Sciences, East China Normal University, China, [3]Department of Neurology, Yueyang Hospital of Integrated Chinese and Western Medicine Affiliated to Shanghai University of Traditional Chinese Medicine, China

2P–263 The response to whisker stimulation in the visual cortex of monocular deprived mice *in vivo*

Akari Hashimoto, Akiko Miyamoto, Yoshihisa Tachibana, Koichiro Haruwaka, Hiroaki Wake

Department of System Neuroscience, University of Kobe, Japan

2P–264 Metabotropic glutamate receptor 5 (mGluR5) has a critical role in behavioral flexibility

Chul Hoon Kim, Shinwon Kang, Jisoo Lim, Hyun Jong Noh

Pharmacology, Yonsei University College of Medicine, Korea

2P–265 Increase of sleep spindle density induced by rTMS for major depression

Takuji Izuno[1,2)], Motoaki Nakamura[3)], Takashi Saeki[4)], Nobuhide Hirai[5)], Mana Tsukada[1)], Hideshi Ikemoto[1)], Chiaki Tezuka[1)], Kana Takahashi[1)], Masataka Sunagawa[1)], Masahiko Izumizaki[1)]

[1]Department of Physiology, School of Medicine, Showa University, Japan, [2]Kanagawa Psychiatric Center, Japan, [3]Medical Institute of Developmental Disabilities Research, Showa University Japan, [4]Department of Psychiatry, Yokohama City University School of Medicine, Japan, [5]Tokyo Medical and Dental University, Japan

2P–266 Speed representation in the hippocampus and entorhinal cortex

Motosada Iwase, Takuma Kitanishi, Kenji Mizuseki

Department of Physiology, Osaka City University Graduate School of Medicine

2P–267 Single Purkinje Neuron Voltage Imaging to Detect Cerebellar Parallel Fibre Long Term Depression

Ruth M Empson[1,2)], Emmet m Power[1)], Emma Deeney[1)], Dan Potapov[1)], Kay Potapov[1)], Thomas Knopfel[2)]

[1]University of Otago, New Zealand, [2]Imperial College, UK

2P–268 Hippocampal, amygdala neuronal, and sympathetic nerve activities in odor-cue fear conditioned rats

Kana Yaguchi, Sizuka Ikegame, Kana Nagao, Misa Yoshimoto, Kenju Miki

Department of Health Science ,University of Nara Woman's University , Japan

2P–269 Two groups of SPNs in cholinergic modulation of corticostriatal plasticity in dorsomedial striatum

Atsushi Tamura, Kiyoto Kurima, Yumiko Akamine, Jeffery R Wickens

Neurobiology Reserch Unit, Okinawa Institute of Science and Technology, Japan

2P–270 Contribution of Thyrotropin-Releasing Hormone to Cerebellar Long-Term Depression and Motor Learning

Masashi Watanabe[1)], Yasunori Matsuzaki[1)], Yasuyo Nakajima[2)], Atsushi Ozawa[2)], Masanobu Yamada[2)], Hirokazu Hirai[1)]

[1]Department of Neurophysiology, Gunma University, Japan, [2]Department of Medicine and Molecular Science, Gunma University, Japan

2P–271 Sharp-wave ripples facilitate memory consolidation via activation of cAMP

Constantine Pavlides, Jiyeon Cho, Krzysztof A Sypniewski
University of Tsukuba, Japan

2P–272 Real-time dynamism of hippocampal CA1 firings after the 4 different episodic stimuli

Takuto Tomokage, Junko Ishikawa, Dai Mitsushima
Department of Physiology, Yamaguchi University Graduate School of Medicine, Japan

2P–273 Understanding the mechanism of odor-specific memory formation in *Caenorhabditis elegans*

Kyoung-Hye Yoon, Hee Kyung Lee
Department of Physiology, Mitohormesis Research Center, Yonsei University Wonju College of Medicine, Korea

2P–274 Nitric oxide into the basolateral amygdala potentiates stress-induced spatial memory disorder in rat

Roya Ranjbar Saber[1)], Hedayat Sahraei[2)], Esmaeil Nikkar[3)], Hassan Ghoshooni[3)], Mohammad Hadipour[3)]
[1]Neurophysiology Research Center, Shahid Beheshti University of Medical Science, Iran, [2]Neuroscience Research Center, Baqiyatallah University of Medical Science, Iran, [3]Department of Physiology and Biophysics, School of Medicine, Baqiyatallah University of Medical Science, Iran

Neuroscience: Neurologic and psychiatric diseases (2)

★ **2P–276** (Y-19) Characterization of a novel and potent neuronal Kv7/M opener SCR2682 for anti-epilepsy

Yani Liu[1)], Fan Zhang[2)], Feng Tang[3)], Bo Liang[3)], Huanming Chen[3)], Ge Jin[4)], Qi Sun[5)], Hailin Zhang[2)], Kewei Wang[1)]
[1]Department of Pharmacology, School of Pharmacy, Qingdao University, China, [2]Department of Pharmacology, Hebei Medical University, China, [3]Medicinal Chemistry, Simcere Pharmaceuticals, China, [4]Department of Pharmacology, Shenyang Medical College, China, [5]Department of Medicinal Chemistry, School of Pharmaceutical Sciences, Peking University, China

2P–277 (AP-1) Chronic stress causes excessive aggression by altering synaptic actin dynamics in the mPFC

Hirobumi Tada[1,2)], Takuya Takahashi[2)]
[1]Section of Neuroendocrinology, National Center for Geriatrics and Gerontology, Japan, [2]Department of Physiology, Yokohama City University

2P–278 ASD-like Behaviors and Synaptic Defects Inherit to Subsequent Generations in VPA-Induced Rat Model

Ming-Chia Chu[1)], Han-Fang Wu[1)], Hui-Ching Lin[1,2,3)]
[1]Department and Institute of Physiology, School of Medicine, National Yang-Ming University, Taiwan, [2]Brain Research Center, National Yang-Ming University, Taiwan, [3]Ph.D. Program for Neural Regenerative Medicine, College of Medical Science and Technology, Taipei Medical University, Taiwan

2P–279 The antiseizure activities of new hydrazine derivatives: behavioral and electrophysiological studies

Elmira Heidarli[1)], Hamid Irannejad[2)], Nima Naderi[3)]

[1]Department of Toxicology and Pharmacology, PhD student, School of Pharmacy, Shahid Beheshti University of Medical Sciences, Iran , [2]Department of Medicinal Chemistry, Associate professor, Mazandaran University of Medical Sciences, Iran, [3]Department of Toxicology and Pharmacology, Associate professor, School of Pharmacy, Shahid Beheshti University of Medical Sciences, Iran

2P-280 Genome-wide screening of genes involved in tau aggregation by CRIPSR/Cas9 system

Ihori Ebinuma, Yu Nemoto, Takanobu Suzuki, Yukiko Hori, Taisuke Tomita

Laboratory of Neuropathology and Neuroscience, Graduate School of Pharmaceutical Sciences, University of Tokyo, Japan

2P-281 Berberine attenuated the cytotoxicity induced by t-BHP via inhibiting oxidative stress and mitophagy

Zhengmao Li

Key Laboratory of Biotechnology and Pharmaceutical Engineering, School of Pharmaceutical Sciences, Wenzhou Medical University, China

2P-282 Chloroquine promotes the recovery of SCI by inhibiting inflammation and ER stress

Hongyu Zhang[1)], Xiaojie Wei[2)]

[1]Molecular Pharmacology Research Center, School of Pharmaceutical Science, Wenzhou Medical University, China, [2]Department of Orthopaedics, Cixi People's Hospital, Wenzhou Medical University, China

2P-283 GLYX-13 alleviates chronic stress-induced depression-like behavior through its actions in midbrain

Yu-Cheng Ho

Department of Medicine, Mackay Medical College, Taiwan

2P-284 Effects of optogenetic inhibition of 5-HT neurons in the dorsal raphe nucleus on respiratory control

Mitsuko Kanamaru[1,2)], Mana Tsukada[2)], Akira Yoshikawa[2)], Hiroshi Onimaru[2)], Ayako Mochizuki[3)], Masataka Sunagawa[2)], Tomio Inoue[3)], Masahiko Izumizaki[2)]

[1]Physiology, Faculty of Arts and Sciences, Showa University, Japan, [2]Department of Physiology, Showa University School of Medicine, Japan, [3]Department of Oral Physiology, Showa University School of Dentistry, Japan

2P-285 Astrocytic Ca^{2+} signals via IP_3 receptor type2 mediate reactive astrocytes after status epilepticus

Fumikazu Sano[1,2)], Eiji Shigetomi[1)], Schuichi Koizumi[1)], Hideaki Kanemura[2)], Katsuhiko Mikoshiba[3)], Masao Aihara[2)]

[1]Department of Neuropharmacology, Interdisciplinary Graduate School of Medicine, University of Yamanashi, Japan, [2]Department of Pediatrics, Faculty of Medicine, University of Yamanashi, Japan, [3]Laboratory for Developmental Neurobiology, RIKEN Brain Science Institute, Japan

2P-286 CSD is accompanied by mitochondrial oxidaization wave revealed with Flaboprotein autofluorescence

Hitoshi Maeda, Kohta Terada, Sohta Katohno, Syunichi Kuwana

Department of Physical Therapy, Faculty of Health Sciences, Uekusagakuen University, Japan

2P-287 Impaired olfactory identification in patients with cerebrovascular disease

Fumino Okutani[1)], Kazuyuki Omori[2)]

[1]Department of Occupational Health, Kochi Medical School, Japan, [2]Matsuyama

Rehabilitation Hospital

2P-288 Physiological characteristics of rhythmic masticatory muscle activity during sleep in children

Yuki Shiraishi[1,2)], Masaya Tachibana[3)], Sheng-Yun Lu[3)], Ai Shirota[1)], Ikuko Mohri[3)], Shingo Haraki[4)], Atsuko Tsujisaka[4)], Masako Taniike[3)], Takashi Yamashiro[2)], Takafumi Kato[2)]

[1]Department of Oral Physiology, Osaka University Graduate School of Dentistry, Japan, [2]Department of Orthodontics and Dentofacial Orthopedics, Osaka University Graduate School of Dentistry, [3]United Graduate School of Child Development, Osaka University, [4]Department of Fixed Prosthodontics, Osaka University Graduate School of Dentistry

2P-289 Masseter muscle activity during REM sleep in young adults with sleep bruxism

Risa Toyota[1,2)], Mutsumi Okura[1,3)], Shigeru Nonoue[4,5)], Shingo Haraki[6)], Akiko Tsujisaka[6)], Hiroyoshi Adachi[4,5,7)], Kazunori Ikebe[2)], Takafumi Kato[1)]

[1]Department of Oral Physiology, Osaka University Graduate School of Dentistry, Japan, [2]Department of Prosthodontics, Gerodontology and Oral Rehabilitation, Osaka University Graduate School of Dentistry, Japan, [3]Sleep Medical Center, Osaka Kaisei Hospital, Japan, [4]Sleep Medicine Center, Osaka University Hospital, Japan, [5]Department of Psychiatry, Osaka University Graduate School of Medicine, Japan, [6]Department of Fixed Prosthodontics, Osaka University Graduate School of Dentistry, Japan, [7]Health and Counseling Center, Osaka University, Japan

2P-290 Role of cortico-brainstem circuits in poststroke rehabilitation-induced functional recovery

Akimasa Ishida[1)], Takeshi Shimizu[1)], Naoki Tajiri[1)], Kenta Kobayashi[2)], Tadashi Isa[3)], Hideki Hida[1)]

[1]Dept. Neurophysiol. and Brain Sci., Nagoya City Univ. Grad. Sch. Med. Sci., Japan, [2]Sec. Viral Vector Dev, Natl, Inst. Physiol. Sci., Japan, [3]Dept. Physiol and Neurobiol., Kyoto Grad Sch Med., Japan

2P-291 The effect of orally-administered baclofen on spinocerebellar ataxia type 3 (SCA3) model mice

Nobutake Hosoi, Hirokazu Hirai

Department of Neurophysiology and Neural Repair, Gunma University Graduate School of Medicine, Japan

2P-292 Metabotropic Glutamate Receptor as a potential therapeutic target for the treatment of SCA1

Mohamed Fasil Ibrahim, Daniil Potapov, Kay Potapov, Ruth M Empson

Department of Physiology, School of Biomedical Sciences, University of Otago, New Zealand

2P-293 Transgeneration of environmental chemicals-primed rat hyperactivity

Masami Ishido

Center for Environ Risk Res, Natl Inst Environ Studies, Japan

2P-294 Social isolation during developmental critical window affects inhibitory neuronal circuitsin mPFC

Hiroki Yoshino[1)], Kazuhiko Yamamuro[1)], Yoichi Ogawa[2)], Manabu Makinoda[1)], Yasuhiko Saito[2)], Toshifumi Kishimoto[1)]

[1]Department of Psychiatry, Nara Medical University, Japan, [2]Department of Physiology 1, Nara Medical University

2P-295 The 40Hz-ASR may be a good predictor of conscious outcome in patients with severe head injury

Shun-ichiro Hirano

Department of Physiology, Osaka Dental University, Japan

2P–296 Deep brain stimulation for depression in rats: correction of left/right hemispheric imbalance

Yukitoshi Sakaguchi, Yoshio Sakurai
Graduate School of Brain Science, Doshisha University, Japan

2P–297 Experience and cell type-dependent induction of MeCP2 in the visual thalamus

Yuki Yagasaki, Goichi Miyoshi, Mariko Miyata
Department of Physiology, Division of Neurophysiology, School of Medicine, Tokyo Women's Medical University, Japan

2P–298 Function of the primate medial frontal cortex in the control of mood and affect: an rTMS study

Shinya Nakamura, Ken-Ichiro Tsutsui
Laboratory of Systems Neuroscience, Graduate School of Life Sciences, Tohoku University, Japan

Neuroscience: Somatosensory & Pain (2)

2P–299 Inflammatory pain changes the electrophysiological properties of locus coeruleus neurons

Fatemeh Farahani, Hossein Azizi, Saeed Semnanian
Department of Physiology, Faculty of Medical Sciences, Tarbiat Modares University, Iran

2P–300 Widespread Hyperalgesia and Autonomic Dysregulation in a Rat Model of Chronic Back Pain

Ryota Tokunaga[1,2)], Harumi Hotta[4)], Nobuhiro Watanabe[4)], Sara Touj[1,2)], Hugues Leblond[2,3)], Mathieu Piché[1,2)]
[1]Department of Chiropractic, Université du Québec à Trois-Riviéres, Canada, [2]CogNAC Research Group, Université du Québec à Trois-Riviéres, Canada, [3]Department of Anatomy, Université du Québec à Trois-Riviéres, Canada, [4]Department of Autonomic Neuroscience, Tokyo Metropolitan Institute of Gerontology, Japan

2P–301 TRPA1 mediates the uterine PGE2-induced cross-organ reflex sensitizationin anesthetized rats

Tzer-Bin Lin
Department of Physiology, Taipei Medical University, Taiwan

2P–302 Inhibitory effects of Sake lees (Sake Kasu) on stress-induced hyperalgesia in the rats

