



Yukiko Gotoh

Graduate School of Pharmaceutical Sciences, The University of Tokyo

Education

- 1989 - 1992 Ph.D., Department of Biophysics & Biochemistry, Faculty of Science, The University of Tokyo, Tokyo, Japan (Supervisors: Drs. Hikoichi Sakai and Eisuke Nishida)
Thesis Title: Activation and Functions of MAP kinase.
- 1987 - 1989 M.S., Department of Biophysics & Biochemistry, Faculty of Science, The University of Tokyo, Tokyo, Japan (Supervisors: Drs. Hikoichi Sakai and Eisuke Nishida)
- 1983 - 1987 B.Sc., Faculty of Science, The University of Tokyo, Tokyo, Japan

Scientific Employment

- October 2013 - present Professor, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan
- April 2005 – September 2013 Professor, Institute of Molecular and Cellular Biosciences, The University of Tokyo, Tokyo, Japan
- April 2003 - March 2006 Adjunct Professor, National Institute of Genetics, NIG, Mishima
- April 2002 - March 2005 Adjunct Associate Professor, National Institute of Physiological Science, NIPS, Okazaki
- April 1998 – April 2005 Associate Professor, Institute of Molecular and Cellular Biosciences, The University of Tokyo, Tokyo, Japan
- May 1997 – February 1999 Visiting scientist, In Dr. Michael E. Greenberg's laboratory at Children's Hospital/Harvard Medical School, Boston, USA
- October 1996 - April 1997 Visiting scientist, in Dr. Jonathan A. Cooper's laboratory at Fred Hutchinson Cancer Research Center, Seattle, USA
- July 1993 - March 1998 Research Associate/ Assistant Professor, in Dr. Eisuke Nishida's laboratory at Institute for Virus Research, Kyoto University, Kyoto, Japan
- April 1992 - June 1993 Post-doctoral fellow, in Dr. Eisuke Nishida's laboratory at The University of Tokyo, Tokyo, Japan



Scientific Awards

- 1) 22nd Kihara Memorial Foundation Academic Award
- 2) 30th Inoue Prize for Science
- 3) Prize for Medicine, Yasuda Memorial Foundation
- 4) 24th Tsukahara Prize
- 5) 6th Japan Academy Medal
- 6) 6th JSPS PRIZE, Japan Society for the Promotion of Science
- 7) Incitement Award of the Japanese Cancer Association
- 8) Incitement Award of Mitsubishi Chemical Corp., The Molecular Biology Society of Japan

Recent Selected Publications

1. Tsuboi, M., Kishi, Y., Kyozuka, W., Koseki, H., Hirabayashi, Y., and Gotoh, Y.
Ubiquitination-independent repression of PRC1 targets during neuronal fate restriction in the developing mouse neocortex.
Dev. Cell (in press).
2. Kishi, Y. and Gotoh, Y. Regulation of chromatin structure during neural development.
Frontiers Neurosci. (in press). Review.
3. Okazaki, T. and Gotoh, Y. An unexpected calm: Mfge8 controls stem cell quiescence and maintenance.
Cell Stem Cell 23, 311–312 (2018). Preview.
4. Lanjakornsiripan, D., Pior, B. J., Kawaguchi, D., Furutachi, S., Tahara, T., Katsuyama, Y., Suzuki, Y., Fukazawa, F., and Gotoh, Y. Layer-specific heterogeneity of astrocytes and its dependence on neuronal layers.
Nat. Commun. 9,1623 (2018).
5. Kawai, H., Kawaguchi, D., Kuebrich, B. D., Kitamoto, T., Yamaguchi, M., Gotoh, Y., and Furutachi, S. Area-specific regulation of quiescent neural stem cells by Notch3 in the adult mouse subependymal zone.
J. Neurosci. 37, 11867–11880 (2017).
6. Nagao, M., Ogata, T., Sawada, Y., and Gotoh, Y. Zbtb20 promotes astrocytogenesis during neocortical development.
Nat. Commun. 7, 11102 (2016).
7. Itoh, Y., Higuchi, M., Oishi, K., Kishi, Y., Okazaki, T., Sakai, H., Miyata, T., Nakajima, K., and Gotoh, Y. PDK1-Akt pathway regulates radial neuronal migration and microtubules in the developing mouse neocortex.
Proc. Natl. Acad. Sci. USA 113, E2955–E2964 (2016).
8. Furutachi, S., Miya, H., Watanabe, T., Kawai, H., Yamasaki, N., Harada, Y., Imayoshi, I., Nelson, M., Nakayama, K. I., Hirabayashi, Y., and Gotoh, Y. Slowly dividing neural progenitors are an embryonic origin of adult neural stem cells.
Nat. Neurosci. 18, 657–665 (2015).
9. Okazaki, T., Higuchi, M., Takeda, K., Iwatsuki-Horimoto, K., Kiso, M., Miyagishi, M., Yanai, H., Kato, A., Yoneyama, M., Fujita, T., Taniguchi, T., Kawaoka, Y., Ichijo, H., and Gotoh, Y. The ASK family kinases differentially mediate induction of type I interferon and apoptosis during the antiviral response.
Sci. Signal. 8, ra78 (2015).
10. Morimoto-Suzki, N., Hirabayashi, Y., Tyssowski, K., Shinga, J., Vidal, M., Koseki, H., and Gotoh, Y. The polycomb component Ring1B regulates the timed termination of subcerebral projection neuron



