

PERSONAL INFORMATION

Work address:

Department of Pharmacology, Tokushima Bunri University

180 Nishihama-Boji, Yamashiro-cho, Tokushima, 770-8514 Japan

Tel: +81 (088) 602-8470

E-mail: furutani@ph.bunri-u.ac.jp

PROFESSIONAL EXPERIENCE

2020-present	Associate Professor, Department of Pharmacology, Tokushima Bunri University
2018-2020	Assistant Professor, Department of Physiology and Membrane Biology, University of California, Davis
2017-2018	Assistant Visiting Professor, Department of Physiology and Membrane Biology, University of California, Davis
2008-2017	Assistant Professor, Center for Advanced Medical Engineering and Informatics, Osaka University
2007-2018	Assistant Professor, Department of Pharmacology, Graduate School of Medicine, Osaka University
2007	Postdoctoral Research Fellow, Department of Pharmacology, Graduate School of Medicine, Osaka University (Supervisor: Prof. Yoshihisa Kurachi)

EDUCATION

2007	Ph.D., Department of Pharmacology, Graduate School of Medicine, The University of Tokyo, Japan (Supervisor: Prof. Masamitsu Iino) <i>Dissertation title:</i> Activity-dependent functional maintenance of parallel fiber-Purkinje cell synapses in the adult mouse cerebellum.
2003	M.S., Department of Applied Pharmacology, The Graduate School of Pharmaceutical Studies, Kyoto Pharmaceutical University, Kyoto, Japan (Supervisor: Prof. Susumu Okabe)
2001	B.A., Kyoto Pharmaceutical University, Kyoto, Japan

Areas of Expertise:

- 1) Physiology;
- 2) Pharmacology;
- 3) Pathophysiology;
- 4) Biophysics;
- 5) Cardiology;
- 6) Neuroscience;
- 7) Toxicology;

- 8) Molecular Biology;
- 9) Biochemistry;
- 10) Computational Pharmacology;
- 11) Computational Biology.

PROFESSIONAL ACTIVITIES

Publications: A co-author of **24** scientific papers in peer-reviewed journals and **1** book chapters, the first author in **8** of them, and the corresponding author in **5** of them. There are over **1000** citations in total (21/6/1). See list below.

Scientific presentations: A participant and presenter of research results at several national and international scientific meetings including **4** Biophysical Society Meetings, **1** Society for Neuroscience Meeting, **2** IUPS Congresses, and **2** World Congress of Basic and Clinical Pharmacology By IUPHAR. Invited presentations at major research universities, national laboratories and Pharmaceutical company. See list below.

Scientific society membership:

National and International:

2005- present	Member, Society for Neuroscience
2008- present	Member, Biophysical Society
2012- present	Member, International Society for Heart Research
2013-2017	Delegates from Japan, International Union of Physiological Science (IUPS)
2017- present	Member, American Heart Association
2017- present	Member, Society of General Physiologists

Japanese Domestic:

2001- present	Member/Scientific Council (Since 2009-), Japanese Pharmacological Society
2005- present	Member/Scientific Council (Since 2014-), Japanese Physiological Society
2009- present	Member, Japanese Society for Biochemistry
2011- present	Member, Japanese Circulation Society

Peer-reviewing of scientific papers for the following journals:

- 1) Scientific Reports;
- 2) Biophysical Journal;
- 3) Progress in Biophysics & Molecular Biology;
- 4) American Journal of Physiology;
- 5) Journal of Physiology;
- 6) Molecular Pharmacology;
- 7) Journal of Physiological Sciences;

- 8) British Journal of Pharmacology;
- 9) Journal of Pharmacological Sciences;
- 10) Circulation Research;
- 12) Medical Chemistry;
- 12) Frontiers in Physiology;
- 13) Frontiers in Pharmacology;
- 14) npj Systems Biology and applications;
- 15) Bulletins of the Pharmaceutical Society of Japan

Teaching:

