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Hiroyuki Kamiguchi, M.D., Ph.D.

Current Affiliation & Title

RIKEN Center for Brain Science
Acting Director
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Education

1996 Ph.D., Department of Neurosurgery, Keio University School of Medicine, Tokyo, Japan
1989 M.D., Keio University School of Medicine, Tokyo, Japan

Licensure & Certification

1995 Board Certified in Neurosurgery
1989 Licensed to Practice Medicine in Japan

Professional Training & Employment

2020-present	Acting Director, RIKEN Center for Brain Science
2018-2019	Deputy Director, RIKEN Center for Brain Science
2011-2017	Senior Team Leader, RIKEN Brain Science Institute
2003-2011	Team Leader, RIKEN Brain Science Institute
1999-2002	Senior Scientist, RIKEN Brain Science Institute
1996-1998	Research Associate with Prof. Vance Lemmon, Department of Neurosciences, Case Western Reserve University, Cleveland, OH, USA
1995	Instructor, Department of Neurosurgery, Keio University
1994	Chief Resident, Department of Neurosurgery, Keio University
1992-1993	Senior Resident & Clinical Fellow, Department of Neurosurgery, Keio University
1991	Medical Staff in Neurosurgery, Urawa City Hospital, Japan
1990	Medical Staff in Neurosurgery, Saiseikai Utsunomiya Hospital, Japan
1989	Resident in Surgery, Keio University Hospital, Japan

Adjunctive Appointments

2020-2026	Member, Science Council of Japan (25^{th}–26^{th} terms)
2020-present	Coordinate Professor, Graduate School of Medicine, The University of Tokyo, Japan
2016-2018	Program Officer, Research Center for Science Systems, Japan Society for the Promotion of Science (JSPS)
2007-2009	Visiting Professor, Waseda University Faculty of Science and Engineering, Japan
2004	Invited Lecturer, Chiba University Graduate School of Science & Technology, Japan
2004	Invited Professor, University of Louis Pasteur, Strasbourg, France

Academic Society Activity

Executive Committee Chair, The 42nd Annual Meeting of the Japan Neuroscience Society (2019)
Faculty Member of *F1000Prime Neuroscience* (2017-present)
Editor-in-Chief of *Neuroscience Research*, the official journal of the Japan Neuroscience Society (2017-present)
Principal Investigator, Japan Agency for Medical Research and Development (AMED-CREST) (2016-21)
Chair of Selection Committee, Japan Neuroscience Society Young Investigator Award (2016-7)
Chair of Selection Committee, Tokizane Memorial Award for Excellent Graduate Study in Neuroscience (2017)
Selection Committee, Award for Distinguished Investigator of Japanese Society for Neurochemistry (2016-9)
Director of the Japan Neuroscience Society (2015-present)
Executive Committee Member, The 38th Annual Meeting of the Japan Neuroscience Society (2015)
Brain Science Dictionary Committee Member of the Japan Neuroscience Society (2014-9)
International Collaboration Affairs Committee of the Japan Neuroscience Society (2013-9)
International Brain Research Organization (IBRO) Asian/Pacific Regional Committee (2013-5)
Executive Committee Chair, The 36th Annual Meeting of the Japan Neuroscience Society (2013)
Director of the Japanese Society for Neural Growth, Regeneration and Transplantation (2008-12)
Chair of Organizing Committee, RIKEN Brain Science Institute Summer Program (2008)
Executive Committee Member, The 31st Annual Meeting of the Japan Neuroscience Society (2008)
Organizer, International Brain Research Organization (IBRO) Advanced School (2007)
Council Member of the Japan Society for Cell Biology (2006-10)
Council Member of the Japanese Society for Neurochemistry (2005-present)
Hydrocephalus Research Committee, The Ministry of Health, Labour and Welfare of Japan (1999-2004)
Academic Trustee of The Japan Neurosurgical Society (1995-present)

Awards & Honors

Kitasato Award (2017)
The Japanese Society for Neurochemistry Young Scientists Lectureship Award (2004)
Medical School Alumni Award from Keio University (2002)
Award from the Japan Intractable Diseases Research Foundation (2001)

Editorial Board

Neuroscience Research (2014-present): Editor-in-Chief (2017-present)
Experimental Neurology (2009-20)
Neural Development (2008-present)

Selected Publications

Guy AT, **Kamiguchi H**: Lipids as new players in axon guidance and circuit development. ***Current Opinion in Neurobiology*** 66: 22-29, 2020

Chan C, Ooashi N, Akiyama H, Fukuda T, Inoue M, Matsu-Ura T, Shimogori T, Mikoshiba K, **Kamiguchi H**: Inositol 1,4,5-trisphosphate receptor type 3 regulates neuronal growth cone sensitivity to guidance signals.

iScience 23: 100963, 2020

Wada F, Nakata A, Tatsu Y, Ooashi N, Fukuda T, Nabetani T, **Kamiguchi H**: Myosin Va and endoplasmic reticulum calcium channel complex regulates membrane export during axon guidance. ***Cell Reports*** 15: 1329-1344, 2016