Shiho Shimizu[1,2)], Yoshito Kakihara[3,4)], Mayumi Taiyoji[5)], Yosuke Nakatani[1,2)], Masayuki Kurose[1)], Nobuyuki Ikeda[2)], Makio Saeki[3)], Ritsuo Takagi[2)], Kensuke Yamamura[1)], Keiichiro Okamoto[1)]
[1]Division of Oral Physiology, Niigata University Graduate School of Medical and Dental Sciences, Japan, [2]Division of Oral and Maxillofacial Surgery, Niigata University Graduate School of Medical and Dental Sciences, Japan, [3]Division of Dental Pharmacology, Niigata University Graduate School of Medical and Dental Sciences, Japan, [4]Department of Sakeology, Niigata University, Japan, [5]Food Research Center, Niigata Agricultural Research Institute, Japan

2P–303 Renin-angiotensin system and angiotensin II receptors in rat geniculate ganglion

Takeshi Suwabe, Toshiaki Yasuo, Noritaka Sako
Department of Oral Physiology, School of Dentistry, Asahi University, Japan

2P-304 Inhibitory effect of bee venom on the reserpine-induced pain and depression-like behavior in mice

Jae-Gyun Choi[1)], Dong-Wook Kang[1)], Cuk-Seong Kim[2)], Sang Do Lee[2)], Byeong Hwa Jeon[2)], Jin Bong Park[1)], Hyun-Woo Kim[1)]

[1]Department of Physiology and Medical Science, Brain Research Institute, College of Medicine, Chungnam National University, Republic of Korea, [2]Department of Physiology and Medical Science, Research Institute of Medical Science, College of Medicine, Chungnam National University, Republic of Korea

2P-305 Distribution of HCN4 positive cell in mouse spinal dorsal horn

Taku Nakagawa[1)], Toshiharu Yasaka[2)], Noriyuki Nakashima[1)], Makoto Takano[1)]

[1]Department of Physiology, Kurume University, Japan, [2]Department of Immunology, Graduate School of Medical and Dental Sciences, Kagoshima University, Japan

2P-306 Response properties of premotor heat-sensitive neurons in awake behaving monkeys

Shumpei Unno[1)], Masamichi Shinoda[2)], Koichi Iwata[2)]

[1]Department of Oral Physiology, Matsumoto Dental University, Japan, [2]Department of Physiology, School of Dentistry, Nihon University, Japan

★ **2P-307** (Y-20) Molecular mechanism of dopamine-induced itch in mice

YoungIn Choi[1)], PyungSun Cho[1,2)], HanKyu Lee[1)], SungJun Jung[1)]

[1]Department of Biomedical Science, Hanyang University, Korea, [2]Department of Physiology, Korea University, Republic of Korea

2P-308 Negative modulation of TRPV1 by alpha 2 adrenergic receptor agonist, Dexmedetomidine

Byeong-min Lee[1,3)], Yoonsun Jang[1)], Yong Ho Kim[4)], Chul-kyu Park[4)], Teo Jeon Shin[2)], Gehoon Chung[1,3)]

[1]Department of Oral Physiology and Neurobiology, School of Dentistry, Seoul National University, Korea, [2]Department of Pediatric Dentistry, School of Dentistry, Seoul National University, Republic of Korea, [3]Dental Research Institute, Seoul National University, Republic of Korea, [4]Department of Physiology, Gachon University, Republic of Korea

2P-309 Direct Mechanical stimulation evoked Gd^{3+}-sensitive inward current in trigeminal ganglion neurons

Asuka Higashikawa[1)], Maki Kimura[1)], Miyuki Shimada[1)], Hidetaka Kuroda[3)], Wataru Ofusa[1)], Sadao Ohyama[1,2)], Masayuki Ando[1)], Kyousuke Kono[1)], Hiroyuki Mochizuki[1)], Yoshiyuki Shibukawa[1)]

[1]Department of Physiology, Tokyo Dental College, Japan, [2]Department of Oral Surgery, Tokyo Metropolitan Komagome Hospital, [3]Department of Critical Care Medicine and Dentistry, Division of Anesthesiology, Kanagawa Dental University

2P-310 ASIC 3 contributes to mechanical hypersensitivity in the rat model of cold exposed osteoarthritis

Sungtae Koo[1,2,3)], So-Hee Kim[3,4)], Byeong Uk Ji[1,3)], Ji Eun Lee[3)]

[1]Department of Korean Medical Science, School of Korean Medicine, Pusan National University, Korea, [2]Division of Meridian and Structural Medicine, School of Korean Medicine, Pusan National University, [3]Healthy Aging Korean Medical Research Center, School of Korean Medicine, Pusan National University, [4]Institute of Korean Medical Science, School of Korean Medicine, Pusan National University

2P-311 Increased transport of spinal l-lactate from astrocytes causes mechanical hyperlageisa via PKA

Masahiro Ohsawa, Keisuke Miyamoto, Kei-ichiro Ishikura, Kazuhiko Kume
Department of Neuropharmacology, Nagoya City Univeristy, Japan

2P-312 Neuronal representation in the S1 cortex during formalin-induced spontaneous pain in mice

Heera Yoon[1)], Yoo Rim Kim[2)], Sa-Yoon Park[3)], Chang-Eop Kim[3)], Geehoon Chung[1)], Sang Jeong Kim[2)], Sun Kwang Kim[1)]
[1]Department of Physiology, College of Korean Medicine, Kyung Hee University, Korea, [2]Department of Physiology, College of Medicine, Seoul National University, Korea , [3]Department of Physiology, College of Korean Medicine, Gachon University, Korea

2P-313 Effects of Cinnamic Acid on Chemotherapy-Induced Peripheral Neuropathy

Hyeonkyeong Chae, Woojin Kim, Sun Kwang Kim
Department of Physiology, College of Korean Medicine, Kyung Hee University, Korea

2P-314 Effect of Bee Venom Derived Phospholipase A2 on Nerve Injury-Induced Neuropathic Pain

Seunghui Woo, Geehoon Chung, Sun Kwang Kim
Department of Physiology, College of Korean Medicine, Kyung Hee University, Korea

2P-315 EP_4 receptor-mediated augmentation of I_h currents in Abeta DRG neurons underlies neuropathic pain

Mitsuhiko Yamada[1)], Hao Zhang[1,2)], Toshihide Kashihara[1)], Tsutomu Nakada[1)], Satoshi Tanaka[2)], Kumiko Ishida[2)], Satoshi Fuseya[2)], Hiroyuki Kawagishi[1)], Kenkichi Kiyosawa[1,2)], Mikito Kawamata[2)]
[1]Department of Molecular Pharmacology, Shinshu University School of Medicine, Japan, [2]Department of Anesthesiology and Resuscitology, Shinshu University School of Medicine, Japan

2P-316 Effects of Venlafaxine on Oxaliplatin and Paclitaxel Induced Neuropathic Pain in Mice

Daxian Li[1,2)], Woojin Kim[1)], Sun Kwang Kim[1)]
[1]Department of Physiology, College of Korean Medicine, Kyung Hee University, Korea, [2]Department of Science in Korean Medicine,Graduate School, Kyung Hee University

2P-317 Plastic changes in cortical excitatory responses in the model rat with infraorbital nerve ligation

Manabu Zama[1,2)], Masayuki Kobayashi[2)], Morio Tonogi[1)], Tadayoshi Kaneko[1)]
[1]Department of Oral and Maxillofacial Surgery, University of Nihon, Japan, [2]Department of Pharmacology, University of Nihon, Japan

2P-318 Perineural expression of TNF-α contributes to long-term mechanical allodynia in CRPS model mice

Shiho Shibata[1,2)], Hideaki Tagashira[1)], Satomi Kita[1,3)], Tomo Kita[1)], Sari Suzuki[1)], Ken Yamaura[2)], Takahiro Iwamoto[1)]
[1]Department of Pharmacology, Faculty of Medicine, Fukuoka University, Japan, [2]Department of Anesthesiology, Faculty of Medicine, Fukuoka University, Japan, [3]Department of Pharmacology, Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Japan

2P-319 Acute nociceptive stimuli induce the activity of serotonin and noradrenalin neurons in awake mice

Akira Yamashita[1)], Shunpei Moriya[1)], Ryusei Nishi[1)], Yoko Ikoma[1)], Akihiro Yamanaka[2)], Tomoyuki Kuwaki[1)]
[1]Department of Physiology 1, Graduate School of Medical and Dental Sciences,

Kagoshima University, Japan, [2]Department of Neuroscience 2, Research Institute of Environmental Medicine, Nagoya University, Japan

2P–320 Effects of naftopidil in substantia gelatinosa neurons of the rat spinal dorsal horn

Daisuke Uta[1)], Tsuyoshi Hattori[2)], Megumu Yoshimura[3,4)]

[1]Department of Applied Pharmacology, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Japan, [2]Asahi Kasei Pharma Co., Japan, [3]Graduate School of Health Sciences, Kumamoto Health Science University, Japan, [4]Nogata Nakamura Hospital, Japan

2P–321 Profiles of excitatory projection from the insular cortex to trigeminal spinal subnucleus caudalis

Yuka Nakaya, Kiyofumi Yamamoto, Masayuki Kobayashi

Department of Pharmacology, Nihon University School of Dentistry, Japan

2P–322 Dexmedetomidine inhibits voltage-gated sodium channels in trigeminal ganglion neurons

Chul-Kyu Park, Sang-Taek Im, Ki Whan Kim, Joong Soo Kim, Yong Ho Kim

Gachon Pain Center and Department of Physiology, College of Medicine, Gachon University, Korea

2P–323 *In vivo* Ca^{2+} imaging of somatosensory cortex in postoperative and inflammatory pain models of mice

Takuya Okada[1,2,3)], Yoshihisa Tachibana[1,3)], Yuki Nomura[2)], Norihiko Obata[2)], Satoshi Mizobuchi[2)], Hiroaki Wake[1,3)]

[1]Department of System Neuroscience, Kobe University Graduate School of Medicine, Japan, [2]Department of Anesthesiology, Kobe University Graduate School of Medicine, [3]CREST, JST

2P–324 Alteration of spinal sensory processing from the LUT in rats with streptozotocin-induced diabetes

Tatsuki Nakagawa[1,2,3)], Atsushi Hakozaki[2)], Nozomi Akimoto[2)], Noriyuki Ozaki[3)], Masahito Kawatani[4)], Keiji Imoto[2)], Hidemasa Furue[1,2)]

[1]Department of Neurophysiology, Hyogo College of Medicine, Japan, [2]Department of Information Physiology, National Institute for Physiological Sciences, Japan, [3]Department of Functional Anatomy, Graduate School of Medicine, Kanazawa University, Japan, [4]Department of Neurophysiology, Graduate School of Medicine, Akita University, Japan

2P–325 Effects of ethanol on nociceptive synaptic transmission in the rat spinal dorsal horn

Akihiro Yamada[1,2,3)], Kohei Koga[1)], Kazuhiko Kume[3)], Masahiro Ohsawa[3)], Keiji Imoto[2)], Hidemasa Furue[1,2)]

[1]Department of Neruophysiology, Hyogo College of Medicine, Japan, [2]Department of Information Physiology, National Institute for Physiological Sciences, Japan, [3]Department of Neuropharmacology, Nagoya City University, Japan

Neuroscience: Autonomic physiology (2)

2P–326 Dexmedetomoidine suppresses rat nodose ganglion tetrodotoxin-resistant voltage-gated sodium current

Ryoji Ide, Kosuke Iwasaki, Chikako Saiki, Toshio Imai, Shigeji Matsumoto

Depertment of Physiology, Nippon Dental University, School of Life Dentistry at Tokyo, Japan

2P-327 Expression of c-Fos and the cardiovascular response evoked by an odor fear stressor in the rat

Seita Hori, Ena Yamamoto, Jouji Horiuchi
Department of Biomedical Engineering, Toyo University, Japan

2P-328 Does listening to Mozart's or Bach's music have any effects on autonomic nervous activity?

Junko Hoshi, Xinru Sun, Hiromasa Tanno, Emi Kanno, Ryoko Maruyama
Department of Health Sciences, Tohoku University Graduate School of Medicine, Japan

2P-329 Effects of GABA agonist injection into the ventrolateral medulla on oropharyngeal swallowing

Shinya Fuse[1,2)], Yoichiro Sugiyama[2)], Rishi Dhingra[3)],
Mathias Dutschmann[3)], Shigeru Hirano[2)], Yoshitaka Oku[1)]
[1]Department of Physiology, Hyogo College of Medicine, Japan, [2]Department of Otolaryngology-Head and Neck Surgery, Kyoto Prefectural University of Medicine, Japan, [3]Florey Institute of Neuroscience and Mental Health, Australia

2P-330 Coordinated involvement of the amygdala and claustrum for blood pressure control during exercise

Ko Yamanaka, Jimmy Kim, Hidefumi Waki
Department of Physiology, Health and Sports Science, Juntendo University, Japan

2P-331 Hormonal secretion from the thyroid gland is promoted by mechanical stimulation of the pharynx

Kaori Iimura, Harue Suzuki, Harumi Hotta
Department of Autonomic Neuroscience, Tokyo Metropolitan Institute of Gerontology, Japan

2P-332 Exercise improve stress-induced high blood pressure and abnormal gene expression in the amygdala

Keisuke Tomita[1)], Ko Yamanaka[1)], Kei Tsukioka[1)], Makoto Suzuki[1)],
Linh Pham[2)], Sabine S. Gouraud[2)], Hidefumi Waki[1)]
[1]Graduate School of Health and Sports Science, Juntendo University, Japan, [2]Department of Biology, Ochanomizu University, Japan

2P-333 Ethanol injection differently activated autonomic nerve activity in anesthetized rats

Chen Fu[1,2)], Tanida Mamoru[1)]
[1]Physiology 2, Kanazawa Medical University, Japan, [2]General Surgery Department, the Fourth Affiliated Hospital of China Medical University, China

2P-334 Estradiol-dependent gene expression profile in the amygdala of ovariectomized SHRs

Linh Thuy Pham[1,2)], Onishi Makiko[1,4)], Yamanaka Ko[5)],
Miyamoto Yasunori[1,2,4)], Waki Hidefumi[5)], Gouraud Sabine[2,3)]
[1]Graduate School of Humanities and Sciences, Ochanomizu University, Japan, [2]Grad Sch General Educational Research, Ochanomizu University, Japan, [3]Dept. Biology, Ochanomizu University, Japan, [4]Institute of Human Life Innovation, Ochanomizu University, Japan, [5]Dept. Physiology, Grad Sch Health and Sports Science, Juntendo University, Japan

2P-335 Discharge activities of diaphragm motor units during inspiratory load

Ryosuke Takei[1)], Kenta Kawamura[1)], Yukako Sedaka[1)], Kazumasa Sasaki[2)],
Seiichi Sasaki[3)], Kazuhide Tomita[1)]
[1]Ibaraki Prefectual University of Heaith Science,Japan, [2]Toho University, Japan, [3]Toyo

Public Health College, Japan

2P-336 A role of TRPA1 in oxygen detection

Sichong Chen[1,2)], C. Kuroki[1)], N. Takahashi[1,3)], Ly. Hao[2)], Y. Mori[3)], T. Kuwaki[1)]

[1]Department of Physiology, Kagoshima University Graduate School of Medical and Dental Sciences, Japan, [2]Department of Pharmaceutical Toxicology, China Medical University School of Pharmacy, China, [3] Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University, Japan

2P-337 Descending inhibition on spinal seizure-like activity in the phrenic nerve output