- 1) Lecturer in General Pharmacology class (Osaka University, Medical School, 2007-2016)
- 2) Lecturer in General Physiology class (Osaka University, Medical School, 2007-2016)
- 3) Lecturer in Cardiovascular Physiology class (Osaka University, Center for Advanced Medical Engineering and Informatics, 2008-2016)
- 4) Teaching Assistant for General Pharmacology class (University of Tokyo, Medical School, 2003-2007)
- 5) Facilitator of a Physiology and Pharmacology journal club (Osaka University, Graduate School of Medicine, 2009-2016)
- 6) Lecturer in NEU/PHA Joint cases (University of California Davis, School of Medicine, 2019)
- 7) Lecturer in Neuropharmacology class (Tokushima Bunri University, School of Medicine, 2020-present)

Mentoring:

- 1) John Randolph Dillon Dawson (Ph.D. student, University of California, Davis, primary, mentor: Ass Prof. Igor Vorobyov, 2017-2019, In Progress);
- 2) Aiyana M. Emigh (Ph.D. student, University of California, primary, mentor: Asso. Prof. Vladimir Yarov-Yarovoy, 2017-2019, In Progress);
- 3) Jan Mary (Ph.D. student, University of California, primary, mentor: Asso. Prof. Vladimir Yarov-Yarovoy, 2017-2019, In Progress);
- 4) Steffen Docken (Ph.D. student, University of California, primary, mentor: Prof. Timothy Lewis, 2017-2018, Ph.D. 2018, now – Research Fellow, Infection Analytics Program, Kirby Institute for Infection and Immunity, UNSW Australia, Sydney, NSW, Australia);
- 5) Kenichiro Handa (M.S. student, Department of Pharmacology, Graduate School of Medicine, Osaka University, mentoring, 2013-2015, M.S. 2015);
- 6) I-Shan Chen (Ph.D. student, Department of Pharmacology, Graduate School of Medicine, Osaka University, co-advising, mentor: Prof. Yoshihisa Kurachi, 2009-2016, Ph.D. 2013, now – Project Assistant Professor in the National Institute for Physiological, Okazaki, Japan);
- 7) Yuko Yamakawa (Ph.D. student, Center for Advanced Medical Engineering and Informatics, Osaka University, co-advising, mentors: Profs. Yuko Ohno and Yoshihisa Kurachi, 2009-2012; Ph.D. 2012, now – Research Associate in the Hyogo College of Medicine, Nishinomiya, Japan);

8) Rotation undergraduate and graduate students in multiple research laboratories (co-advising, 2007-).

SCIENTIFIC AWARDS

2006 Young Investigator Award from Japanese Pharmacological Society.

2014 Osaka University Presidential Award from Osaka University

2015 Hiroshi and Aya Irisawa Memorial Promotion Award for Young Physiologists from Japanese Physiological Society

RESEARCH SUPPORTS

Ongoing Research Support:

Grants-in-Aid for the Scientific Research on Scientific Research (C) Japanese Government (MEXT)

21K06812 (Furutani, PI) 4/1/2021- 3/31/2024

Molecular Mechanisms of Potassium Channel Facilitation by Blockers and the Roles in Arrhythmias.

Aims to examine the molecular mechanisms of hERG channel facilitation by blockers and the roles in arrhythmias.

Role: PI

Title: Novel therapeutic strategy targeting brown adipose tissue thermogenesis in obesity disease.

Agency: Fukuoka University Integrated Science Research Team Research

Type: Research

Date: 4/1/2021- 3/31/2023

Aims to identify the novel therapeutic strategy targeting brown adipose tissue thermogenesis in obesity disease.

Role: co-Investigator

PI Name: Tomo Kita

Completed Research Support:

Title: Does a foot stuck in the door make a hERG channel blocker safe?

