Masanori SAKAGUCHI M.D., Ph.D.

PERSONAL DETAILS:

Office: 1-1-1 Tsukuba, Ibaraki, Japan, 305-0006, International Institute for Integrative Sleep Medicine, University of Tsukuba
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Age: 39
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RESEARCH AREAS:

Adult neurogenesis, Memory and Sleep sciences

ACADEMIC EDUCATION AND APPOINTMENTS:

2013Apr Principle Investigator, International Institute for Integrated Sleep Medicine, University of Tsukuba, Ibaraki, Japan

2013Feb Research Scientist, International Institute for Integrated Sleep Medicine, University of Tsukuba, Ibaraki, Japan

2011Apr Special Postdoctoral Research Fellow (SPD), RIKEN Brain Science Institute

2010Oct Research Scientist, RIKEN Brain Science Institute: Dr. Yasunori Hayashi lab.

2009Apr Postdoctoral research fellow, Japanese Society for the Promotion of Science

2007Apr Research fellow, Neurosciences and Mental Health, The Hospital for Sick Children, Canada: Dr. Paul W. Frankland lab.

2005Apr Research associate, Department of Physiology, School of Medicine, Keio University.: Dr. Hideyuki Okano lab.

2005Mar Ph.D. in Medicine, Institute of Basic Medical Sciences, University of Tsukuba, Thesis: A method for gene transfer, single isolation and in vitro assay for neural stem cells, Dr. Hideyuki Okano lab.

2001Jun Medical License (Japan), license number 422466

2001Mar M.D., School of Medicine, University of Tsukuba

PUBLICATION IN SCIENTIFIC JOURNALS:

Fujinaka A[¥], Li R[¥], Hayashi M, Kumar D, Changarathil G, Naito K, Miki K, Nishiyama T, Lazarus M, Sakurai S, Kee N, Nakajima S, Wang SH, Sakaguchi M*, Effect of context exposure after fear learning on memory generalization in mice, Mol. Brain, 2016 Jan, 9:2, *=corresponding author, [¥]=equally contributed

Sakaguchi M*, Kim K, Yu LMY, Hashikawa Y, Sekine Y, Okumura Y, Kawano M, Hayashi M, Kumar D, Boyden ES, McHugh TJ, Hayashi Y*, Inhibiting the activity of CA1 hippocampal neurons prevents the recall of contextual fear memory in inducible ArchT transgenic mice, Plos ONE, 2015 Jun 15;10(6) *=corresponding authors

Arruda-Carvalho M, Akers KG, Guskjolen AJ, Sakaguchi M, Josselyn S, Frankland PW, Post-training ablation of adult-generated olfactory granule cells degrades odor-reward memories, J.Neurosci., 2014 Nov 19;34(47):15793-803.

Sakaguchi M and Hayashi Y, Catching the engram: strategies to examine the memory trace, Mol. Brain 2012Oct, 5:32(359 viewed in the first 10days, 6th best viewed during the 1st month)

Hirota Y, Sawada M, Kida Y, Huang SH, Yamada O, Sakaguchi M, Ogura T, Okano H, Sawamoto K, Roles of planar cell polarity signaling in maturation of neuronal precursor cells in the postnatal mouse olfactory bulb, Stem Cells, 2012 Aug;30(8):1726-33.

Sakaguchi M, Okano H. Neural stem cells, adult neurogenesis and galectins: from bench to bedside, Dev. Neurobiol., 2012 Jul;72(7):1059-67.

Stone S, Teixeira CM, Zaslavsky K, Wheeler AL, Canabal1 AM, Wang AH, Sakaguchi M, Lozano AM, Frankland PW, Functional Convergence of Developmentally- and Adult- Generated Granule Cells in Dentate Gyrus Circuits Supporting Hippocampus-Dependent Memory, Hippocampus. 2011 Dec;21(12):1348-62.