- production during mouse neocortical development.
Development 141, 4343–4353 (2014).
11. Tyssowski, K., Kishi, Y., and Gotoh, Y. Chromatin regulators of neural development.
Neuroscience 264, 4–16 (2014). Review.
 12. Kawaguchi, D., Furutachi, S., Kawai, H., Hozumi, K., and Gotoh, Y. Dll1 maintains quiescence of adult neural stem cells and segregates asymmetrically during mitosis.
Nat. Commun. 4, 1880 (2013).
 13. Furutachi, S., Matsumoto, A., Nakayama, K. I., and Gotoh, Y. p57 controls adult neural stem cell quiescence and modulates the pace of lifelong neurogenesis.
EMBO J. 32, 970–981 (2013).
 14. Itoh, Y., Moriyama, Y., Hasegawa, T., Endo, T. A., Toyoda, T., and Gotoh, Y. Scratch regulates neuronal migration onset via an epithelial-mesenchymal transition-like mechanism.
Nat. Neurosci. 16, 416–425 (2013).
 15. Itoh, Y., Tyssowski, K., and Gotoh, Y. Transcriptional coupling of neuronal fate commitment and the onset of migration.
Curr. Opin. Neurobiol. 6, 957–964 (2013). Review.
 16. Kishi, Y., Fujii, Y., Hirabayashi, Y., and Gotoh, Y. HMGA proteins regulate global chromatin state and the neurogenic potential in neocortical precursor cells.
Nat. Neurosci. 15, 1127–1133 (2012).
 17. Onoguchi, M., Hirabayashi, Y., Koseki, H., and Gotoh, Y. A noncoding RNA regulates the neurogenin1 gene locus during mouse neocortical development.
Proc. Natl. Acad. Sci. USA 109, 16939–16944 (2012).
 18. Kuwahara, A., Hirabayashi, Y., Knoepfler, P. S., Taketo, M. M., Sakai, J., Kodama, T., and Gotoh, Y. Wnt signaling and its downstream target N-myc regulate basal progenitors in the developing neocortex.
Development 137, 1035–1044 (2010).
 19. Hirabayashi, Y. and Gotoh, Y. Epigenetic control of neural precursor cell fate during development.
Nat. Rev. Neurosci. 11, 377–388 (2010). Review.
 20. Hirabayashi, Y., Suzuki, N., Tsuboi, M., Endo, T. A., Toyoda, T., Shinga, J., Koseki, H., Vidal, M., and Gotoh, Y. Polycomb limits the neurogenic competence of neural precursor cells to promote astrogenic fate transition.
Neuron 63, 600–613 (2009).
 21. Oishi, K., Watatani, K., Itoh, Y., Okano, H., Guillemot, F., Nakajima, K., and Gotoh, Y. Selective induction of neocortical GABAergic neurons by the PDK1-Akt pathway through activation of Mash1.
Proc. Natl. Acad. Sci. USA 106, 13064–13069 (2009).
 22. Higuchi, M., Onishi, K., Yoneyama, C., and Gotoh, Y. Scaffolding function of PAK in the PDK1-Akt pathway.
Nat. Cell Biol. 10, 1356–1364 (2008).
 23. Kawaguchi, D., Yoshimatsu, T., Hozumi, K., and Gotoh, Y. Selection of differentiating cells by different levels of delta-like 1 among neural precursor cells in the developing mouse telencephalon.
Development 135, 3849–3858 (2008).
 24. Mori, Y., Higuchi, M., Hirabayashi, Y., Fukuda, M., and Gotoh, Y. JNK phosphorylates Syt 4 and enhances Ca²⁺-evoked release.



EMBO J. 27, 76–87 (2008).

Recent Selected Presentations (Invited)