Agency: University of California, Davis, Department of Physiology and Membrane

Biology Partnership Fund Startup

Type: Research

Award Amount: \$5,000

Submitted Date: 11/20/2017

Date: 11/20/2017

Role: Co-Principal Investigator

PI Name: Kazuharu Furutani; Jon T Sack

Title: In silico safety pharmacology

Agency: NIH/NHLBI

Grant No.: R01 HL128537A

Type: Research

Award Amount: \$2,802,147

Date: 07/05/2016 - 06/30/2020

Percent Effort: 90

Role: Co-Investigator

PI Name: Colleen Clancy; Robert Harvey

Grants-in-Aid for the Scientific Research on Scientific Research (C) Japanese Government (MEXT)

15K08231 (Furutani, PI) 4/1/2014 - 3/31/2018

Regulation of the m2 muscarinic ACh receptor-mediated signaling by RGS proteins.

Aims to examine the mechanism of voltage-dependence in RGS4-dependent regulations of the m2 muscarinic ACh receptor-mediated signaling.

Role: PI

Hiroshi and Aya Irisawa Memorial Promotion Award for Young Physiologists from the Physiological Society of Japan

The mechanism of RGS4-mediated regulation on the m2 muscarinic receptor-activated K⁺ current.

Aims to elucidate the mechanism of RGS4-mediated regulation on the m2 muscarinic receptor-activated K⁺ current.

Role: PI

Grants-in-Aid for the Scientific Research on Innovative Areas (C) Japanese Government (MEXT)

15H01404 (Furutani, PI) 4/1/2015 - 3/31/2017

The possible role of TASK channel in the hypoxia-induced responses.

Aims to understand the role of TASK channel in the hypoxia-induced responses.

Role: PI

Grants-in-Aid for the Research on Regulatory Science of Pharmaceuticals and Medical Devices from Japan Agency for Medical Research and Development (AMED) 16mk0104007h9903 (Kurokawa, PI) 4/1/2014 - 3/31/2017

An *in silico* tool to improve predictability of cardiac safety testing by using human iPS-derived cardiomyocytes.

Aims to develop an *in silico* tool to improve predictability of cardiac safety testing by using human iPS-derived cardiomyocytes.

Role: co-Investigator

Grants-in-Aid for the Scientific Research on Innovative Areas Japanese Government (MEXT)

22136002 (Kurachi, PI) 4/1/2010 - 3/31/2015

Research and development of a software platform for integrative multi-level systems biology.

Aims to develop methods and computational platform, where physiological pathological information can be described in high-definition across multiple scales of time and size.

Role: co-Investigator

Grants-in-Aid for the Scientific Research on Scientific Research (C) Japanese Government (MEXT)

24590319 (Furutani, PI) 4/1/2012 - 3/31/2015

Elucidation of the molecular mechanism underlying the sphingolipid-mediated regulation of potassium channel function.
Aims to elucidate the molecular mechanism of the inhibition of Kir and Kv channels functions by sphingolipids.

Role: PI

Research Grant from Kao Foundation for Arts and Sciences (Furutani, PI) 4/1/2013 - 4/1/2014

Inhibition of Kir channels by the sphingolipids.

Aims to characterize the inhibition effects of the sphingolipids on the Kir channel functions.

Role: PI

Grants-in-Aid for Young Scientists (B) Japanese Government (MEXT) 22790250 (Furutani, PI) 4/1/2010 - 3/31/2012

A new approach to searching for the bioactive molecules regulating potassium channel.

Aims to explore a novel bioactive molecule that regulate ion channel function by *in silico* screening with a pharmacophore model of its chemical ligands.

Role: PI

Grants-in-Aid for the Scientific Research on Scientific Research (C) from Japanese Government (MEXT)

20249012 (Kurachi, PI) 4/1/2008 - 3/31/2011

Studies on the structure-activity relationship on pharmacological modulations of potassium channels.

Aims to examined the mechanisms of drug actions in inward-rectifier potassium channels and voltage-dependent potassium channel.

Role: co-Investigator

Grants-in-Aid for Young Scientists (B) from Japanese Government (MEXT) 20790207 (Furutani, PI) 4/1/2008 - 3/31/2010

A study on the mechanism for the dynamic position control of neuronal inward rectifier potassium channels.