Arruda-Carvalho M*., Sakaguchi M*, Akers KG., Josselyn SA., Frankland PW., Post-training ablation of adult-generated neurons degrades previously-acquired memories., J. Neurosci. 2011 Oct 19;31(42):15113-27., *The authors contributed equally

Yamane J*., Ishibashi S*., Sakaguchi M*., Kuroiwa T., Kanemura Y., Nakamura M., Miyoshi H., Sawamoto K., Toyama Y., Mizusawa H. and Okano H., Transplantation of human neural stem/progenitor cells overexpressing Galectin-1 improves functional recovery from focal brain ischemia in the Mongolian gerbil, Mol. Brain, 2011,4:35, *The authors contributed equally

Sakaguchi M., Arruda-Carvalho M., Kang NH., Imaizumi Y., Poirier F., Okano H. and Frankland PW., Impaired spatial and contextual memory formation in galectin-1 deficient mice, Mol Brain. 2011Sep 1;4(1):33

Leslie AT., Akers KG., Krakowski A., Stone SD., Sakaguchi M., Arruda-Calvalho M., Frankland PW., Impact of early adverse experience on complexity of adult-generated neurons, Translational Psychiatry, 1, e35, 2011 Aug;1:e35

Imaizumi Y, Sakaguchi M, Morishita T, Ito M, Poirier F, Sawamoto K, Okano H, Galectin-1 is expressed in early-type neural progenitor cells and down-regulates neurogenesis in the adult hippocampus, Mol. Brain, 2011Jan 27;4:7.

Ikeda M, Hirota Y, Sakaguchi M, Yamada O, Kida YS, Ogura T, Otsuka T, Okano H, Sawamoto K., Expression and Proliferation-Promoting Role of Diversin in the Neuronally Committed Precursor Cells Migrating in the Adult Mouse Brain., Stem Cells. 2010 Nov;28(11):2017-26.

Hirota Y, Meunier A, Huang S, Shimozawa T, Yamada O, Kida YS, Inoue M, Ito T, Kato H, Sakaguchi M, Sunabori T, Nakaya M, Nonaka S, Ogura T, Higuchi H, Okano H, Spassky N, and Sawamoto K, Planar polarity of multiciliated ependymal cells involves the anterior migration of basal bodies regulated by non-muscle myosin II, Development, 2010 Sep;137(18):3037-46.

Sakaguchi M, Imaizumi Y, Shingo T, Tada H, Hayama K, Yamada O, Morishita T, Kadoya T, Uchiyama N, Shimazaki T, Kuno A, Poirier F, Hirabayashi J, Sawamoto K, Okano H., Regulation of adult neural progenitor cells by Galectin-1/beta1 Integrin interaction., J Neurochem. 2010 Jun;113(6):1516-24.

Akers K.G., Sakaguchi M., Arruda-Carvalho M., Functional contribution of adult-generated olfactory bulb interneurons: Odor discrimination versus odor memory., Journal of Neuroscience, J Neurosci. 2010 Mar 31;30(13):4523-5

Yamane J., Nakamura M., Iwanami A., Sakaguchi M., Katoh H., Yamada M., Momoshima M., Miyao S., Ishii K., Tamaoki N., Nomura T., Okano H.J., Kanemura Y., Toyama Y., Okano H., Transplantation of Galectin-1-expressing human neural stem cells into the injured spinal cord of adult common marmosets, Journal of Neuroscience Research, J Neurosci Res. 2010 May 15;88(7):1394-405.

Frankland P.W., Sakaguchi M., Arruda-Carvalho M., Starting at the endophenotype: A role for alpha-CaMKII in schizophrenia?, Molecular brain,1(1),5-7,2008

Ishibashi S., Kuroiwa T., Sakaguchi M., Sun L., Kadoya T., Okano H., Mizusawa H., Galectin-1 regulates neurogenesis in the subventricular zone and promotes functional recovery after stroke., Exp Neurol.,207(2),302-313,2007

Okano H., Sakaguchi M., Ohki K., Suzuki N., Sawamoto K., Regeneration of the central nervous system using endogenous repair mechanisms., J Neurochem.,102(5),1459-1465.,2007

Adachi K., Mirzadesh Z., Sakaguchi M., Yamashita T., Nikolcheva T., Gotoh Y., Peltz G., Gong L., Kawase T., Alvarez-Buylla A., Okano H., Sawamoto K., β-catenin

signaling promotes proliferation of progenitor cells in the adult mouse subventricular zone., Stem Cells,25(11),2827-2836,2007

Sakaguchi M., Imaizumi Y. and Okano H, Expression and function of galectin-1 in adult neural stem cells., Cell Mol Life Sci., 64, pp1254-8, 2007

Yamashita T., Ninomiya M., Acosta PH., García-Verdugo JM., Sunabori T., Sakaguchi M., Adachi K., Kojima T., Hirota Y., Kawase T., Araki, N., Abe K., Okano H., Sawamoto K., Subventricular-zone-derived neuroblasts migrate and differentiate into mature neurons in the post-stroke adult striatum., J. Neurosci.,26,6627-6636,2006.