Shih Tien Lin

Department of Physiology, Showa University School of Medicine, Japan

2P-338 Measurement of paraventricular nucleus neuronal and sympathetic nerve activities in conscious rats

Shizuka Ikegame, Misa Yoshimoto, Kenju Miki

Department of Health science, Nara Women's University, Japan

2P-339 Projection from the midbrain to the rostroventral medulla and the cardiovascular response to stress

Mio Matsuyama, Ena Yamamoto, Jouji Horiuchi

Department of Biomedical Engineering, Toyo University, Japan

2P-340 Gut hormone signal alters lick microstructure and taste reactivity to sweet stimulation in mice

Yasunobu Yasoshima, Erina Yamaguchi

Division of Behavioral Physiology, Graduate School of Human Sciences, Osaka University, Japan

2P-341 Hyposalivation and impaired parasympathetic vasodilation in parotid glands with diabetes mellitus

Toshiya Sato, Kohei Mito, Hisayoshi Ishii

Division of Physiology, Department of Oral Biology, School of Dentistry, Health Sciences University of Hokkaido, Japan

2P-342 Acute myocardial infarction activates hypothalamic vasopressin and oxytocin neurons

Colin Hamilton Brown, Ranjan K Roy, Rachael A Augustine, Daryl O Schwenke

Department of Physiology, University of Otago, New Zealand

Neuroscience: Others (2)

2P-343 Phospholipase C-related inactive protein type-1 deficiency alters propofol-induced EEG activity

Yoshikazu Nikaido[1,2)], Tomonori Furukawa[2)], Shuji Shimoyama[2)], Yoshiki Ogata[2)], Tetsuya Kushikata[1)], Kazuyoshi Hirota[1)], Masato Hirata[3,4)], Takashi Kanematsu[5)], Shinya Ueno[2)]

[1]Department of Anesthesiology, Hirosaki University, Japan, [2]Department of Neurophysiology, Hirosaki University, Japan, [3]Laboratory of Molecular and Cellular Biochemistry, Faculty of Dental Science, Kyushu University, Japan, [4]Fukuoka Dental College, Japan, [5]Department of Cellular and Molecular Pharmacology, Division of Basic Life Sciences, Institute of Biomedical and Health Sciences, Hiroshima University, Japan

2P-344 A microsensing system for the *in vivo* real-time detection of local drug kinetics and dynamics

Genki Ogata[1)], Kai Asai[2)], Seishiro Sawamura[1)], Madoka Takai[3)], Hiroyuki Kusuhara[4)], Yasuaki Einaga[2)], Hiroshi Hibino[1)]

[1]Dept Mol Physiol, Sch Med, Niigata Univ, Japan, [2]Dept of Chem, Fac of Sci and Tech, Keio Univ, Japan, [3]Dept of Bioeng, Grad Sch of Eng, Univ of Tokyo, Japan, [4]Lab of Mol Pharmacokinet, Grad Sch of Pharmaceut Sci, Univ of Tokyo, Japan

2P-345 Treatment of Alzheimer's disease by a disease-modifying small molecule

Ya Ke, Xiao Man Zhang, Sheng Xi Yang, Ming Dao Mu, King Lin Rong, Wing Ho Yung

School of Biomedical Sciences, The Chinese University of Hong Kong

2P-346 Andrographolide relieved pain generated by post-operative pain model in rat

Meng-Jen Lee[1)], Yilo Lin[2)], Siendong Huang[3)]

[1]Department of Applied Chemistry, Chaoyang University of Technology, Taiwan, [2]Graduate Institute Veterinary Pathobiology, National Chung Hsing University, Taiwan, [3]Department of Applied Mathematics, National Dong Hwa University

2P-347 Comparing the natural and morphine induced reward in conditioning place preference paradigm

Shoele Jamali, Abbas Haghparast

Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Iran

2P-348 Mouse strain-dependent BBB (blood-brain barrier) permeability of AAV-PHP.B

Yasunori Matsuzaki, Masami Tanaka, Sachiko Hakoda, Tatsuki Masuda, Ryota Miyata, Ayumu Konno, Hirokazu Hirai

Department of Neurophysiology and Neural Repair, Gunma university, Japan

2P-349 A coagulation factor IX peptide regulates endothelial barrier function in brain

Yuusuke Fujiwara[1)], Hisataka Kitano[1,2)], Chiaki Hidai[2)], Shinichiro Kokubun[2)]

[1]Division of Dental Surgery, Nihon University School of Medicine, Japan, [2] Division of Physiology, Nihon University School of Medicine

2P-350 Fatty acid-responding neurons in mouse glossopharyngeal nerve

Keiko Yasumatsu[1)], Shusuke Iwata[1)], Mayuko Inoue[1)], Yuzo Ninomiya[1,2)]

[1]Division of Sensory Physiology, Research and Development Center for Taste and Odor Sensing, Kyushu University, Japan, [2]Monell Chemical Senses Center, Philadelphia, PA, USA

2P-351 The role of HCN4-positive cells in the gastrointestinal development and motility of zebrafish

Kensuke Fujii[1)], Koichi Nakajyo[2,3)], Koichi Kawakami[4)], Yoshihiro Egashira[2)], Yasuhiro Yamamoto[2)], Kohei Tanigushi[1)], Masaru Kawai[1)], Hideki Tomiyama[1)], Kazuhisa Uchiyama[1)], Fumihito Ono[2),]

[1]Department of General and Gastroenterological Surgery, Osaka Medical College, Japan, [2]Department of Physiology, Division of Life Sciences, Osaka Medical College, Japan, [3]Division of Integrative Physiology, Department of Physiology, Jichi Medical University, Japan, [4]Division of Molecular and Developmental Biology, National Institute of Genetics, Japan

2P–352 NHEJ and BER are Concurrently Engaged by APE1 in Oxidative DNA Damage Repair in Rat Cortical Neurons

Jenq-Lin Yang[1)], Shu-Fang Sun[1)], Yun-Ru Yang[1)], Shang-Der Chen[1,2)]

[1]Institute for Translational Research in Biomedicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan, [2]Department of Neurology, Kaoshiung Chang Gung Memorial Hospital

2P–353 Remote control of neuronal function using X-ray

Takanori Matsubara[1,2)], Shin-Ichiro Horigane[3,4)], Shuhei Ueda[3,4)], Sayaka Takemoto-Kimura[3,4,6)], Noriaki Kawaguchi[5)], Takayuki Yanagida[5)], Akihiro Yamanaka[1,2,7)], Takayuki Yamashita[1,2,6,7)]

[1]Department of Neuroscience II, Research Institute of Environmental Medicine, Nagoya University, Japan, [2]Department of Neural Regulation, Graduate School of Medicine, Nagoya University, Japan, [3]Department of Neuroscience I, Research Institute of Environmental Medicine, Nagoya University, Japan, [4]Department of Molecular Neuroscience, Graduate School of Medicine, Nagoya University, Japan, [5]Graduate School of Materials Science, Nara Institute of Science and Technology, Japan, [6]PRESTO, Japan Science and Technology Agency, Japan, [7]CREST, Japan Science and Technology Agency, Japan

2P–354 Development of lentiviral vectors for glutamatergic-selective gene expression in cultured neurons

Yoshihiro Egashira[1,2)], Yasunori Mori[2)], Yuchio Yanagawa[3)], Shigeo Takamori[2)]

[1]Department of Physiology, Osaka Medical College, Japan, [2]Graduate School of Brain Science, Doshisha University, [3]Graduate School of Medicine, Gunma University

2P–355 Effects of Cigarette Smoking on the motor nerve conduction study parameters among young adults

Rama Mohammed Baba Musa[1)], Lamis Kaddam[1)], Mustafa Abdelrahman [1)], Humeda Suekit [2)]

[1]Al-Neelain University faculty of Medicine, Sudan, [2]International University of Africa

2P–356 Dysregulated microRNA expression profiles in extracellular vesicles of schizophrenia

Kittima Lekmanee[1,2)], Woraphat Ratta-Apha[3)], Chanatip Metheetrairut[4)], Wittawin Worakitchanon[1,2)], Pholphat Losatiankij[5)], Natini Jinawath[6)], Witchuda Saengsawang[1,2)], Arthit Chairoungdua[1,2,7)]

[1]Department of Physiology, Faculty of Science, Mahidol University, Thailand, [2]Excellent Center for Drug Discovery (ECDD), Mahidol University, Thailand, [3]Department of Psychiatry, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand, [4]Department of Biochemistry, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand, [5]Somdet Chaopraya Institute of Psychiatry, Thailand, [6]Program in Translational Medicine, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand, [7]Toxicology Graduate Program, Faculty of Science, Mahidol University, Thailand

2P–357 Oral capsaicin sensitivity and preference for spicy food in Japanese medical students

Yoshihiro Murata[1)], Kiwamu Shibano[1)], Masahiro Yamaguchi[1)], Fumino Okutani[1,2)]

[1]Department of Physiology, Kochi Medical School, Japan, [2]Department of Occupational Health, Kochi Medical School, Japan

2P–358 Hypnotic and anti-inflammatory actions of bromovalerylurea

Haruna Takeda, Naoto Seo, Kohdai Fujita, Arisa Sato, Nanako Kihara, Me Choudhury, Hajime Yano, Junya Tanaka

Department of Molecular and Cellular Physiology, Graduate School of Medicine, Ehime University, Japan

2P–359 Memantine selectively ameliorates gait impairment to hyperalgesia in MPTP-injected mice

Ramesh Sharma[1,2)], Chiranjivi Neupane[1,2)]

[1]Department of medical sciences, Chungnam National University, Korea, [2]Department of BK21plus CNU Integrative Biomedical Education Initiative, Korea

2P–360 Physiologic process before rhythmic jaw movements after ketamine injections in guinea pigs

Takafumi Kato[1)], Yutaka Matsuura[1)], Hiroshi Yano[3)], Makoto Higashiyama[1)], Hiroki Toyoda[1)], Ayano Katagiri[1)], Hajime Sato[1)], Narikazu Uzawa[3)], Atsushi Yoshida[2)]

[1]Department of Oral Physiology, Osaka University Graduate School of Dentistry, Japan, [2]Department of Oral Anatomy and Neurobiology, Osaka University Graduate School of Dentistry, Japan, [3]Department of Oral & Maxillofacial Surgery II, Osaka University Graduate School of Dentistry, Japan

2P–361 Mitochondrial disease diagnosis by urinary tRNA modification analysis

Tetsuya Watanabe[1,2)], Kazuhito Tomizawa[1)], Fanyan Wei[1)], Yukio Ando[2)]

[1]Department of Molecular Physiology, Graduate School of Medical Sciences, Kumamoto University, Japan, [2]Department of Neurology, Graduate School of Medical Sciences, Kumamoto University

2P–362 Age-related changes in hemodynamics and their mechanisms in the orofacial area

Kohei Mito[1)], Toshiya Sato[1)], Hisayoshi Ishii[1)]

[1]Div. of Physiol., Dept. of Oral Biol., Sch. of Dent., Health Sci. Univ. of Hokkaido, Japan

2P–363 Proteomic analysis of the transport system in a connective tissue of the mammalian cochlea

Seishiro Sawamura[1)], Yoriko Nonomura[1,2)], Fumiaki Nin[1)], Arata Horii[2)], Sugata Takahashi[2)], Shushi Nagamori[3)], Yoshikatsu Kanai[4)], Hiroshi Hibino[1)]

[1]Department of Molecular Physiology, Niigata University School of Medicine, Japan, [2]Department of Otorhinolaryngology-Head and Neck Surgery, Niigata University School of Medicine, Japan, [3]Department of Collaborative Research for Bio-Molecular Dynamics, Nara Medical University, Japan, [4]Department of Pharmacology, Graduate School of Medicine, Osaka University, Japan

2P–364 Rodent posterior parietal cortex controls ipsilateral as well contralateral movement

Shogo Soma[1)], Junichi Yoshida[2)], Shigeki Kato[3)], Satoshi Nonomura[2)], Yae K Sugimura[4)], Alain Rios[2)], Masanori Kawabata[2)], Kazuto Kobayashi[3)], Fusao Kato[4)], Yutaka Sakai[2)], Yoshikazu Isomura[2)]

[1]Department of Anatomy and Neurobiology University of California, [2]Brain Science Institute, Tamagawa University, [3]Department of Molecular Genetics, Institute of Biomedical Sciences, Fukushima Medical University School of Medicine, [4]Department of Neuroscience, The Jikei University School of Medicine

2P–365 Development of a Low-cost, Comprehensive Recording System for Circadian Rhythm Behavior

Jea Kwon Kwon, Changjoon Justin Lee

Korea Institute of Science and Technology, Korea

★ **2P-366** (Y-21) Molecule REST interacts with brain 5-HT system in tilapia fish during social stress

Shingo Nakajima, Tomoko Soga, Ishwar S Parhar
Brain Research Institute Monash Sunway (BRIMS), School of Medicine and Health Sciences, Monash University Malaysia

★ **2P-367** (Y-22) Altered electrical responsiveness of CA1 pyramidal neurons in a *valproic acid rat model* of autism

Mona Rahdar, Razieh Hajisoltani, Shima Davoudi, Narges Hosseinmardi, Mahyar Janahmadi
Neuroscience Research Center and Dept. of Physiology, Medical School, Shahid Beheshti University of Medical Sciences, Iran

★ **2P-368** (Y-23) Lumbrokinase improves neurological deficit by preventing endoplasmic reticulum stress

Yi Hsin Wang[1)], Hsing Hui Su[2)], Jiuan Miaw Liao[3)], Shiang Suo Huang[4)]
[1]Institute of Medicine, Chung Shan Medical University, Taiwan, [2]Department and Institute of Pharmacology, School of Medicine, National Yang-Ming University, Taiwan, [3]Department of Physiology, Chung Shan Medical University and Chung Shan Medical University Hospital, Taiwan, [4]Department of Pharmacology and Institute of Medicine, Chung Shan Medical University, and Department of Pharmacy, Chung Shan Medical University Hospital, Taiwan

★ **2P-369** (Y-24) Oxytocin effects on nicotine aversion and anxiety in nicotine-exposed early adolescent rats

Minji Jang, Taesub Jung, Jihyun Noh
Department of Science education, University of Dankook, South Korea

★ **2P-370** (Y-25) Mesenchymal stem cell conditioned medium therapy modulates neuroinflammatory symptoms

Vida Nazemian, Jalal Zaringhalam
Physiology Department, Shahid Beheshti University of Medical Sciences

★ **2P-371** (Y-26) Depolarized subicular microcircuits mediate generalized seizure in temporal lobe epilepsy

Yi Wang, Cenglin Xu, Zhenghao Xu, Caihong Ji, Ying Wang, Shuang Wang, Xiaoming Li, Zhong Chen
School of Medicine, Zhejiang University, China

★ **2P-372** (Y-27) Mitochondrial fission inhibitor attenuates brain mitochondrial dysfunction in pre-diabetic rats

Siripong Palee[1,2)], Chayodom Maneechote[1,2,3)], Nattayaporn Apaijai[1,2)], Thidarat Jaiwongkam[1,2)], Sasiwan Kerdphoo[1,2)], Nipon Chattipakorn[1,2,3)], Siriporn C Chattipakorn[1,2,4)]
[1]Cardiac Electrophysiology Research and Training Center, Faculty of Medicine, Chiang Mai University, Thailand, [2]Center of Excellence in Cardiac Electrophysiology Research, Chiang Mai University, Thailand, [3]Cardiac Electrophysiology Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [4]Department of Oral Biology and Diagnostic Sciences, Faculty of Dentistry, Chiang Mai University, Thailand