Akiyama H, Fukuda T, Tojima T, Nikolaev VO, **Kamiguchi H**: Cyclic nucleotide control of microtubule dynamics for axon guidance. ***Journal of Neuroscience*** 36: 5636-5649, 2016

Guy AT, Nagatsuka Y, Ooashi N, Inoue M, Nakata A, Greimel P, Inoue A, Nabetani T, Murayama A, Ohta K, Ito Y, Aoki J, Hirabayashi Y, **Kamiguchi H**: Glycerophospholipid regulation of modality-specific sensory axon guidance in the spinal cord. ***Science*** 349: 974-977, 2015

Tojima T, Itofusa R, **Kamiguchi H**: Steering neuronal growth cones by shifting the imbalance between exocytosis and endocytosis. ***Journal of Neuroscience*** 34: 7165-7178, 2014

Tojima T, Hines JH, Henley JR, **Kamiguchi H**: Second messengers and membrane trafficking direct and organize growth cone steering. ***Nature Reviews Neuroscience*** 12: 191-203, 2011

Akiyama H, **Kamiguchi H**: Phosphatidylinositol 3-kinase facilitates microtubule-dependent membrane transport for neuronal growth cone guidance. ***Journal of Biological Chemistry*** 285: 41740-41748, 2010

Tojima T, Itofusa R, **Kamiguchi H**: Asymmetric clathrin-mediated endocytosis drives repulsive growth cone guidance. ***Neuron*** 66: 370-377, 2010

Tamada A, Kawase T, Murakami F, **Kamiguchi H**: Autonomous right-screw rotation of growth cone filopodia drives neurite turning. ***Journal of Cell Biology*** 188: 429-441, 2010

Akiyama H, Matsu-ura T, Mikoshiba K, **Kamiguchi H**: Control of neuronal growth cone navigation by asymmetric inositol 1,4,5-trisphosphate signals. ***Science Signaling*** 2: ra34, 2009

Tojima T, Itofusa R, **Kamiguchi H**: The nitric oxide-cGMP pathway controls the directional polarity of growth cone guidance via modulating cytosolic Ca^{2+} signals. ***Journal of Neuroscience*** 29: 7886-7897, 2009

Tojima T, Akiyama H, Itofusa R, Li Y, Katayama H, Miyawaki A, **Kamiguchi H**: Attractive axon guidance involves asymmetric membrane transport and exocytosis in the growth cone. ***Nature Neuroscience*** 10: 58-66, 2007

Ooashi N, Futatsugi A, Yoshihara F, Mikoshiba K, **Kamiguchi H**: Cell adhesion molecules regulate Ca^{2+}-mediated steering of growth cones via cyclic AMP and ryanodine receptor type 3. ***Journal of Cell Biology*** 170: 1159-1167, 2005

Nishimura K, Yoshihara F, Tojima T, Ooashi N, Yoon W, Mikoshiba K, Bennett V, **Kamiguchi H**: L1-dependent neuritogenesis involves ankyrin$_B$ that mediates L1-CAM coupling with retrograde actin flow. ***Journal of Cell Biology*** 163: 1077-1088, 2003

Nishimura T, Fukata Y, Kato K, Yamaguchi T, Matsuura Y, **Kamiguchi H**, Kaibuchi K: CRMP-2 regulates polarized Numb-mediated endocytosis for axon growth. ***Nature Cell Biology*** 5: 819-826, 2003

Nakai Y, **Kamiguchi H**: Migration of nerve growth cones requires detergent-resistant membranes in a spatially defined and substrate-dependent manner. ***Journal of Cell Biology*** 159: 1097-1108, 2002

Kamiguchi H, Yoshihara F: The role of endocytic L1 trafficking in polarized adhesion and migration of nerve growth cones. ***Journal of Neuroscience*** 21: 9194-9203, 2001

Kamiguchi H, Lemmon V: IgCAMs: bidirectional signals underlying neurite growth. ***Current Opinion in Cell Biology*** 12: 598-605, 2000

Kamiguchi H, Lemmon V: Recycling of the cell adhesion molecule L1 in axonal growth cones. ***Journal of Neuroscience*** 20: 3676-3686, 2000

Kamiguchi H, Long KE, Pendergast M, Schaefer AW, Rapoport I, Kirchhausen T, Lemmon V: The neural cell adhesion molecule L1 interacts with the AP-2 adaptor and is endocytosed via the clathrin-mediated pathway. ***Journal of Neuroscience*** 18: 5311-5321, 1998

Kamiguchi H, Lemmon V: A neuronal form of the cell adhesion molecule L1 contains a tyrosine-based signal required for sorting to the axonal growth cone. ***Journal of Neuroscience*** 18: 3749-3756, 1998

Kamiguchi H, Hlavin ML, Yamasaki M, Lemmon V: Adhesion molecules and inherited diseases of the human nervous system. ***Annual Review of Neuroscience*** 21: 97-125, 1998

In total, 84 articles in English and 30 articles in Japanese have been published.