Aims to examined the mechanism underlie the position control of Kir channels in living neural cells.

Role: PI

Research Grant from The Ichiro Kanehara Foundation for the Promotion of Medical Sciences and Medical Care (Furutani, PI) 3/1/2009-12/31/2009

Spatiotemporal dynamics of inward-rectifier K channels in neuronal cells.

Aims to develop a method to analyze the spatiotemporal dynamics of Kir channels in the living neuronal cells.

Role: PI

Grants-in-Aid for the Scientific Research on Priority Areas from Japanese Government (MEXT)

17079005 (Kurachi, PI) 4/1/2007 - 3/31/2010

Physiological regulation of G protein signaling by RGS proteins.

Aims to address the regulation of physiological regulation of G protein signaling by RGS proteins in the cardiac myocytes.

Role: co-Investigator

LIST OF PUBLICATIONS

Original Papers:

*Corresponding Author

- 1) DeMarco KR, Yang PC, Singh V, Furutani K, Dawson JRD, Jeng MT, Fettinger J, Bekker S, Ngo VA, Noskov SY, Yarov-Yarovoy V, Sack JT, Wulff H, Clancy CE*, Vorobyov I*. Molecular determinants of pro-arrhythmia proclivity of d- and l-sotalol via a multi-scale modeling pipeline. *J Mol Cell Cardiol*, 2021. in press
- 2) Kodama M#, Furutani K#, Kimura R, Ando T, Sakamoto K, Nagamori S, Ashihara T, Kurachi Y, Sekino Y, Furukawa T, Kanda Y, Kurokawa J*. Systematic expression analysis of genes related to generation of action potentials in human iPSC cell-derived cardiomyocytes. *J Pharmacol Sci* 140(4):325-330, 2019.
#These authors are equally contributed to this work.
- 3) Furutani K*, Tsumoto K, Chen IS, Handa K, Yamakawa Y, Sack JT, Kurachi Y*. Facilitation of I_{Kr} current by some hERG channel blockers suppresses early afterdepolarizations. *J Gen Physiol* 151(2): 214-230, 2019.
- 4) Funato Y*, Furutani K, Kurachi Y, Miki H*. CrossTalk proposal: CNNM proteins are $\text{Na}^+/\text{Mg}^{2+}$ exchangers playing a central role in transepithelial Mg^{2+} (re)absorption. *J Physiol* 596(5):743-746, 2018.
- 5) Tsumoto K*, Kurata Y, Furutani K, Kurachi Y*. Hysteretic Dynamics of Multi-Stable Early Afterdepolarisations with Repolarisation Reserve Attenuation: A Potential Dynamical Mechanism for Cardiac Arrhythmias. *Sci Rep* 7(1):10771, 2017.
- 6) Chen IS, Furutani K*, Kurachi Y*. Structural determinants at the M2 muscarinic receptor modulate the RGS4-GIRK response to pilocarpine by impairment of the receptor voltage sensitivity. *Sci Rep* 7(1):6110, 2017.
- 7) Okamoto K, Emura N, Sato H, Fukatsu Y, Saito M, Tanaka C, Morita Y, Nishimura K, Kuramoto E, Xu Yin D, Furutani K, Okazawa M, Kurachi Y, Kaneko T, Maeda Y, Yamashiro T, Takada K, Toyoda H*, Kang Y*. The Possible Role of TASK Channels in Rank-Ordered Recruitment of Motoneurons in the Dorsolateral Part of the Trigeminal Motor Nucleus. *eNeuro* 3(3): ENEURO.0138-16.2016, 2016.
- 8) Kamide T, Okumura S, Ghosh S, Shinoda Y, Mototani Y, Ohnuki Y, Jin H, Cai W, Suita K, Sato I, Umemura M, Fujita T, Yokoyama U, Sato M, Furutani K, Kitano H, Ishikawa Y*. Oscillation of cAMP and Ca^{2+} in cardiac myocytes: a systems biology approach. *J Physiol Sci* 65(2):195-200, 2015.
- 9) Chen IS, Furutani K*, Inanobe A, Kurachi Y*. RGS4 regulates partial agonism of the M2 muscarinic receptor-activated K^+ currents. *J Physiol* 592(6):1237-1248, 2014.
- 10) Yamazaki D, Funato Y, Miura J, Sato S, Toyosawa S, Furutani K, Kurachi Y, Omori Y, Furukawa T, Tsuda T, Kuwabata S, Mizukami S, Kikuchi K, Miki H. Basolateral Mg^{2+} extrusion via CNNM4 mediates transcellular Mg^{2+} transport across epithelia: a mouse model. *PLoS Genet* 9(12):e1003983, 2013.