2P-373 Effects of vagotomy and area postrema lesion on induction of emesis by emetine

Makoto Funahashi, Yoshiyuki Hirai, Mayu Fujita, Kazunari Hisadome, Hitoshi Maezawa
Oral Physiology, Department of Oral Functional Science, Faculty of Dental Medicine and Graduate School of Dental Medicine, Hokkaido University

2P–374 Kampo medicine Junchoto promotes intestinal Cl^-/water secretion by cAMP-dependent CFTR activation

Tomohiro Numata[1)], Kaori Sato-Numata[2)], Yasunobu Okada[3)], Ryuji Inoue[1)]

[1]Department of Physiology, Graduate School of Medical Sciences, Fukuoka University, Japan., [2]Japan Society for the Promotion of Science, Japan., [3]Department of Physiology and Systems Bioscience, Kyoto Prefectural University of Medicine, Japan

2P–375 CFTR function and *CFTR* mutations of cystic fibrosis in Japan

Yuka Kozawa[1)], Akiko Yamamoto[1)], Miyuki Nakakuki[1)], Kotoyo Fujiki[2)], Shiho Kondo[3)], Itsuka Taniguchi[1)], Satoru Naruse[4)], Hiroshi Ishiguro[1)]

[1]Department of Human Nutrition, Nagoya University Graduate School of Medicine, [2]Department of Nutritional Sciences, Nagoya University of Arts and Sciences, [3]Department of Food Science and Nutrition, Nagoya Women's University, [4]Miyoshi Municipal Hospital

2P–376 Characterization of the Most Frequent Cftr-Mutant Found in Japanese Cystic Fibrosis Patients

Yoshiro Sohma[1,2)], Kanako Wakabayashi-Nakao[1)], Yingchun Yu[2)], Miyuki Nakakuki[3)], Tzyh-Chang Hwang[2)], Hiroshi Ishiguro[3)]

[1]Department of Pharmaceutical Sciences, International University of Health and Welfare, Japan, [2]John M Dalton Cardiovascular Research Center, University of Missouri-Columbia, USA, [3]Department of Human Nutrition, Nagoya University Graduate School of Medicine, Japan

2P–377 Non-morphogenic function of Sonic Hedgehog as a negative regulator of gastric H^+,K^+-ATPase

Takuto Fujii, Siriporn Phutthatiraphap, Takahiro Shimizu, Hideki Sakai

Department of Pharmaceutical Physiology, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Japan

2P–378 Aldosterone action on epithelial Na^+ channel trafficking under the insulin-stimulated condition

Rie Marunaka[1)], Yoshinori Marunaka[1,2,3)]

[1]Department of Molecular Cellular Physiology, Kyoto Prefectural University of Medicine, [2]Research Institute for Clinical Physiology, Kyoto Industrial Health Association, [3]Research Center for Drug Discovery and Pharmaceutical Development Science, Research Organization of Science and Technology, Ritsumeikan University

2P–379 Loss of ezrin causes impaired proximal tubular solute reabsorption in the kidney

Ryo Hatano[1)], Mikiko Takayama[2)], Kotoku Kawaguchi[2)], Toru Kimura[3)], Toshiyuki Fukutomi[3)], Hiroyuki Sakurai[3)], Takashi Miki[1)], Shinji Asano[2)]

[1]Department of Medical Physiology, Chiba University Graduate School of Medicine, [2]Department of Molecular Physiology, College of Pharmaceutical Sciences, Ritsumeikan University, [3]Department of Pharmacology and Toxicology, Korin University School of Medicine

2P–380 Inhibition of prostaglandin E_2-induced Cl^- secretion by dihydropyrazole derivatives in rat colon

Hideki Sakai[1)], Nozomi Murata[1)], Kenji Sugimoto[2)], Yuka Miura[2)], Takahiro Shimizu[1)], Takuto Fujii[1)], Yuji Matsuya[2)]

[1]Department of Pharmaceutical Physiology, University of Toyama, Japan, [2]Department of Synthetic and Medicinal Chemistry, University of Toyama, Japan

2P-381 ZO family proteins regulate epithelial polarity independent of Tight Junction strand assembly

Tetsuhisa Otani[1,2)], Shinsaku Tokuda[3)], Mikio Furuse[1,2)]

[1]Division of Cell Structure, National Institute for Physiological Sciences, Japan, [2]Department of Physiological Sciences, School of Life Sciences, The Graduate School for Advanced Studies (SOKENDAI), Japan, [3]Division of Nephrology and Hypertension, Department of Internal Medicine, University of Kansas Medical Center, USA

2P-382 Establishment of a tight junction-deficient epithelial cell line by genome editing of claudin genes

Mikio Furuse[1)], Tetsuhisa Otani[1)], Daichi Sugawara[1)], Shinsaku Tokuda[2)], Mika Watanabe[1)], Kyoko Furuse[1)], Osamu Nagata[1)]

[1]Division of Cell Structure, National Institute for Physiological Sciences, Japan, [2]Kidney Institute, KUMC School of Medicine, USA

Epithelial Transport, Secretion & Absorption: G-I tract (2)

2P-383 Electrogenic K^+ secretion induced by butyrate in rat rectal colon

Akihiro Inagaki[1)], Mikio Hayashi[2)], Naaz Andharia[2)], Hiroko Matsuda[2)]

[1]Institute of Biomedical Sciences, Tokushima University Graduate School, Japan, [2]Department of Physiology, Kansai Medical University, Japan

2P-384 Dragon fruit oligosaccharide ingestion enhances mouse intestinal motility

Pissared Khuituan[1)], Sakena K-Da[1,2)], Kanrawee Bannob[1,2)], Fittree Hayeeawaema[1)], Santad Wichienchot[3)], Saranya Peerakietkhajorn[2)], Narattaphol Charoenphandhu[4)]

[1]Department of Physiology, Faculty of Science, Prince of Songkla University, Thailand, [2]Department of Biology, Faculty of Science, Prince of Songkla University, Thailand, [3]Interdisciplinary Graduate School of Nutraceutical and Functional Food, Prince of Songkla University, Thailand, [4]Department of Physiology, Faculty of Science, Mahidol University, Thailand

2P-386 The Effect of Fermented Milk and Soy for Controling Blood Glucose and Lipid Level on Rats

Lovita Adriani[1)], Ronny Lesmana[2)]

[1]Animal Husbandry Faculty, Padjadjaran University, Indonesia, [2]Departement of Basic Science, Faculty of Medicine, Padjadjaran University, Indonesia

2P-387 Effects of dragon fruit oligosaccharide on microbiota in proximal and distal colon of mouse

Saranya Peerakietkhajorn[1)], Nilobon Jeanmard[1)], Papatsorn Chuenpanitkit[1)], Sakena K-Da[1,2)], Kanrawee Bannop[1)], Pissared Khuituan[2)]

[1]Department of Biology, Faculty of Science, Prince of Songkla University, Thailand, [2]Department of Physiology, Faculty of Science, Prince of Songkla University, Thailand

2P-388 Daikenchuto ameliorates intestinal fibrosis by activating myofibroblast TRPA1 channel

Keizo Hiraishi[1)], Lin-Hai Kurahara[1)], Yaopeng Hu[1)], Kaori Koga[2)], Miki Onitsuka[2)], Ryuji Inoue[1)]

[1]Department of Physiology, School of Medicine, Fukuoka university, Japan, [2]Department of Pathology, School of Medicine, Fukuoka university, Japan

2P-389 The peripheral regulation of rectal visceral sensation by 5-HT_4-cAMP and NO-cGMP pathways

Kazumasa Matsumoto-Miyai[1)], Junichi Hashimoto[1)],
Eriko Okuyama-Shinzawa[2)], Masahito Kawatani[2)]
[1]Graduate School of Comprehensive Rehabilitation, Osaka Prefecture University, Japan, [2]Department of Neurophysiology, Akita University Graduate School of Medicine, Japan

2P–390 Calcium Oscillation Complexes in Colonic Musculatures of Mice

Shinsuke Nakayama[1)], Chiho Takai[1)], Takana Yamada[1)], Naoko Iwata[1)],
Kazunori Kanemaru[2,3)], Kenji Tanaka[4)], Masamitsu Iino[2,3)]
[1]Department of Cell Physiology, Nagoya University Graduate School of Medicine, [2]Department of Pharmacology, Graduate School of Medicine, The University of Tokyo, [3]Division of Cellular and Molecular Pharmacology, Nihon University School of Medicine, [4]Department of Neuropsychiatry, Keio University School of Medicine

2P–391 Chronic vomiting observed in captive common marmosets

Yumiko Yamazaki[1)], Shinpei Kawarai[2)], Hidetoshi Morita[3)],
Takefumi Kikusui[4)], Atsushi Iriki[1)]
[1]Laboratory for Symbolic Cognitive Development, RIKEN Center for Biosystems Dynamics Research, [2]Laboratory of Small Animal Clinics, Veterinary Teaching Hospital, Azabu University, [3]Graduate School of Environmental and Life Science, Okayama University, [4]Companion Animal Research, School of Veterinary Medicine, Azabu University

2P–392 *Clostridium difficile* disrupts epithelial barrier function by altering tight junction proteins

Pei-Jane Tsai, Tai-Chieh Wu, Yi-Hsin Lai
Department of Medical Laboratory Science and Biotechnology, University of National Cheng-Kung University

2P–393 Characterization of physiological function of IBD-associated gene LRRK2 in mouse intestine

Yuta Ishikawa, Fumitaka Kawakami, Rei Kawashima, Tatsunori Maekawa, Fumitaka Ichikawa
Department of regulation Biochemistry, Graduate School of Medical Sciences, Kitasato University

2P–394 Analysis of the effect of high-fat diet on intestinal barrier using mouse colitis model

Mayuka Yamashita, Fumitaka Kawakami, Rei Kawashima,
Tatsunori Maekawa, Fumitaka Ichikawa
Department of Regulation Biochemistry, Graduate School of Medical Sciences, Kitasato University

Epithelial Transport, Secretion & Absorption: Renal Physiology (2)

★ **2P–395** (Y-28) Protective effects of dapagliflozin and atorvastatin on renal function in insulin-resistant rats

Laongdao Thongnak, Myat Theingi Swe, Krit Jaikumkao,
Anchalee Pongchaidecha, Anusorn Lungkaphin
Epithelial Transport and Intracellular Signaling Regulation Unit, Department of Physiology, Chiang Mai University, Thailand

2P–396 Protective Effects of Agomelatine on Inflammation in Obesity-Induced Kidney Injury

Sasivimon Promsan, Rada Chenwelling, Anchalee Pongchaidecha,
Anusorn Lungkaphin
Epithelial Transport and Intracellular Signaling Regulation Unit, Chiang Mai University, Thailand

★ **2P-397** (Y-29) Melatonin activates sirtuin 3 to protect the kidney from long-term consequences of bisphenol A

Anongporn Kobroob[1)], Wachirasek Peerapanyasut[2)], Sirinart Kumfu[3)], Nipon Chattipakorn[3)], Orawan Wongmekiat[2)]

[1]Division of Physiology, School of Medical Sciences, University of Phayao, Thailand, [2]Renal Physiology Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [3]Cardiac Electrophysiology Research and Training Center, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand

2P-398 Effects of chronic renal failure on cognitive function and neurogenesis in rats

Rina Murata Murata, Masanori Katakura, Haruka Matsuzawa

Department of Pharmaceutical Sciences, University of Josai, Japan

2P-399 The application of predictive equation on estimation sodium intake in Hong Kong young adults

Ka Tik Cheung, Samuel Sze Ming Wong

School of Medical and Health Sciences, Tung Wha College, Hong Kong

Molecular & Cellular Biology: Channels & Transporters (2)

2P-400 Withdrawn

2P-401 Inhibitory effect of a novel less-odorous TRPA1 antagonist

Masayuki Takaishi[1)], Yutaro Koide[1)], Maki Sawada[1)], Yoshiro Suzuki[2,3)], Fumitaka Fujita[1)], Makoto Tominaga[2,3)]

[1]Mandom Corp., Japan, [2]National Institute for Physiological Sciences (Exploratory Research Center on Life and Living Systems), National Institutes of Natural Sciences, Japan, [3]Department of Physiological Sciences, SOKENDAI, (The Graduate University for Advanced Studies), Japan

2P-402 Regulation of the leak channel NALCN by H_2O_2

Hyunsu Kang[1)], Jong-Sun Kang[2)], Hana Cho[1)]

[1]Department of Physiology, Single Cell Network Research Center, Sungkyunkwan University School of Medicine, South Korea, [2]Department of Molecular Cell Biology, Single Cell Network Research Center, Sungkyunkwan University School of Medicine, South Korea

2P-403 Regulation of reactive oxygen species and calcium by chloride intracellular channel 1 in A549 cells

Jongyoon Lee[1)], Jaerin Lee[2)], Myongjoon Hahn[2)], Jongsun Kang[2)], Hana Cho[1)]

[1]Department of Physiology, University of Sungkyunkwan, School of Medicine, South Korea, [2]Department of Molecular Cell Biology, Single Cell Network Research Center, University of Sungkyunkwan, School of Medicine, South Korea

2P-404 Ferulic acid enhanced L-type Ca^{2+} channel function in rat insulinoma cell line

Katesirin Ruamyod, Wattana B Watanapa, Pimchanok Nambandit, Sukrit Treewaree, Parin Wongsanupa

Department of Physiology, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand

2P-405 High Glucose-Induced Alterations in Ion Channel and Vascular Functions in Human Umbilical Vein

Aung Hein Nyan[1,2)], Wattana B Watanapa[2)], Suwattanee Kooptiwut[2)], Pinpat Tripatara[3)]
[1]Defence Services Medical Research Center, Myanmar, [2]Department of Physiology, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand, [3]Department of Pharmacology, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand

2P–406 Mechanism of ginsenoside Re effect on SK_{Ca} current in human coronary artery endothelial cell

Kitinat Rodthongdee, Luecha Boontaveekul, Wattana B Watanapa
Department of Physiology, Faculty of Medicine Siriraj Hospital, Mahidol University, Thailand

2P–407 Gq-mediated activation of non-selective cation channels in insulin releasing b-cells

Dezaki Katsuya[1)], Masashi Yoshida[2)], Toshihiko Yada[1)]
[1]Department of Physiology, Jichi Medical University, Japan, [2]Saitama Medical Center, Jichi Medical University, Japan

2P–408 Polyamine-mediated inward rectification of TRPC4 channel

Jinsung Kim, Insuk So
Department of Physiology, Seoul National University, Korea

2P–409 Effect of STIM1 knockdown on calcium response in bovine ciliary myocytes

Miyazu Motoi, Kosuke Takeya, Toshiyuki Kaneko, Akira Takai
Dept Physiol, Asahikawa Med, Univ., Japan

2P–410 TRPM4 channel is involved in cellular damage caused by simulated ischemia-reperfusion injury

Chen Wang, Heng Wei
Department of Cardiovascular Physiology,University of Okayama,Japan

2P–411 Molecular property changes of endoplasmic reticulum IK_{Ca} channels in early diabetic hepatocytes