Sakaguchi M., Shingo T., Shimazaki T., Okano H.J., Shiwa M., Ishibashi S., Oguro H., Ninomiya M., Kadoya T., Horie H., Shibuya A., Mizusawa H., Poirier F., Nakauchi H., Sawamoto K., Okano H. A carbohydrate binding protein, Galectin-1, promotes proliferation of adult neural stem cells. Proc. Natl. Acad. Sci. USA 103:7112-7117, 2006(Track II ***direct submission***)

Sakaguchi M., Sawamoto K., Shimazaki T., Kitamura T., Shibuya A., Okano H. A method for gene transfer, single isolation and in vitro assay for neural stem cells., Inflammation and Regeneration,25, 50-54, 2005

Ishibashi S., Sakaguchi M., Kuroiwa T., Shimazaki T., Okano H., Mizusawa H. Human neuronal stem cells improve sensorimotor and cognitive impairment in Mongolian gerbils after ischemia., J.Neurosci.Res.,78, 215-223, 2004

Mikami Y., Okano H., Sakaguchi M., Nakamura M., Shimazaki T., Okano H.J., Kawakami Y., Toyama Y., Toda M. Implantation of dendritic cells in the injured adult spinal coed results in activation of the endogenous neural/progenitor cells for den novo neurogenesis and axonal regeneration, leading to functional recovery., J. Neurosci. Res.,76, 453-465, 2004

Ohba H., Chiyoda T., Endo E., Yano M., Hayakawa Y., Sakaguchi M., Darnell RB., Okano H.J., Okano H. Sox21 is a repressor of neuronal differentiation and is antagonized by YB-1., Neurosci. Lett.,358, 157-160, 2004

Review in Japanese

大石誠、中島聡美、 坂口昌徳「心的外傷直後の場所刺激が記憶犯科に与える影響」『医学の歩み』(掲載決定)、2016Sep, v258i13, p1209-1210

坂口　昌徳, 脳内で新生するニューロンと中枢神経再生への応用, ブレインサイエンスレビュー, 2016

Imaizumi Y, Sakaguchi M, Hideyuki O, Galectin., Molecular Therapy, Sentan Igaku Sha, (6),pp80-81,2007 (in Japanese)

Sakaguchi M, Imaizumi Y, Sawamoto K, Okano H., The carbohydrate binding protein, Galectin-1 promotes proliferation of adult neural stem cells., Cell Engineering, Yodo Sha., (25),pp912-913, 2006 (in Japanese)

Okano H., Kohyama J., Ohba H., Sakaguchi M., Tokunaga A., Shimazaki T., Okano HJ., Neural stem cells: Isolation and self-renewal. In Tissue Stem Cells; Biology & Applications, Taylor & Francis Group, LLC, New York, pp55-70, 2006

Sakaguchi M, Sawamoto K, Okano H., Neuro-regenerative therapy - future therapeutic strategy, new medical lecture for nurse, Nakayama Shoten, pp88-92, 2005 (in Japanese)

Sakaguchi M, Sunabori K, Sawamoto K, Okano H., Development and regeneration of nervous system., Illustration map of development and regeneration, Yodo sha, pp139-148, 2005 (in Japanese)

Ninomiya M, Sawamoto K, Sakaguchi M, Okano H., Neural Stem Cells, Igaku no Ayumi, 212(10), pp865-868, 2005 (in Japanese)

GRANTS (total):

The Ichiro Kanehara Foundation for the Promotion of Medical Sciences and Medical Care (1,000,000JPY), 2016

Grant in Aid for Young Researcher (B), Japanese Society for the Promotion of Science, (3,100,000JPY), 2016-2019

Inamori Foundation, (1,000,000JPY), 2016

MEXT Scholarship for recruiting foreign Msc. student (2yrs financial support), 2016~2017

Life Science Foundation of Japan, (1,000,000JPY), 2015

KANAE Foundation for the promotion of medical science, (1,000,000JPY), 2015

Research Foundation for Opto-Science and Technology, (2,000,000JPY), 2015~2016

The Uehara Memorial Foundation Research Grant, (2,000,000JPY), 2015

Senshin Medical Research Foundation Research Grant, (1,000,000JPY), 2015

Kowa Life Science Foundation Research Grant, (500,000JPY), 2015

GSK Japan Research Grant, (2,000,000JPY), 2015

JSPS FPD Scholarship for recruiting foreign posdoc fellow with research grant (2 years financial supports plus research fund 2,500,000JPY), 2015~2017