- 11) Kamimura D, Ohtani T, Sakata Y, Mano T, Takeda Y, Tamaki S, Omori Y, Tsukamoto Y, Furutani K, Komiyama Y, Yoshika M, Takahashi H, Matsuda T, Baba A, Umemura S, Miwa T, Komuro I, Yamamoto K*. Ca²⁺ entry mode of Na⁺/Ca²⁺ exchanger as a new therapeutic target for heart failure with preserved ejection fraction. *Eur Heart J* 33(11):1408-1416, 2012.
- 12) Yamakawa Y, Furutani K*, Inanobe A, Ohno Y, Kurachi Y*. Pharmacophore modeling for hERG channel facilitation. *Biochem Biophys Res Commun* 418(1):161-166, 2012.
- 13) Furutani K*, Yamakawa Y, Inanobe A, Iwata M, Ohno Y, Kurachi Y*. A mechanism underlying compound-induced voltage shift in the current activation of hERG by antiarrhythmic agents. *Biochem Biophys Res Commun* 415(1):141-146, 2011.
- 14) Furutani K, Inanobe A, Hibino H, Kurachi Y*. Compound-induced block of ion channel pore function: inward-rectifier potassium channels as a model. *Mol Cell Pharmacol* 1(5): 234-244, 2009.
- 15) Furutani K, Ohno Y, Inanobe A, Hibino H, Kurachi Y*. Mutational and in silico analyses for antidepressant block of astroglial inward-rectifier Kir4.1 channel. *Mol Pharmacol* 75 (6):1287-1295, 2009.
- 16) Kakizawa S, Kishimoto Y, Hashimoto K, Miyazaki T, Furutani K, Shimizu H, Fukaya M, Nishi M, Sakagami H, Ikeda A, Kondo H, Kano M, Watanabe M, Iino M, Takeshima H*. Junctophilin-mediated channel crosstalk essential for cerebellar synaptic plasticity. *EMBO J* 26 (7): 1924-1933, 2007.
- 17) Furutani K, Okubo Y, Kakizawa S, Iino M*. Postsynaptic inositol 1,4,5-trisphosphate signaling maintains presynaptic function of parallel fiber-Purkinje cell synapses via BDNF. *Proc Natl Acad Sci USA* 103 (22): 8528-8533, 2006.
- 18) Nakamura E, Kataoka T, Furutani K, Jimbo K, Aihara T, Tanaka S, Ichikawa A, Ohtsu H, Okabe S*. Lack of histamine alters gastric mucosal morphology: comparison of histidine decarboxylase-deficient and mast cell-deficient mice. *Am J Physiol Gastrointest Liver Physiol* 287(5): G1053- G1061, 2004.
- 19) Aihara T, Fujishita T, Kanatani K, Furutani K, Nakamura E, Taketo MM, Matsui M, Chen D, Okabe S*. Impaired gastric secretion and lack of trophic responses to hypergastrinemia in M3 muscarinic receptor knockout mice. *Gastroenterology* 125(6):1774-1784, 2003.
- 20) Furutani K, Aihara T, Nakamura E, Tanaka S, Ichikawa A, Ohtsu H, Okabe S*. Crucial role of histamine for regulation of gastric acid secretion ascertained by histidine decarboxylase-knockout mice. *J Pharmacol Exp Ther* 307(1):331-338, 2003.