Maedeh Ghasemi[1)], Afsaneh Eliassi[2,3)]
[1]Department of Physiology, School of Medicine, Isfahan University of Medical Sciences, Iran, [2]Department of Physiology, School of Medicine, Shahid Beheshti University of Medical Sciences, Iran, [3]Neurosphysiology research centre, School of Medicine, Shahid Beheshti University of Medical Sciences, Iran

2P–412 TRPM2 channel-Stat3 complex regulates the polarity of tumor-associated macrophage

Yuji Yamada, Yoshifumi Ueda, Ryuhei Kurogi, Yoshiaki Hasegawa, Tarek Mohamed Abd El-Aziz, Masayuki x Mori, Yasuo Mori
Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University, Japan

2P–413 Regulation of neuronal excitability by Trim69 E3 ubiquitin ligase

Chankyo Kim[1)], Seul-Yi Lee[1)], Hyeon-Ju Jeong[2)], Hyun-Kyung So[2)], Yoo-Bin Kim[1)], Jae-Rin Lee[2)], Myong-Joon Hahn[2)], Jong-Sun Kang[2)], Hana Cho[1)]
[1]Department of Physiology, Single Cell Network Resarch Center, Sungkyunkwan University School of Medicine, Korea, [2]Department of Molecular Cell Biology, Single Cell Network Resarch Center, Sungkyunkwan University School of Medicine, Korea

2P–414 Activation of TRPM6 current by 2-aminoethyldiphenyl borate is impaired by hydrogen peroxide

Ryo Mizumoto[1)], Dai Masui[2)], Hana Inoue[1)], Masato Konishi[1)]

[1]Department of Physiology, Tokyo Medical University, Japan, [2]Department of Chemistry, Tokyo Medical University, Japan

2P–415 Structure-based virtual screening for G protein-gated inwardly rectifying K^+ (GIRK) channel blockers

Atsushi Inanobe, Yoshihisa Kurachi
Department of Pharmacology, Osaka University Graduate School of Medicine, Japan

2P–416 A novel variant of TRPV3 p.A628T in East Asians showing fast sensitization by chemical agonists

Choi Si Won[1,3)], Seong Woo Choi[7,8)], Jeesoo Chae[2,5,6)], Jong-Il Kim[2,5,6)], Sung Joon Kim[1,3,4)]
[1]Department of Physiology Seoul National University College of Medicine, [2]Department of Biochemistry and Molecular Biology Seoul National University College of Medicine, [3]Department of Biomedical Sciences Seoul National University College of Medicine, [4]Ischemic/Hypoxic Disease Institute Seoul National University College of Medicine, [5]Genomic Medicine Institute Seoul National University College of Medicine, [6]Cancer Research Institute Seoul National University College of Medicine, [7]Department of Stem Cell Biology Konkuk University School of Medicine, [8]Konkuk University School of Medicine, Republic of Korea

2P–417 Structure analysis of the binding between Cav1.2 channel and calmodulin

Masaki Kameyama, Etsuko Minobe, Jianjun Xu, Qinghua Gao
Kagoshima University, Japan

2P–418 Voltage-clamp fluorometry analyses of voltage-dependent gating of ATP receptor channel P2X2

Andriani Tsari Rizki[1,2)], Yoshihiro Kubo[1,2)]
[1]Div Biophys and Neurobiol, Natl Inst Physiol Sci, Japan, [2]Dept Physiol Sci, SOKENDAI, Japan

2P–419 Functional Coupling of Metabolic Sensors, TRPM2 and Sirtuin

Makiko Kashio[1)], Makoto Tominaga[2,3,4)], Satoru Masubuchi[1)]
[1]Aichi Med Univ, Japan, [2]ExCELLS, NIPS, [3]SOKENDAI, [4]Juntendo Univ

2P–420 Examination of the contribution of SLCO2A1 to maxi-anion channel currents in murine cells

Toshiaki Okada[1)], Yasunobu Okada[1,2)]
[1]Division of Cell Signaling, National Institute for Physiological Sciences, Japan, [2]Dept. Physiol., Kyoto Pref. Univ. Med., Japan

★★2P–421 (Y-30) Protein arginine methyltransferase 1-dependent regulation of slow delayed rectifier K^+ current

Hyun-Ji Kim[1,3)], Bok-Geon Kim[2,3)], Chang-Seok Ki[4)], Jong-Sun Kang[2,3)], Hana Cho[1,3)]
[1]Department of Physiology, University of Sungkyunkwan, Korea, [2]Department of Molecular and Cellular Biology, Sungkyunkwan University School of Medicin, Republic of Korea, [3]Single Cell Network Research Center, Sungkyunkwan University School of Medicine, Republic of Korea, [4]Department of Laboratory Medicine and Genetics, Samsung Medical Center, Sunkyunkwan University School of Medicine, Republic of Korea

2P–422 Effects of chemical chaperone on surface expression of PHHI mutant K_{ATP} channel (SUR1/A28VKir6.2)

Chen Pei-Chun[1,2)], Yu-Chi Lin[1)], Yen-Yu Yang[3)], Shi-Bing Yang[3)]
[1]Department of Physiology, National Cheng Kung University, Taiwan, [2]Graduate Institute of Basic Medicine, [3]Institute of Biomedical Sciences, Academia Sinica, Taiwan

2P–423 Effects of antihistamine drugs on G-protein-gated inwardly rectifying K^+ channels

Chang Liu[1,2)], I-Shan Chen[1,2)], Yoshihiro Kubo[1,2)]

[1]Division Biophysics and Neurobiology, Department of Molecular and Cellular Physiology, National Institute for Physiological Sciences, Japan, [2]Department of Physiological Sciences, School of Life Science, SOKENDAI, Japan

2P–424 Measurements of water flux across a lipid bilayer membrane with evaluation of unstirred water layer

Keita Yano, Masayuki Iwamoto, Shigetoshi Oiki

Department of Molecular Physiology & Biophysics, University of Fukui Faculty of Medical Sciences, Japan

2P–425 *in bulla* channel synthesis and functional expression system under applied membrane potentials

Masayuki Iwamoto, Shigetoshi Oiki

Department of Molecular Physiology and Biophysics, University of Fukui, Japan

2P–426 Regulation of TRPV1 and TRPA1 function by free fatty acid receptor

Pyo Hyun-Jeong[1)], Myong-Ho Jeong[2)], Tong Mook Kang[1)], Jong-Sun Kang[2)], Hana Cho[1)]

[1]Department of Physiology, Single Cell Network Research Center, Sungkyunkwan University School of Medicine, Korea, [2]Department of Molecular Cell Biology, Single Cell Network Research Center, Sungkyunkwan University School of Medicine, Korea

2P–427 Cav1.2 channel inactivation induced by two molecules of calmodulin

Etsuko Minobe[1)], Masayuki X Mori[2)], Masaki Kameyama[1)]

[1]Department of Physiology, Kagoshima University, Japan, [2]Laboratoty of Molecular Biology, Department of Synthetic Chemistry and Biological Chemistry, Kyoto University, Japan

2P–428 Dipole Potential Evaluated by Hydrophobic Ions using the Contact Bubble Bilayer Method

Yuka Matsuki[1,2)], Masayuki Iwamoto[2)], Mariko Yamatake[2)], Shigetoshi Oiki[2)]

[1]Department of Anesthesiology & Reanimatology, University of Fukui, Faculty of Medicine Sciences, Japan, [2]Departments of Molecular Physiology and Biophysics, Faculty of Medicine Sciences, The University of Fukui, Japan

★★2P–429 (Y-31) TTYH family encodes the pore-forming subunits of the volume-regulated anion channel in the brain

Han Youne-Eun[1,2,3)], Jea Kwon[1,2,4)], Joungha Won[1,2,5)], Heeyoung An[1,2,4)], Minwoo Wendy Jang[1,2,4)], Junsung Woo[1,2)], Je Sun Lee[6)], Min Gu Park[1,2,4)], Soo-Jin Oh[1,2,7)], Changjoon Justin Lee[1,2,3),]

[1]Center for Neural Science and Functional Connectomics, Korea Institute of Science and Technology (KIST), Korea, [2]Center for Glia-Neuron Interaction, Korea Institute of Science and Technology (KIST), Republic of Korea, [3]Department of Neuroscience, Division of Bio-Medical Science & Technology, KIST School, Korea University of Science and Technology, Republic of Korea, [4]KU-KIST, Graduate School of Converging Science and Technology, Korea University, Republic of Korea, [5]Department of Biological Sciences, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea, [6]Molecular Neurobiology Laboratory, Dept. of Structure and Function of Neural Network, Korea Brain Research Institute, Republic of Korea, [7]Convergence Research Center for Diagnosis, Treatment and Care System of Dementia, Korea Institute of Science and Technology (KIST), Republic of Korea

★ **2P–430** (Y-32)
The Arginine in the side portal determines the physiological $[pH]_o$ sensing of TALK1

Tsai Wen-Hao[1,2)], Shi-Bing Yang[1)]
[1]Institute of Biomedical Science, Academia Sinica, Taiwan , [2] Taiwan International Graduate Program-Molecular Medicine, National Yang-Ming University Taiwan

2P–431
Down-regulation of $K_{Ca}3.1$ K^+ channels by the treatment with VDR agonists in mouse pre-osteoblasts

Hiroaki Kito[1)], Haruka Morihiro[2)], Susumu Ohya[1)]
[1]Department of Pharmacology, Graduate School of Medical Sciences, Nagoya City University, Japan, [2]Department of Pharmacology, Division of Phathological Sciences, Kyoto Pharmaceutical University

DAY 3

Molecular & Cellular Biology: Cellular Physiology (2)

2P–432
Cell imaging with magnetic particle with on a diamond sensor

Yoshie Harada[1)], Takeharu Sekiguchi[1,2)], Takayuki Iwasaki[3)], Mutsuko Hatano[3)], Yuji Hatano[1)]
[1]Institute for Protein Research, Osaka University, Japan, [2]Graduate School of Science and Technology, Keio University, [3]School of Engineering, Tokyo Institute of Technology

2P–433
A novel mechanism responsible for the intracellular zinc-sensing

Zhelong Xu, Huanhuan Zhao, Liang Zhao
Department of Physiology and Pathophysiology, Tianjin Medical University, China

2P–434
TRPA1 receptors mediate the hypoxia-induced surfacing response of goldfish

Masanori Kasai, Aika Kawabata, Rina Nakashima, Takuya Iwao, Yuya Horinouchi, Mitsuhiro Kimura, Yukiko Yokogawa
Chemistry and BioScience Course, Research Field in Science, Science and Engineering Area,Research and Education Assembly, Kagoshima University, Japan

2P–435
MicroRNAs in mouse salivary glands as a putative Bio-Marker of stress-dependent diseases

Kinji Kurihara
Department of Physiology, Meikai University, School of Dentistry, Japan

★★**2P–436** (Y-33)
Circadian gene Clock post-transcriptionally regulates mitochondrial morphology and functions

Lirong Xu[1)], Qianyun Cheng[1)], Bingxuan Hua[3)], Tingting Cai[1)], Jiaxin Lin[1)], Gongsheng Yuan[1)], Zuoqin Yan[3)], Xiaobo Li[1)], Ning Sun[1)], Chao Lu[1,2)], Ruizhe Qian[1,2)]
[1]Department of Physiology and Pathophysiology, School of Basic Medical Sciences, Fudan University, China , [2]Basic Research Institute for Aging and Medicine, School of Basic Medical Sciences, Fudan University, China, [3]Department of Orthopedics, Zhongshan Hospital, Fudan University,China

2P–437
Improvement of genetically encoded probe to measure Ca^{2+} dynamics in subcellular compartments

Naoya Murooka, Takashi Kikuchi, Hideki Shirakawa
Department of Engineering Science, The University of Electro-Communications, Japan

2P–438
Method to Record Single-Molecule Fluctuations and Conformational Changes in Proteins

Hirofumi Shimizu[1)], Masayuki Iwamoto[1)], Kentaro Kajiwara[2)],

Yoshikazu Hirai[3)], Osamu Tabata[3)]
[1]Department of Molecular Physiology and Biophysics, University of Fukui, Japan, [2]SPring-8/JASRI, [3]Department of Micro Engineering, Kyoto University

2P–439 Development of a photo-activatable CaMKII and its application to the study of synaptic plasticity

Akihiro Shibata, Hideji Murakoshi
National Institute for Physiological Sciences , Japan

2P–440 Truncated dystrophin ameliorates the dystrophic phenotype by sarcolipin-mediated SERCA inhibition

Jun Tanihata[1,2)], Tetsuya Nagata[2)], Naoki Ito[2)], Takashi Saito[2)], Akinori Nakamura[3)], Susumu Minamisawa[1)], Yoshitsugu Aoki[2)], Urs Ruegg[4)], Shin'Ichi Takeda[2)]
[1]Department of Cell Physiology, The Jikei University School of Medicine, Japan, [2]Department of Molecular Therapy, National Institute of Neuroscience, National Center of Neurology and Psychiatry (NCNP), Japan, [3]Third Department of Internal Medicine, Shinshu University School of Medicine, Japan., [4]Pharmacology, Geneva-Lausanne School of Pharmaceutical Sciences, University of Geneva, Switzerland

2P–441 Flonicamid affects insect proprioception and feeding through 5-HT$_7$ receptors

Fen Mao, Yixiang Qi, Gongyin Ye, Jia Huang
Institute of insect science, University of Zhejiang, China

2P–442 Analysis of electrically-modulated molecules that enhance bone marrow stromal cell proliferation

Jun Ichikawa, Ryuji Inoue
Department of Physiology, Fukuoka University School of Medicine, Japan

2P–443 Involvement of VNUT-exocytosis in TRPV4 ion channel-dependent ATP release from colonic epithelium

Hiroshi Mihara[1,2)], Kunitoshi Uchida[3)], Schuichi Koizumi[4)], Yoshinori Moriyama[5)]
[1]Center for Medical Education and Career Development, University of Toyama, Japan, [2]Department of Gastroenterology, University of Toyama, Japan, [3]Department of Physiological Science and Molecular Biology, Fukuoka Dental College, Japan , [4]Department of Neuropharmacology, University of Yamanashi, Japan, [5]Department of Membrane Biochemistry, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Japan

2P–444 Essential role of Ca^{2+} and pH for in vitro cornification in isolated mouse stratum granulosum cells

Takeshi Matsui[1)], Masayuki Amagai[1,2)]
[1]Laboratory for Skin Homeostasis, RIKEN Center for Integrative Medical Sciences, Japan, [2]Department of Dermatology, Keio University School of Medicine

2P–445 CTLA4-Ig suppressed intracellular calcium oscillation and inhibited murine osteoclast formation

Hiroyuki Okada[1)], Hiroshi Kajiya[2)], Yasunori Omata[1)], Jun Hirose[1)], Takumi Matsumoto[1)], Koji Okabe[2)], Takeshi Miyamoto[3)], Sakae Tanaka[1)]
[1]Department of Orthopaedic Surgery, the University of Tokyo, Japan, [2]Department of Physiological Science and Molecular Biology, Fukuoka Dental College, [3]Department of Orthopaedic Surgery, Keio University School of Medicine

2P–446 Metabotropic glutamate receptor mGlu2 regulates signaling via Gq-coupled serotonergic receptor

Michihiro Tateyama[1,2], Yoshihiro Kubo[1,2]
[1]Division of Biophysics and Neurobiology, Department of Molecular and Cellular Physiology, National Institute for Physiological Sciences, Japan, [2]Department of Physiological Sciences, SOKENDAI, Japan