1. VBC Seminars, 2018/9/27, Vienna, Austria : Regulation of neural stem/progenitor cell fate during brain development
2. Stem Cell Dynamics Throughout Life: From Development to the Adult, 2018/8/30, Basel, Switzerland : Regulation of neural progenitor/stem cell fate during development
3. International Society for Stem Cell Research (ISSCR) 2018 Annual Meeting, 2018/6/20-23, Melbourne, Australia: Regulation of neural stem/progenitor cell fate during neocortical development
4. Workshop Development and evolution of the human neocortex, 2018/6/10-13, West Sussex, UK: Regulation of neural stem/progenitor cell fate during development
5. International Society for Developmental Neuroscience (ISDN) 2018, 2018/5/22-25, Nara, Japan: Regulation of embryonic and adult neural stem cell fate
6. Cold Spring Harbor (CSH) Asia2018, Stem Cell Crossroads, 2018/5/7-10, Suzhou, China: Regulation of embryonic and adult neural stem cell fate
7. Bordeaux Cajal School 2018, 2018/4/3-21, Bordeaux Cedex , France: Regulation of neural stem/progenitor cell fate during development and in the adult
8. Keystone Symposia, Regenerative Biology and Applications, The University of Hong Kong, 2017/10/15-19, Hong Kong, China: Epigenetic control of neural precursor cell fate
9. Italian Society for Neuroscience 2017 (plenary lecture), 2017/10/1-4, Ischia, Italy : Regulation of neural stem cell fate during development and in the adult.
10. EMBO Conference, Gene regulatory mechanisms in neural fate decisions, 2017/9/7-10, Alicante, Spain : Chromatin regulation during neuronal maturation in the mouse neocortex
11. Japanese Society for Neuroscience 2017(lecture), 2017/7/20-23, Chiba, Japan : Regulation of neural stem cell fate during development and in the adult.
12. XIII European Meeting on Glial Cells 2017(plenary lecture), 2017/7/8-11, Edingburgh, UK. : Regulation of astrocyte production in the mouse neocortex.
13. EMBO Conference, Advances in Stem Cell and Regenerative Medicine, 2017/5/23-26, Heiderberg, Germany: Embryonic vs adult neural stem cells.
14. Society for Neuroscience 2016 (lecture), 2016/11/12-16, San Diego, USA. : Regulation of Neural stem cell fate during development and in the adult.
15. EMBO workshop Neural Function and Cell Fate Choice, 2016/9/18-22, Kyllini, Greece: Regulation of Neural stem cell fate during mouse development.
16. Gordon Research Conference Molecular & Cellular Neurobiology, 2016/6/12-17, HongKong, China: Intrinsic and Extrinsic Regulators of Neural Stem Cells, Embryonic vs Adult Neural Stem Cells.
17. 18th International Neuroscience Winter Conference, 2016/4/2-6, Innsbruck, Austria : Molecular Mechanisms Regulating the Neurogenic Stem Cell Niche in the Embryo and Adult Brain.
18. Neurogenesis, 2016/3/2-5, Cancun, Mexico: Regulation of Neural Stem Cell Fate during Embryogenesis and in the adult.
19. 25th Meeting of the International Society for Neurochemistry (ISN), 2015/8/23-27, Cairns, Australia: Embryonic vs adult neural stem cells.
20. Cold Spring Harbor (CSH) Asia Conference on International Brain Project, 2015/6/19-22, Suzhou, China: Embryonic vs adult neural stem cells.
21. The American Society for Cell Biology (ASCB) /IFCB Annual Meeting, 2014/12/6/10, Philadelphia PA, USA.: Regulation of embryonic and adult neural stem/progenitor cell fate.
22. Global controls in stem cells, 2014/11/5-7, ISSCR Singapore: Regulation of neural stem/progenitor cell fate in the embryonic and adult mouse brains.
23. The Notch Meeting VIII, Notch signaling in the Nervous System, 2014/9/28-10/1, Athens, Greece: Embryonic vs adult neural stem cells.
24. Gordon Research Conferences /Phosphorylation & G-Protein Mediated Signaling Networks, 2014/6/15-20, Biddeford, USA.: Neural stem cell development.



Recent Symposium Organization/Program Committee

1. 22nd Biennial Meeting of the International Society of Developmental Neuroscience (ISDN) 2018, 2018/5/22-25, Nara, Japan
2. EMBO Conference, Gene regulatory mechanisms in neural fate decisions, 2017/9/7-10, Alicante, Spain.
3. The 40th Annual Meeting of the Japan Neuroscience Society, Pushing the Frontiers of Neuroscience, 2017/7/20-23, Chiba, Japan
4. International Society for Stem Cell Research (ISSCR) 2017 Annual Meeting, 2017/6/14-17, Boston, USA.
5. The 39th Annual Meeting of the Molecular Biology Society of Japan, 2016/11/30-12/2, Hyogo, Japan
6. International Society of Developmental Neuroscience (ISDN) 2016, From stem cells to behavior in the normal and diseased, 2016/5/11-14, Nice, France.
7. Keystone Symposium, Neurogenesis, 2013/2/3-8, Santa Fe, USA.
8. Cold Spring Harbor (CSH) Conferences Asia/ International Society for Stem Cell Research (ISSCR) 2012, Stem cells and Development, 2012/12/5-8, Suzhou, China.

Current Advisory Board Member / Editorial Board member

1. Journal of Cell Biology, The Editorial Board (2019-)
2. GLIA, The Editorial Board member
3. neuroDEVELOPMENTS, The Editorial Board member
4. Life Science Alliance, Advisory Board Member
5. Frontiers in Neuroscience (Neurogenesis), The Editorial Board Member
6. The Declaration on Research Assessment (DORA), Advisory Board Member
7. Development, Advisory Board Member
8. Genes to Cells, Associate Editor