Review Papers:

- 1) Uchida S, Asai Y, Kariya Y, Tsumoto K, Hibino H, Honma M, Abe T, Nin F, Kurata Y, Furutani K, Suzuki H, Kitano H,

- Inoue R, Kurachi Y. Integrative and theoretical research on the architecture of a biological system and its disorder. *J Physiol Sci* 69(3):433-451, 2019
- 2) Furutani K, Tsumoto K, Kurachi Y*. HD Physiology Project -Japanese Efforts to Promote Multilevel Integrative Systems Biology and Physiome Research-. *npj Systems Biology and Applications* 3:1, 2017
 - 3) Hibino H, Inanobe A, Furutani K, Murakami S, Findlay I, Kurachi Y*. Inwardly rectifying potassium channels: their structure, function and physiological roles. *Physiol Rev* 90(1): 291-366, 2010.
 - 4) Aihara T, Nakamura E, Amagase K, Tomita K, Fujishita T, Furutani K, Okabe S. Pharmacological control of gastric acid secretion for the treatment of acid-related peptic disease: past, present, and future. *Pharmacol Ther* 98(1):109-127, 2003.

Book Chapters (in English):

- 1) Furutani K and Kurachi Y. Heterologous Expression Systems and Analyses of Ion Channels. In *Patch-Clamp Techniques: From Beginning to Advanced Protocol*. Okada Y Ed. Springer, 2012, 353-370 (ISBN-10: 4431539926)

LIST OF PRESENTATIONS

Invited presentations (selected, invited presentation at the international conferences, or invited seminar at research institutes):

- 1) Furutani K. How our membrane voltage changes the ways drugs work, Department of Pharmacology, University of Shizuoka, Japan
- 2) Furutani K. *How our membrane voltage changes the ways drugs work*, Department of Physiology and Membrane Biology, University of California, Davis, 2018.
- 3) Furutani K. *Multimodal Functions of the m2 Muscarinic Acetylcholine Receptor*. University of California, San Francisco, Department of Physiology, San Francisco, California, 2017.
- 4) Furutani K. *Hysteretic Dynamics of Multi-Stable Early Afterdepolarisations with Repolarisation Reserve Attenuation: A Potential Dynamical Mechanism for Cardiac Arrhythmias*. University of California, Davis, Department of Mathematics, Davis, California, 2017.
- 5) Furutani K. *Effect of Class III Antiarrhythmic Agents on Cardiac Action Potential*. University of California, Davis, Department of Pharmacology, Davis, California, 2017.
- 6) Furutani K. *hERG Channel Block and Facilitation: New Insights into the Risk Assessment of Drug-Induced Arrhythmia*.

University of California, Davis, Department of Physiology, Davis, California, 2016.

- 7) Furutani K. *Effects of Class III Antiarrhythmic Agents that Induce Block and Facilitation of hERG Channel on Cardiac Action Potential: A Simulation Study.* International and Interdisciplinary Symposium, Tokyo, Japan, 2016.
- 8) Furutani K. *Systems Failure in the Heart: Drug-Induced Arrhythmia.* Meiji University, Department of Mathematics, Tokyo, Japan, 2016.
- 9) Furutani K. *Cardiovascular Systems Pharmacology.* Niigata University, Department of Physiology, Niigata, Japan, 2016.
- 10) Furutani K. *Molecular Mechanism and Regulation of the m2 Muscarinic Acetylcholine Receptor-Mediated Signaling.* Osaka University, Institute for Protein Research, Osaka, Japan, 2016.
- 11) Furutani K. *An Essential Role of RGS Protein in Partial Agonism of the m2 Muscarinic Acetylcholine Receptor Mediated-K⁺ Channel.* The International Symposium on “Ion Channel, Transporters, and Small Molecules as Key Regulator of Homeostatic Systems”, Nagoya, Japan, 2015.
- 12) Furutani K. *Molecular Mechanism of Partial Agonism and a Nobel Role of RGS Protein in Regulation of the m2 Muscarinic Acetylcholine Receptor Mediated-K⁺ Channel.* The 45th NIPS International Symposium “Cutting-Edge Approaches towards the functioning Mechanisms of Membrane Proteins”, Okazaki, Japan, 2015.
- 13) Furutani K. *Drug-hERG Channel Interaction.* Mochida Pharmaceutical Co. Ltd., Shizuoka, Japan, 2014.