2P–447 Altered expression of taste signaling elements in jejunal tissue of obese patients

Toshiaki Yasuo[1,2], Peihua Jiang[2], Craig Wood[3], Xin Chu[3], Peter Benotti[3], Christopher Still[3], David DK Rolston[3], Robert F Margolskee[2], Yuzo Ninomiya[2,4]
[1]Department of Oral Physiology, Asahi University School of Dentistry, Japan, [2]Monell Chemical Senses Center, USA, [3]Geisinger Medical Center, USA, [4]Research and Development Center for Taste and Odor Sensing, Kyushu University, Japan

2P–448 The intracellular C-terminal domain is responsible for cell surface expression of mGluR6

Dilip Rai, Takumi Akagi, Atsushi Shimohata, Ikuo Ogiwara, Makoto Kaneda
Department of Physiology I, Nippon Medical School, Japan

2P–449 Effects of PCSK9 inhibitor and atorvastatin on mitochondria of red muscle fibers in obesity

Chanisa Thonusin[1,2,3], Siripong Palee[1,2], Wasana Pratchayasakul[1,2,3], Patchareeya Amput[1,2], Sasiwan Kerdpoo[1,2], Thidarat Jaiwongkam[1,2], Nattayaporn Apaijai[1,2], Siriporn C Chattipakorn[1,2,4], Nipon Chattipakorn[1,2,3]
[1]Cardiac Electrophysiology Research and Training Center, Chiang Mai University, Thailand, [2]Center of Excellence in Cardiac Electrophysiology Research, Chiang Mai University, Thailand, [3]Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [4]Department of Oral Biology and Diagnostic Sciences, Faculty of Dentistry, Chiang Mai University, Thailand

2P–450 Intracellular calcium responses to mechanical stimulation in mouse and human synoviocytes

Keiji Asada[1,2], Yu Okumura[2,3], Miyako Takaki[2]
[1]Department of Physical Therapy, Faculty of Medical Science, Suzuka University of Medical Science, Japan, [2]Department of Orthopaedic Surgery, Nara Medical University, Japan, [3]Department of Physical Therapy, Faculty of Human Science, Osaka University of Human Science, Japan

2P–451 Global analysis of specific gene expression in thymus gland of AQP11 null mice

Yasuko Tanaka, Yumi Tsuji, Natsumi Kato, Minori Nakae, Haruka Okada, Kei Masaka, Kenichi Ishibashi
Department of Medical Physiology, Japan

2P–452 Different expression of Olig2 and O4 in cultured mouse brain cells

Hiromi Hiruma
Department of Physiology, Kitasato University School of Medicine, Japan

2P–453 L6H21 reduces EtOH-LPS-induced liver injury through inhibition of NLRP3 inflammasome activation

Kong Xiaoxia[1], Guicheng Wu[2,4], Fengyuan Li[4], Hongyu Zhang[3], Wenke Feng[4]
[1]Institute of Hypoxia Research, Wenzhou Medical University, China, [2]Department of Hepatology, Three Gorges Central Hospita, China, [3]School of Pharmaceutical Sciences, Wenzhou Medical University, China, [4]Departments of Pharmacology & Toxicology and Medicine, Alcohol Research Center, Hepatobiology & Toxicology Program, University of Louisville, USA

2P-454 MitoQ protects endothelial barrier injury and inflammation by inhibiting ROS and autophagy in HUVECs

Chen Sha[1)], Yu Wang[1)], Hailin Zhang[2)], Ran Chen[1)], Li Yang[3)]

[1]School of Basic Medical Sciences, Institute of Hypoxia Research, Wenzhou Medical University, China, [2]Department of Children's Respiration, The Second Affiliated Hospital & Yuying Children's Hospital, Wenzhou Medical University, China, [3]Department of Respiratory Medicine, The First Affiliated Hospital of Wenzhou Medical University, China

2P-455 MR-1 promotes cardiomyogenic differnentiation of H9c2 cells via the myogenin-mediated pathway

Wang Xiaoreng, Dandan Song, Tianqi Tao, Xiuhua Liu

Department of Pathophysiology,301 hospital, China

2P-456 Nardilysin in hepatocyte regulates adaptive thermogenesis in brown adipose tissue

Eiichiro Nishi[1)], Hirotaka Iwasaki[1)], Kiyoto Nishi[3)], Mikiko Ohno[1)], Shintaro Matsuda[2)]

[1]Department of Pharmacology, Shiga University of Medical Science, Japan, [2]Department of Cardiovascular Medicine, Graduate School of Medicine, Kyoto University, [3]Department of Anesthesiology & Pain Medicine University of Washington

2P-457 Structure Development of Oxolinic Acid, a Novel Inhibitor of Type 1 Ryanodine Receptor

Yoshiaki Nishijima[1)], Takashi Murayama[1)], Shuichi Mori[2)], Hiroto Iinuma[2)], Noriaki Manaka[2)], Nagomi Kurebayashi[1)], Mari Ishigami-Yuasa[2)], Hiroyuki Kagechika[2)], Takashi Sakurai[1)]

[1]Department of Pharmacology, Juntendo University School of Medicine, Japan, [2]Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, Japan

2P-458 Ribosome binding protein GCN1L1 controls cell cycle and is essential for embryonic development

Hiromi Yamazaki, Shuya Kasai, Junsei Mimura, Peng Ye, Atsushi Inose Maruyama, Ken Itoh

Department of Stress Response Science, Hirosaki University Graduate School of Medicine, Japan

2P-459 Malignancy of cancer cell lines correlates with NKCC1 expression and intracellular Cl^- concentration

Hiroaki Miyazaki

Department of Life Science, Setsunan University, Japan

2P-460 Structure of bound water in myofibril suspension: A role of ATP

Tetsuo Ohno

Department Molecular Physiology, The Jikei University School of Medicine, Japan

2P-461 mTORC2 signaling is critical for lysosomal activation by isorhamnetin treatment in J774.1

Maiko Sakai[1)], Kohta Ohnishi[1)], Teppei Fukuda[1)], Masashi Masuda[1)], Naomi Abe-Kanoh[2)], Hisami Yamanaka-Okumura[1)], Yoshichika Kawai[3)], Yutaka Taketani[1)]

[1]Department of Clinical Food Management, Graduate School of Biomedical Sciences, Tokushima University, Japan, [2]Department of Public Health and Applied Nutrition, Graduate School of Biomedical Sciences, Tokushima University, Japan, [3]Department of Food Science, Graduate School of Biomedical Sciences, Tokushima University, Japan

2P–462 Novel RyR1 Inhibitors Identified by High-Throughput Screening Using ER Ca^{2+} Measurement

Hiroyuki Matsukawa[1)], Takashi Murayama[1)], Takuya Kobayashi[1)], Nagomi Kurebayashi[1)], Mari Ishigami-Yuasa[2)], Shuichi Mori[2)], Hiroyuki Kagechika[2)], Takashi Sakurai[1)]

[1]Department of Pharmacology, Juntendo University School of Medicine, Japan, [2]Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, Japan

2P–463 Regulation of cell cycle by N^6-methyladenosine modification in cancer cells

Mayumi Hirayama[1,2)], Fanyan Wei[1)], Hideki Nakayama[2)], Kazuhito Tomizawa[1)]

[1]Department of Molecular Physiology, Faculty of Life Sciences, Kumamoto University, Japan, [2]Department of Oral and Maxillofacial Surgery, Faculty of Life Sciences, Kumamoto University, Japan

2P–465 Inhibition of the frequency of airway ciliary beating by PDE1 activation in Down syndrome mouse

Haruka Kogiso[1,2)], Yukiko Ikeuchi[1,2)], Saori Tanaka[3)], Shigekuni Hosogi[1)], Chikao Shimamoto[3)], Matthieu Raveau[4)], Kazuhiro Yamakawa[4)], Takashi Nakahari[5)], Shinji Asano[2)], Yoshinori Marunaka[1,5,6),]

[1]Department of Molecular Cell Physiology, Graduate School of Medical Science, Kyoto Prefectural University of Medicine, Japan, [2]Department of Molecular Physiology, College of Pharmaceutical Sciences, Ritsumeikan University, Japan, [3]Laboratory of Pharmacotherapy, Osaka University of Pharmaceutical Sciences, Japan, [4]Laboratory for Neurogenetics, RIKEN, Brain Science Institute, Japan, [5]Research Center for Drug Discovery and Pharmaceutical Development Science, Research Organization of Science and Technology, BKC, Ritsumeikan University, Japan, [6]Research Institute for Clinical Physiology, Kyoto Industrial Health Association, Japan

2P–466 Microscale liquid layer on the olfacrory receptors affects on the vapor chemical detection

Koji Sato

Biofunctional Systems Construction Research Group, Exploratory Research Center on Life and Living Systems, Japan

2P–467 Differential effects of Fe^{2+} and Fe^{3+} on the proliferation and differentiation of osteoblasts

Ketsaraporn Nammultriputtar[1,2)], Kornkamon - Lertsuwan[1,3)], Narattaphol Charoenphandhu[1,2,4,5)]

[1]Center of Calcium and Bone Research (COCAB), Faculty of Science, Mahidol University, Thailand, [2]Department of Physiology, Faculty of Science, Mahidol University, Thailand, [3]Department of Biochemistry, Faculty of Science, Mahidol University, Thailand, [4]Institute of Molecular Biosciences, Mahidol University, Thailand, [5]The Academy of Science, The Royal Society of Thailand, Thailand

2P–468 Synergistic effect of histone deacetylase inhibitors in intravesical instillation of bladder cancer

Wen-Wei Sung[1,2,3)], Chia-Ying Yu[2)], Jr-Rou Sun[2)], Shao-Chuan Wang[1,2,3)], Wen-Jung Chen[1,2,3)], Tzuo-Yi Hsieh[1,2,3)], Sung-Lang Chen[1,2,3)]

[1]Department of Urology, Chung Shan Medical University Hospital, Taiwan, [2]School of Medicine, Chung Shan Medical University, Taiwan, [3]Institute of Medicine, Chung Shan Medical University, Taiwan

2P–469 Neferine selectively alters LPS-induced inflammatory responses in RAW 264.7 macrophages

Amnart Onsa-Ard[1)], Jiraporn Tocharus[2)], Chainarong Tocharus[3)], Apichart Suksamrarn[4)]

[1]Division of Biochemistry, Faculty of Medical Sciences, University of Phayao, Thailand., [2]Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [3]Department of Anatomy, Faculty of Medicine, Chiang Mai University, Thailand., [4]Department of Chemistry and Center of Excellence for Innovation in Chemistry, Faculty of Science, Ramkhamhaeng University, Thailand

2P–470 The influence of KATP channel abnormality on calcium handling of endoplasmic reticulum

Hiroki Takanari

Tokushima University Hospital, Japan

2P–471 Dinaciclib inhibits Aurora A expression and proliferation of prostate cancer cells

Ho Lin[1)], Ting-Chieh Chang[1)], Chang-Tze Ricky Yu[3)], Chun-Chi Wu[2)], Mei-Chih Chen[4,5)]

[1]Department of Life Sciences, National Chung Hsing University, Taiwan, [2]Institute of Medicine, Chung-Shan Medical University, Taiwan, [3]Department of Applied Chemistry, National Chi Nan University, Taiwan, [4]Medical Research Center for Exosomes and Mitochondria Related Diseases, China Medical University Hospital, Taiwan, [5]Department of Nursing, Asia University, Taiwan

2P–472 Dose-response relationship of free radical scavenging activity of dexmedetomidine

Osamu Tokumaru[1)], Kota Yoshida[2)], Kazue Ogata[3)], Hiroki Takanari[4)], Shigekiyo Matsumoto[3)], Takaaki Kitano[3)]

[1]Faculty of Welfare and Health Sciences, Oita University, Japan, [2]School of Medicine, Oita University Faculty of Medicine, [3]Department of Anesthesiology, Oita University Faculty of Medicine, [4]Clinical Research Center for Diabetes, Tokushima University Hospital

2P–473 Airway ciliary beating activated by enhanced Ca^{2+} signal in Hochu-ekki-to (TJ-41) treated mice

Yukiko Ikeuchi[1,2)], Haruka Kogiso[1,2)], Saori Tanaka[4)], Shigekuni Hosogi[1)], Takashi Nakahari[3)], Shinji Asano[2)], Yoshinori Marunaka[1,3,5)]

[1]Department of Molecular Cell Physiology, Graduate School of Medical Science, Kyoto Prefectural University of Medicine, Japan, [2]Department of Molecular Physiology, College of Pharmaceutical Sciences, Ritsumeikan University, Japan, [3]Research Center for Drug Discovery and Pharmaceutical Development Science, Research Organization of Science and Technology, BKC, Ritsumeikan Universuty, Japan, [4]Laboratory of Pharmacotherapy, Osaka University of Pharmaceutical Sciences, Japan, [5]Research Institute for Clinical Physiology, Kyoto Industrial Health Association, Japan

2P–474 Influence of TRPC knockout on mouse pupillary sphincter

Toshiyuki Kaneko, Akira Takai

Department of Physiology, Asahikawa Medical University, Japan

2P–475 The inhibitory effects of microRNA-107 on p35/CDK5-regulated prostate cancer cell growth

Fang-Ling Liu[1)], Wei-Hsiang Kao[1)], Hsin-Yi Wang[2)], Mei-Chih Chen[3,4)], Ho Lin[1)]

[1]Department of Life Sciences, National Chung Hsing University, Taiwan, [2]Department of Nuclear Medicine, Taichung Veterans General Hospital, Taiwan, [3]Medical Research

Center for Exosomes and Mitochondria Related Diseases, China Medical University Hospital, Taiwan, [4]Department of Nursing, Asia University, Taiwan

2P–476 The inhibitory effects of valproic acid on androgen receptor and prostate cancer cell growth

Cheng-En Hsieh[1)], Hsiao-Han Kao[1)], Mei-Chih Chen[2,3)], Ching-Han Yu[4)], Ho Lin[1)]

[1]Department of Life Sciences, National Chung Hsing University, Taiwan, [2]Medical Research Center for Exosomes and Mitochondria Related Diseases, China Medical University Hospital, Taiwan, [3]Department of Nursing, Asia University, Taiwan, [4]Department of Medicine, Chung-Shan Medical University, Taiwan

2P–477 CDK5 promotes androgen receptor transactivation under Akt inhibition stress

Wei-Hsiang Kao[1)], Mei-Chih Chen[2,3)], Ho Lin[1)]

[1]Department of Life Sciences, National Chung Hsing University, Taiwan, [2]Medical Research Center for Exosomes and Mitochondria Related Diseases, China Medical University Hospital, Taiwan, [3]Department of Nursing, Asia University, Taiwan

2P–478 CDK5 down-regulates p21 expression through inhibiting STAT3

Wan-Ling Liao[1)], Jo-Hsin Wang[1)], Pao-Hsuan Huang[1)], Hsin-Yi Wang[2)], Mei-Chih Chen[3,4)], Ho Lin[1)]

[1]Department of Life Sciences, National Chung Hsing University, Taiwan, [2]Department of Nuclear Medicine, Taichung Veterans General Hospital, Taiwan, [3]Medical Research Center for Exosomes and Mitochondria Related Diseases, China Medical University Hospital, Taiwan, [4]Department of Nursing, Asia University, Taiwan