MEXT Scholarship for recruiting foreign Ph.D. student (4 years financial supports), 2015~2019

FENS-JNS young researchers exchange support program, (2000EUR), 2015

The Kato Memorial Bioscience Foundation, (2,000,000JPY), 2014

Grant-in-Aid for Scientific Research on Innovative Areas, Japanese Society for the Promotion of Science, (9,230,000JPY), 2014-2015

Research Grant, Brain Science Foundation (1,000,000JPY), 2013

Japan Foundation for Applied Enzymology, (1,000,000JPY continuing), 2013~2016

Grant-in-Aid for Scientific Research on Innovative Areas, Japanese Society for the Promotion of Science, (7,020,000JPY), 2013-2014

Grant in Aid for Young Researcher (B), Japanese Society for the Promotion of Science, (4,420,000JPY), 2012-2013,

Research Foundation for Opto-science and Technology (2,000,000), 2011-2012

Uehara Memorial Foundation (2,000,000JPY), 2011

Takeda Science Foundation Research Grant (3,000,000JPY), 2011

RIKEN President's Discretionary Fund (5,000,000JPY), 2011

RIKEN Special Postdoctoral Fellow, 3yrs Salary plus Research Grant (2,000,000JPY), 2011-2012.

RIKEN Seeds Fund, Research Grant (1,000,000JPY), 2010

Travel Grant for attending Lindau Nobel Laureates Meetings, Japanese Society for the Promotion of Science, 2010 (travel expense and attending fee)

The University of Toronto Neuroscience Program, Travel Award for Society for

Neuroscience 2009, 500CAD

Postdoctoral Fellowship, Japanese Society for the Promotion of Science, 2009-2011 (2yrs. salary)

The Hospital for Sick Children, Travel Award for conference (Sfn) attendance, 2008, 1000CAD

RESTRACOMP postdoctoral fellowship, The Hospital for Sick Children, 2007-2008 (2yrs. salary)

Start-up research grant, Japanese Society for the Promotion of Science, 2006-2007 (2yrs. research grant; #18890186), 1,340,000JPY/year

Keio Funds in Promotion of Scientific Exchange between Keio Univ. and Lund Univ.,2007 (travel expense for total 3weeks stay in research institutes in France and Sweden).

Keio Funds in Promotion of Learning, 2006 (research grant), 300,000JPY

High-tech research center improvement project of Japan Ministry of Education, Culture, Sports and Technology, 2005, 1,000,000JPY

Naito foundation research grant, 2005, 500,000JPY

Medical research grants of Keio health counseling center, 2005, 500,000JPY

Keio medical association research grants, 2005, 500,000JPY

Keio Funds in Promotion of learning, 2005, 300,000JPY

Keystone Symposia Scholarship Award, 2004 (NIH grant; 1R13 NS047606-01), 1000USD

INTERNATIONAL PATENTS:

1. Approved USA Patent #7,662,385, Okano H, Sakaguchi M, Hirabayashi J, Sawamoto K., Agent for inhibiting proliferation of neural stem cells., Keio Univ., 2007Feb09

2. Approved USA Patent #7,785,596, EU#04787726.1 HMJ04191EP, Okano H, Okano JH, Sakaguchi M, Mizusawa H, Ishibashi S, Methods for enhancing survival and/or proliferation of neural stem cells and neurite extension enhancers therefore pharmaceutical compositions containing neural stem cells assay methods and screening methods. Keio Univ., 2005Mar24

3. Application USA#20050226852, Toda M, Okano H, Kawakami Y, Toyama Y, Mikami Y, Sakaguchi M, Method of inducing growth of nerve stem cells., Keio Univ. 2003Mar27

4. Application WO2005026343 A1 Ishibashi S, Mizusawa H, Okano H, Okano JH, Sakaguchi M, Method of promoting subsistence and/or proliferation of neural stem cell and promoting extension of neurite, promoter therefor, pharmaceutical composition containing neural stem cell, method of assay and method of screening (status could be changed)

ADDITIOANL SKILLS:

Certified FACS operator (Becton Dickinson)

Languages: English (Advanced), Chinese (HSK-level4, ID# H41402011069), French (Basic knowledge)

Drums: Pops(Advanced), Rock(Advanced), Jazz (Beginner)

Driver's License