Presentations at professional meetings in US:

- 1) Furutani K., Docken SS, Vorobyov I, Clancy CE, Lewis TJ, Sack JT. *A kinetic mechanism underlying hERG facilitation by a blocker* (Poster). Biophysical Society Annual Meeting, Baltimore, Maryland, 2019.
- 2) Emigh AM, DeMarco KR, Furutani K., Sack JT, Clancy CE, Vorobyov I, Yarov-Yarovoy V. *Structural modeling of drug interactions with the hERG channel in open and closed states* (Poster). Biophysical Society Annual Meeting, Baltimore, Maryland, 2019.
- 3) Furutani K., Tsumoto K, Sack JT, Kurachi Y. *hERG Facilitation is a Proposed Drug Mechanism to Improve the Safety of the Patients Taking hERG Blockers* (Poster). American Heart Association Science Session, Chicago, Illinois, 2018.
- 4) Furutani K., Tsumoto K, Sack JT, Kurachi Y. *Facilitation of cardiac hERG channels by blockers: a mechanism predicted to reduce proarrhythmic side effects of Class III antiarrhythmic drugs* (Poster). 18th World Congress of Basic and Clinical Pharmacology, Kyoto, Japan, 2018.

- 5) Furutani K, Tsumoto K, Sack JT, Kurachi Y. *Facilitation by hERG channel blockers suppresses early afterdepolarization of simulated cardiac action potentials* (Poster). Biophysical Society Annual Meeting, San Francisco, California, 2018.
- 6) Emigh AM, DeMarco KR, Furutani K, Clancy CE, Vorobyov I, Yarov-Yarovoy V. *Structural modeling of drug interactions with hERG potassium channel* (Poster). Biophysical Society Annual Meeting, San Francisco, California, 2018.
- 7) Furutani K, and Kurachi Y. *Inhibition of Kir Channel by Sphingolipids* (Poster). Gordon Research Conference for Ion Channel, Mount Holyoke College, Massachusetts, 2012.
- 8) Furutani K, Inanobe A, Iwata M, Yamakawa Y, and Kurachi Y. *The Activation Gate of a hERG Potassium Channel Can Be Modulated by Antiarrhythmic Agents by a Voltage-Dependent Drug-Channel Interaction within the Central Cavity* (Poster). Gordon Research Conference for Ion Channel, Tilton School, New Hampshire, 2010.
- 9) Furutani K, Inanobe A, and Kurachi Y. *Structural Basis for Antidepressants Block Being Confined Kir4.1* (Poster). Biophysical Society Annual Meeting, Long Beach, California, 2009.
- 10) Furutani K, Ohno Y, Inanobe A, and Kurachi Y. *Antidepressants Block Astroglial Kir4.1 Channel by Binding in the Central Cavity of its Pore* (Poster). Biophysical Society Annual Meeting, Boston, Massachusetts, 2008.
- 11) Furutani K, Okubo Y, Kakizawa S, and Iino M. *Maintenance of Presynaptic Function of Cerebellar Parallel Fiber-Purkinje Cell Synapses by Metabotropic Glutamate-Receptor Mediated Postsynaptic Activity* (Poster). Annual meeting for Society of Neuroscience, Washington DC, 2005.
- 12) Furutani K, Kataoka T, and Okabe S. *Role of Endogenous Histamine on the Mechanism by which Cardachol and Gastrin Stimulated Gastric Acid Secretion in Mice* (Poster). Digestive Disease Week, San Francisco, California, 2002.