2P–479 Circadian rhythms in nicotinamide adenine dinucleotide concentration in mouse liver

Aya Shimada, Hiroki Nakamura, Daisuke Yarimizu, Masao Doi

Department of Pharmaceutical Sciences, Kyoto University, Japan

2P–480 Integrins are involved in mechano-electrical transduction in arterial baroreceptors

Haixia Huang[1)], Haiyan Zhao[2)], Ping Liu[1)], Sitao Zhang[1)], Fang Xin[1)], Wei Wang[1)]

[1]Department of Physiology and Pathophysiology, School of Basic Medical Sciences, Capital Medical University, China, [2]Department of Functional Medicine, Yanjing Medical College, Capital Medical University, China

2P–481 Vapor detection and discrimination with a panel of odorant receptors

Yosuke Fukutani[1,2)], Hitoshi Kida[2,3)], Joel D. Mainland[4)], Claire A. De March[2)], Masaharu Kameda[3)], Masafumi Yohda[1)], Hiroaki Matsunami[2)]

[1]Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology, Japan, [2]Department of Molecular Genetics and Microbiology, Duke University Medical Center, USA, [3]Department of Mechanical System Engineering, Tokyo University of Agriculture and Technology, Japan, [4]Monell Chemical Senses Center, USA

2P–482 Metabolic alterations in cells transformed by oncogenic Lck kinase

Chao-Lan Yu[1,2,3,4)], Szu-Yuan Chen[2)], Mei-Ling Cheng[1,2,3)], Pei-Ting Wu[2,3)], Fu-Shin Chueh[5)], Shin-Yu Wu[1)], Fu-Yu Chueh[1,6)]

[1]Department of Biomedical Sciences, Chang Gung University, Taiwan, [2]Graduate Institute of Biomedical Sciences, Chang Gung University, Taiwan, [3]Healthy Aging Research Center, Chang Gung University, Taiwan, [4]Division of Hematology, Chang Gung Memorial Hospital, Taiwan, [5]Department of Food Nutrition and Health Biotechnology, Asia University, Taiwan, [6]Department of Pharmacy, Asia University Hospital, Taiwan

2P-483 Effects of chloride ion channel blocker on the adipogenic differentiation of rabbit ASCs

Kanae Ouchi[1,2], Masao Miyake[1], Susumu Yoshie[1], Akihiro Hazama[1]
[1]Dept. Cellular and Integrative of Physiol., Fukushima Med. Univ. Grad. Sch. Med., Japan, [2]Dept. Judo Therapy, Koriyama Inst. Health Sci., Japan

2P-484 ITAM receptors regulate two frequency components in calcium oscillations during osteoclastogenesis

Hiroshi Kajiya[1], Hiroyuki Okada[2], Shunichi Sudo[1], Masashi Shin[1], Fujio Okamoto[1], Takeshi Miyamoto[3], Sakae Tanaka[2], Koji Okabe[1]
[1]Department of Physiological Science and Molecular Biology, Fukuoka Dental College, Japan, [2]Department of Orthopaedic Surgery, The University of Tokyo, Japan, [3]Department of Orthopaedic Surgery, Keio University School of Medicine, Japan

2P-485 RNF20/BRE1a regulates proliferation and differentiation of GBM cancer stem-like cells

Kenny Daun[1], Naoko Morimura[1], Kazuhiko Nozaki[2], Kenji Tanigaki[3], Seiji Hitoshi[1]
[1]Department of Integrative Physiology, Shiga University of Medical Science, Japan, [2]Department of Neurosurgery, Shiga University of Medical Science, Japan, [3]Research Institute Shiga Medical Center, Japan

2P-486 Analysis of the mechanism regulating intercellular transport of silencing RNA in *C. elegans*

Keita Yoshida, Sawako Yoshina, Yuji Suehiro, Shohei Mitani
Department of Physiology, Tokyo Women's Medical University School of Medicine, Japan

2P-487 Swallowing reflex-inducible stimulations in rats

Izumi Ujihara, Suzuro Hitomi, Kentaro Ono
Division of physiology, Kyushu Dental University, Japan

2P-488 Intracellular Ca^{2+} source for SK channels in cartwheel cells of the mouse dorsal cochlear nucleus

Tomohiko Irie
Division of Pharmacology, National Institute of Health Sciences, Japan

2P-489 Investigation into functions and molecular mechanisms of hesperetin on human cancer cells

Yukari Ogawa[1], Akiyoshi Shiroto[1], Kenta Suzuki[1], Masami Nishina[2], Shu-ichi Watanabe[3], Kazunori Yoshimura[1,3]
[1]Fac Health Sci, Nihon Inst Med Sci, Japan, [2]Biomed Res Ctr, Fac Med, Saitama Med Univ, Japan, [3]Dept Physiol, Fac Med, Saitama Med Univ, Japan

2P-490 STARD10 promotes lipid droplet formation cooperatively with LPCAT1

Masanori Ito, Taichiro Tomida, Yoshinori Mikami, Daisuke Ohshima, Satomi Adachi-Akahane
Department of Physiology, Faculty of Medicine, Toho University, Japan

2P-491 ATP dependent H^+transport in endoplasmic reticulum membrane

Yoshimichi Murata, Yoshio Maruyama
Department of Physiology, Graduate school of Medicine, Tohoku University, Japan

2P-492 Highly localized pH sensing on the outer membrane of cells using surface enhanced Raman spectroscopy

Leonardo Puppulin[1)], Shigekuni Hosogi[1,2)], Hideo Tanaka[3)], Yoshinori Marunaka[1,4,5)]

[1]Department of Molecular Cell Physiology, Kyoto Prefectural University of Medicine, Japan, [2]Department of Clinical and Translational Physiology, Kyoto Pharmaceutical University, Japan, [3]Department of Pathology and Cell Regulation, Graduate School of Medical Sciences, Kyoto Prefectural University of Medicine, Japan, [4]Research Center for Drug Discovery and Pharmaceutical Development Science, Research Organization of Science and Technology, Ritsumeikan University, Japan, [5]Research Institute for Clinical Physiology, Kyoto Industrial Health Association, Japan

2P–493 High-level of homocysteine alters cell viability of endothelial cell and Müller cell

Yih-Jing Lee[1)], Yi-Ching Chen[1,2)], Hsin-Jen Hsieh[1,2)], Chia-Ying Ke[1)], Ni Tien[1)], Po-Kang Lin[3,4)]

[1]School of Medicine, Fu-Jen Catholic University, Taiwan, [2]Department of Life Science, Fu-Jen Catholic University, Taiwan, [3]Department of Ophthalmology, School of Medicine, National Yang-Ming University, Taiwan, [4]Department of Ophthalmology, Taipei Veterans General Hospital, Taiwan

2P–494 Expression of Mechanosensitive Ion Channel in Osteoblasts

Sayoko Nagai[1)], Asuka Higashikawa[2)], Sadao Ooyama[2)], Maki Kimura[2)], Yoshiyuki Shibukawa[2)], Akira Katakura[1)]

[1]Department of Oral Pathobiological Science and Surgery, Tokyo Dental College, Japan, [2]Department of Physiology, Tokyo Dental College

2P–495 Exploratory search for therapeutic target genes to cure MELAS using CRISPR activation

Hitomi Kaneko, Takeshi Chujo, Fan-Yan Wei, Kazuhito Tomizawa

Department of Molecular Physiology, Faculty of Life Sciences, Kumamoto University, Japan

2P–496 The effect of benzodiazepine on proliferation and survivals of CNS cells

Tomonori Furukawa[1)], Shuji Shimoyama[1,2)], Yoshiki Ogata[1)], Shinya Ueno[1,2)]

[1]Department of Neurophysiology, Hirosaki University Graduate School of Medicine, Japan, [2]Research Center for Child Mental Development, Hirosaki University Graduate School of Medicine

★ **2P–497** (Y-34) The impact of DNA methyltransferase 3A in erythrocytic differentiation

Eric Chang-Yi Lin, Po-Shu Tu, Hsiao-Wen Chen, Yuan-I Chang

Department of physiology, National Yang-Ming University, Taiwan

2P–498 Calcium response in human synovial cells induced by shear stress in normal and rheumatoid arthritis

Yu Okumura[1,2)], Keiji Asada[3)], Miyako Takaki[1)]

[1]Department of Orthopaedic Surgery, Nara Medical University, Japan, [2]Department of Physical Therapy, Faculty of Human Science, Osaka University of Human Science, Japan, [3]Department of Physical Therapy, Faculty of Health Science, Suzuka University of Medical Science, Japan

Adaptation, Environment & Evolution (2)

2P–499 Relationship between dehydration and amount of drinking water before shifts : a preliminary study

Ryutaro Kase, Yuji L Tanaka, Hisayoshi Sugawara, Erina Matsushima, Masatoshi Komiyama, Ayumi Amemiya

Department of Nursing Physiology, Graduate School of Nursing, Chiba University, Japan

★ 2P–500 (Y-35) Hearing status of Rickshaw's drivers in Karachi, Pakistan assessed by Pure tone audiometry

Muhammad Adnan Kanpurwala[1,2)], Furqan Mirza[3)]

[1]Department of Physiology, Karachi Institute of Medical Sciences, Pakistan, [2]Department of Physiology, University of Karachi, [3]Department of Health Management, Institute of Business Management

2P–501 A corticohypothalamic neural pathway that drives sympathetic responses to psychological stress

Naoya Kataoka, Keisuke Nakajima, Kazuhiro Nakamura

Department of Integrative Physiology, Nagoya University Graduate School of Medicine, Japan

2P–502 Expanded plasma volume after a bout of exercise increases erythropoietin secretion to hypoxia

Kazunobu Okazaki[1,2)], Ryosuke Takeda[1)], Daiki Imai[1,2)], Eriko Kawai[2)], Akemi Ota[2)], Kosuke Saho[2)], Emiko Morita[2)], Yuta Suzuki[1,2)], Kazushige Goto[3)], Hisayo Yokoyama[1,2),]

[1]Research Center for Urban Health and Sports, Osaka City University, Japan, [2]Department of Environmental Physiology for Exercise, Osaka City University Graduate School of Medicine, Japan, [3]Faculty of Sport & Health Sciences, Ritsumeikan University, Japan

2P–503 The effect of aging on event-related potentials during mild-hyperthermia

Akemi Ota[1,2)], Ryosuke Takeda[3)], Daiki Imai[2,3)], Eriko Kawai[2)], Kosuke Saho[2)], Emiko Morita[2)], Yuta Suzuki[2,3)], Hisayo Yokoyama[2,3)], Kazunobu Okazaki[2,3)]

[1]Faculty of Biomed. Eng., Osaka Electrocommun Univ., Japan, [2]Dept. of Environ. Physiol. for Exercise, Osaka City Univ. Grad. Sch. of Med., Japan, [3]Res. Ctr. for Urban Health & Sports, Osaka City Univ., Japan

2P–504 Thermosensory changes in heat resistant tadpoles of Ryukyu kajika frogs inhabiting hot springs

Shigeru Saito[1,2,3)], Claire T. Saito[1,2)], Takeshi Igawa[4)], Shohei Komaki[5)], Makoto Tominaga[1,2,3)]

[1]Division of Cell Signaling, National Institute for Physiological Sciences, Japan, [2]Thermal Biology Group, Exploratory Research Center on Life and Living Systems (ExCELLS), Japan, [3]Department of Physiological Sciences, SOKENDAI (The Graduate University for Advanced Studies), Japan, [4]Amphibian Research Center, Hiroshima University, Japan, [5]Division of Biomedical Information Analysis, Iwate Tohoku Medical Megabank Organization, Japan

2P–505 Influence of combined stimulus of cold, hypoxia and dehydration status on thermoregulation in rats

Tadashi Uno, Tatsuya Hasegawa, Masahiro Horiuchi

Division of Human Environmental Science, Mount Fuji Research Institute, Japan

2P–506 Possible central mechanism of acquired heat tolerance in exercise-trained rats

Kentaro Matsuzaki[1)], Masanori Katakura[2)], Naotoshi Sugimoto[3)], Eri Sumiyoshi[1)], Toshiko Hara[1)], Osamu Shido[1)]

[1]Department of Environmental Physiology, Faculty of Medicine, Shimane University, Japan, [2]Department of Nutritional Physiology, Faculty of Pharmaceutical Sciences, Josai University, Japan, [3]Department of Physiology, Graduate School of Medical Science, Kanazawa University, Japan

2P–507 Estimation of basal body temperature from breast skin temperature during sleep

Shuri Marui, Kei Nagashima
Faculty of Human Sciences, Waseda University, Japan

2P–508 Wearable patch-type sensors for core temperature monitoring by a modified dual-heat-flux method

Ken Tokizawa[1)], Tatsuo Oka[1)], Hirofumi Tsuchimoto[2)], Toru Shimuta[2)]
[1]National Institute of Occupational Safety and Health, Japan, [2]Murata Manufacturing Co., Ltd,

2P–509 Operant behaviors affected by warm ambient temperature are task-dependent and hippocampus involved

Ruey-Ming Liao[1,2,3)], Shuo-Fu Chen[1,2)], Chuen-Yu Chuang[1,2)], Chih-Chang Chao[2,3)]
[1]Department of Psychology, National Cheng-Chi University, Taiwan, [2]Institute of Neuroscience, National Cheng-Chi University, Taiwan, [3]Center for Mind, Brain and Learning, National Cheng-Chi University, Taiwan

2P–510 The effect of environmental temperature on spontaneous exercise in mice

Yuta Mausda[1)], Shuri Marui[2)], Ken Tokizawa[3)], Issei Kato[1)], Kei Nagashima[2)]
[1]Department of Human sciences, Waseda University, Japan, [2]Faculty of Human Sciences, Waseda University, Japan, [3]National Institute of Occupational Safety and Health, Japan

2P–511 Function of polyunsaturated fatty acid in thermoregulation

Takuto Suito, Kohjiro Nagao, Naoto Juni, Masato Umeda
Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University, Japan

2P–512 Cold induced sleep-related sympathovagal imbalance and sleep fragmentation in rats

Cheng-Han Wu[1,2)], Terry B.J. Kuo[1,2,3,5,6)], Chieh-Wen Chen[1,2)], Yu-Syuan Liou[1,2)], Kuan-Liang Kuo[4,7)], Cheng-Hung Chung[1,2)], Yu-Ting Lin[1,2)], Cheryl C.H. Yang[1,2,3,5)]
[1]Institute of Brain Science, National Yang Ming University, Taiwan, [2]Sleep Research Center, National Yang Ming University, Taiwan, [3]Brain Research Center, National Yang Ming University, Taiwan, [4]Institute of Bio Medical Informatics, National Yang-Ming University, Taiwan, [5]Department of Education and Research, Taipei City Hospital, Taiwan, [6]Graduate Institute of Biomedical Informatics, College of Medical Science and Technology, Taipei Medical University, Taiwan, [7]Family Medicine Department, Taipei City Hospital Ren-Ai Branch, Taiwan

2P–513 A mouse model that can evaluate fever and hyperalgesia due to peripheral inflammation

Hiromu Kitagawa[1)], Takae Ibuki[2)], Kiyoshi Matsumura[1)]
[1]Graduate School of Engineering, Osaka Institute of Technology, Japan, [2]Department of Anesthesiology, Kyoto Prefectural University of Medicine, Japan

2P–514 Induction of long-term torpor by enhancing the adenosine receptor signal via PPARs activation

Miho Sato-Hashimoto, Hiroshi Ohnishi
Department of Laboratory Sciences, Gunma University Graduate School of Health Sciences, Japan

2P-515 Involvement of the vagus nerve in autonomic thermoregulation responses induced by TRPM8 agonist

Noriyuki Mori[1,2], Tomomi Urata[2], Tsutomu Fukuwatari[2]

[1]Department of Food Science and Nutrition, Doshisha Women's College of Liberal Arts, Japan, [2]Department of Nutrition, the University of Shiga Prefecture, Japan

2P-516 *Aurelia Aurita* venom evoke hyperpolarization and SOCS1 expression in toad urothelium membrane

Yang Wang[1,2], Han Wang[1], Linghua Piao[1], Tong He[1], Lingfeng Gao[1]

[1]Faculty of Basic Medicine and Life Sciences, Hainan Medical College, China, [2]Laboratory of Extreme Environment Sports Medicine, Hainan Medical College

2P-517 Withdrawn

2P-518 Seasonal differences in cardiac autonomic nervous activity during exercise in obese men

Maki Sato[1,2], Hisaki Hayashi[1], Tatsunori Ikemoto[3], Takahiro Ushida[3], Dominika Kanikowska[4], Satoshi Iwase[1], Motohiko Sato[1]

[1]Department of Physiology, Aichi Medical University, Japan, [2]Institutional Research, Aichi Medical University, Japan, [3]Institute of Physical Fitness, Sports Medicine and Rehabilitation, Aichi Medical University, Japan, [4]Department of Pathophysiology, Poznan University of Medical Sciences, Poland

Genomics & Biodiversity

2P-519 PAI-1 is crucial in osteoblastic differentiation of mesenchymal stem cells

Yoshimasa Takafuji, Kohei Tatsumi, Masayoshi Ishida, Naoyuki Kawao, Kiyotaka Okada, Osamu Matsuo, Hiroshi Kaji

Department of Physiology and Regenerative Medicine Kindai University Faculty of Medicine, Japan

2P-520 Regenerative capacity of stem cells in the skeletal muscle: Comparison between human, mouse and pig

Tetsuro Tamaki[1], Ippei Yamato[2], Shuichi Soeda[1], Yoshiyasu Uchiyama[3]

[1]Department of Human Structure and Function, Tokai University School of Medicine, Japan, [2]Department of Medical Education, Tokai University School of Medicine, [3]Department of Orthopedics, Tokai University School of Medicine

★ **2P-521** (Y-37) Alpha-5 integrin mediates simvastatin-induced osteogenesis of bone marrow mesenchymal stem cells

Pei Lin Shao[1], Shun Cheng Wu[2,3], Zih Yin Lin[2,3], Chau Zen Wang[2,3], Chung-Hwan Chen[2], Mei-Ling Ho[2,3]

[1]Department of Nursing, Asia University, Taiwan, [2]Orthopaedic Research Center, College of Medicine, Kaohsiung Medical University, Taiwan, [3]Department of Physiology, College of Medicine, Kaohsiung Medical University, Taiwan

2P-522 Molecular network search for *bcl-7* related factors

Luna Izuhara[1], Sawako Yoshina[1], Sayaka Higuchi[2], Yuji Suehiro[1], Shohei Mitani[1,2]

[1]Department of Physiology, Tokyo Women's Medical University School of Medicine, Japan, [2]Tokyo Women's Medical University Institute for Integrated Medical Sciences,Japan

2P-523 Platelet-rich plasma supplementation increase CD34 hematopoietic stem cell proliferation in vitro

Imelda Rosalyn Sianipar[1)], Beryl Alodia[2)], Yosafat L Prasetyadi[2)], Retno Wahyu Nurhayati[3)], Gita Pratama[4,5)], Radiana Dhewayani Antarianto[6,7)]

[1]Department of Medical Physiology, Universitas Indonesia, Indonesia, [2]Undergraduate program in Medicine, Faculty of Medicine, Universitas Indonesia, Indonesia, [3]Stem Cell and Tissue Engineering Research Cluster IMERI, Faculty of Medicine, Universitas Indonesia, Indonesia, [4]Department of Obstetry and Gynecology, Faculty of Medicine Universitas Indonesia, Indonesia, [5]Integrated Service Unit and Technology Stem Cell National General Hospital Ciptomangunkusumo, Indonesia , [6]Department of Histology, Faculty of Medicine, Universitas Indonesia, Indonesia, [7]Doctoral program in Biomedical Science, Faculty of Medicine, Universitas Indonesia, Indonesia

2P-524 Identifying heterogeneity of ground state pluripotency in mouse embryonic stem cells

Kyoji Horie, Junko Yoshida

Department of Physiology II, Nara Medical University, Japan

2P-525 Bioactive Ligands-Based Neuronal Reprogramming of Human Dedifferentiated Fat Cells

Rei Nakano[1,2)], Yoshiyuki Shibukawa[3)], Koichiro Kano[4)], Taro Matsumoto[5)], Hiroshi Sugiya[2)]

[1]Laboratory for Cellular Function Conversion Technology, RIKEN Center for Integrative Medical Sciences (IMS), Japan, [2]Laboratory of Veterinary Biochemistry, College of Bioresource Sciences, Nihon University, [3]Department of Physiology, Tokyo Dental College, [4]Laboratory of Cell and Tissue Biology, College of Bioresource Sciences, Nihon University, [5]Department of Functional Morphology, Division of Cell Regeneration and Transplantation, Nihon University School of Medicine

2P-526 Determining Deubiquitinating Enzymes Regulating Adipose Derived Mesenchymal Stem Cells Senescence

Dong Hyeon Lee[1)], Soonchul Lee[2)]

[1]Department of Physiology, CHA University School of Medicine, Republic of Korea, [2]Department of Orthopaedic Surgery, CHA Bundang Medical Center, CHA University School of Medicine, Republic of Korea

2P-527 Grafted hypothalamic Neurons from Mouse ES Cells survived in hypothalamus or pituitary

Miho Kawata[1)], Yu Kodani[1)], Hidetaka Suga[2)], Yoko Kaneko[1)], Akira Nakashima[1)], Hiroshi Nagasaki[1)]

[1]Department of Physiology, School of Medicine, Fujita Health University, Japan, [2]Department of Endocrinology and Diabetes, Nagoya University Graduate School of Medicine

2P-528 Effects of beta 3-adrenergic receptor gene Trp64Arg mutation on high-fat sweet food preference

Kei Watanabe[1)], Guang Hong[2)], Kanako Tominami[1)], Kazushi Hirosawa[1)], Yuki Watabe[1)], Youhei Hayashi[3)], Tada-Aki Kudo[1)]

[1]Division of Oral Physiology, Tohoku University Graduate School of Dentistry, Japan, [2]Liaison Center for Innovative Dentistry , Tohoku University Graduate School of dentistry Japan, [3]Cell Resource Center for Biomedical Research, Institute of Development, Aging and Cancer, Tohoku University, Japan

★ **2P-529** (Y-38) Vitamin D Receptor Polymorphism Fok1 and Chest X-ray in Tuberculosis Patients of Batak Ethnic

Debby Mirani Lubis[1)], Seri Rayani Bangun[2)], Yahwardiah Siregar[2)],

Bintang YM Sinaga[3)]
[1]Department of Physiology, University of Muhammadiyah Sumatera Utara, Indonesia, [2]Biomedical Science, University of North Sumatera, [3]Pulmonology Department, University of North Sumatera

Education

2P-530 Quick eating elevates blood glucose level, a practice for registered dietitians students

Masaru Ishimatsu, Junko Machidori, Kanako Nanashima, Haruka Suzuki, Kazue Kuno
Fuculty of Health and Nutrition Sciences, Nishikyushu University, Japan

2P-531 Design and Application of Blended Learning in the Teaching Reform of Medical Functional Experiments

Ran Chen, Xiaofang Fan, Ping Wang, Feng Xue, Jianshe Ma, Yongsheng Gong
School of Basic Medical Sciences, Wenzhou Medical University , China

2P-532 Active learning on topics related to physiology by the first year medical students

Eriko Daikoku
Department of Physiology, Osaka Medical College, Japan

2P-533 Do 1st-year medical students' knowledge,attitudes & physical activity affect their physical fitness?

Yhusi Karina Riskawati[1)], Narulita Septi Ailina[2)], Saptadi Yuliarto[3)], Christyaji Indradmojo[4)]
[1]Departement of Physiology, Faculty of Medicine, Universitas Brawijaya, Indonesia, [2]School of Medicine Faculty of Medicine, Universitas Brawijaya, Indonesia, [3]Pediatric Department of Faculty of Medicine, Universitas Brawijaya, Indonesia, [4]Medical Faculty, Maulana Malik Ibrahim Islamic State University Malang

2P-534 Multiple intelligence and its relationship with academic achievements of medical students

Nirmala Limbu[1)], Nidesh Sapkota[2)], Priza Subedi[1)]
[1]Department of Basic & Clinical Physiology, B. P. Koirala Institute of Health Sciences, Nepal, [2]Department of Psychiatry, B. P. Koirala Institute of Health Sciences, Nepal

★ **2P-535** (Y-39) Flipped classroom in Faculty of Medicine Universitas Indonesia: a personal experience

Sophie Yolanda
Department of Medical Physiology, Faculty of Medicine Universitas Indonesia, Indonesia

2P-536 Withdrawn

2P-537 Across-instructor divergence in scoring on practice reports in the orthoptics education with rubrics

Haruo Toda, Hokuto Ubukata, Noriaki Murata, Fumiatsu Maeda, Haruki Abe
Department of Orthoptics and Visual Sciences, Niigata University of Health and Welfare, Japan

2P-538 The relationship between anemia, dietary habits and subjective symptoms of females

Noriko Takahashi
Showagakuin Junior College, Japan

2P-539 Comparison of two models which explain negative feedback at a junior college

Masato Shibuya[1,2)], Kaname Higuchi[1,2)], Kei Tajima[1,2)], Mieka Inagaki[1,2)]
[1]Department of Physiology, Kagawa Nutrition Junior College, Japan, [2]Life Science Education Sharing Group

Alternative Medicine (2)

2P-540 A new criterion for inclusion/exclusion from acupuncture treatment with blood pressure balance

Mayumi Watanabe, Zaigen Oh
Faculty of Health Sciences, Kansai University of Health Science, Japan

★ 2P-541 (Y-40) The Anti-depressive and the Involvement of ERK Pathway of Electroacupuncture on Depression Model

Shao-Yuan Li[1)], Pei-Jing Rong[1,2)], Xiao Guo[1)]
[1]Institute of Acu.-Moxi., China Academy of Chinese Medical Sciences, China, [2]Guangzhou University of Chinese Medicine

2P-542 Vasorelaxant induced by cucurbitacin B 3-oxime 22,24-dihydro-isoxazole in rat thoracic aorta

Chainarong Tocharus[1)], Pimchanok Mungmuang[1)], Jiraporn Tocharus[2)], Parichat Suebsakwong[3)], Apichart Suksamrarn[3)]
[1]Department of Anatomy, Chiang Mai University, Thailand, [2]Department of Physiology, Chiang Mai University, Thailand, [3]Department of Chemistry and Center of Excellence for Innovation in Chemistry, Ramkhamhaeng University

2P-543 Pomegranate Juice Protects Rat Skeletal Muscle from Ischemia/Reperfusion Induced-Oxidative Stress

Kusuma Ruamthum, Rungrudee Srisawat
School of Preclinic, Institute of Science, Suranaree University of Technology, Thailand

2P-544 *Ex-vivo* investigation on the anti-coagulation effect of a Chinese medicinal herb

Ellie SM Chu, Ly Ho, Ricky Wk Wu
School of Medical and Health Sciences, Tung Wah College, China

2P-545 Nutmeg Extract Increases Skeletal Muscle Mass in Ageing Rats and Inhibition of Autophagy

Yuni Susanti Pratiwi[1,2)], Ronny Lesmana[1,2)], Hanna Goenawan[1,2)], Nova Sylviana[1,2)], Setiawan Setiawan[1,2)], Vita Murniati Tarawan[1,2)], Keri Lestari[3)], Rizky Abdullah[3)], Lazuardhi Dwipa[5)], Ambrosius Purba[1,2)], Unang Supratman[2,4)]
[1]Division of Physiology, Department Basic Medical Science, Faculty of Medicine Universitas Padjadjaran, Indonesia, [2]Central Laboratory, Universitas Padjadjaran, [3]Faculty of Pharmacy, Universitas Padjadjaran, [4]Department of Chemistry, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, [5]Department of Internal Medicine, Faculty of Medicine-Hasan Sadikin Hospital, Universitas Padjadjaran

2P-546 Analgesic effect of isoliquiritigenin on oral ulcer-induced pain by blocking of Na_v channels

Yuichi Miyamura[1,2)], Suzuro Hitomi[1)], Izumi Ujihara[1)], Kiyoshi Terawaki[3)], Yuji Omiya[3)], Yasuhiro Morimoto[2)], Kentaro Ono[1)]

[1]Division of Physiology, Kyushu Dental University, Japan , [2]Division of Dentomaxillofac Radiology, Kyushu Dental University, Japan , [3]Tsumura Kampo Research Laboratories, Kampo Research & Development Div, Tsumu ra & Co., Japan

2P-547 *Flos Magnoliae* suppresses CD4+ T lymphocyte activation *via* store-operated calcium entry

Joo Hyun Nam[1,2)], Hyun Jong Kim[1,2)], Yu Ran Nam[1,2)], Woo Kyung Kim[2,3)]

[1]Department of Physiology, Dongguk University, South Korea, [2]Channelopathy Research Center, Dongguk University College of Medicine, South Korea, [3]Department of Internal Medicine, Dongguk University College of Medicine, South Korea

★ **2P-549** (Y-41) Malaysian Tualang Honey Protects Endothelial Barrier Integrity from Insults by Hydrogen Peroxide

Yoke Keong Yong[1)], Kogilavanee Devasvaran[1)], Jun Jie Tan[2)]

[1]Department of Human Anatomy, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, [2]Advance Medical and Dental Institute, Universiti Sains Malaysia, Malaysia

2P-550 Acetophenone dimers from *Acronychia pendunculatainduce* an apoptotic effect on human leukaemia cells

Takuya Matsui[1)], Chihiro Ito[2)], Tian-Shung Wu[3)], Masataka Itoigawa[4)]

[1]Department of Physiology, Aichi Medical University, Japan, [2]Faculty of Pharmacy, Meijo University, Japan, [3]Department of Chemistry, National Cheng Kung University, Taiwan, [4]School of Sports and Health Science, Tokai Gakuen University, Japan

2P-551 Purple rice husk extract preserves mitochondrial integrity and reduces diabetic kidney injury

Orawan Wongmekiat[1)], Narissara Lailerd[2)], Anongporn Kobroob[3)], Wachirasek Peerapanyasut[1)]

[1]Renal Physiology Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [2]Nutrition and Exercise Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, [3]Division of Physiology, School of Medical Science, University of Phayao, Thailand

2P-552 Addition of hexachlorocyclohexane provokes insulin resistance in 3T3-L1 mature adipocytes

Amire Alimu, Junetsu Ogasawara, Takahiko Yoshida

Department of Hygiene, Asahikawa Medical University, School of Medicine, Japan