Curriculum Vitae

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PERSONEL:

Date of birth: September 4, 1974
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INSTITUTION ADDRESS:

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EDUCATION:

1997–2001: Ph.D., Division of Biological Sciences, Graduate School of Science, Hokkaido University, Japan
1993–1996: B.S., Department of Biological Sciences, Faculty of Science, Hokkaido University, Japan

EMPLOYMENT:

2011–present: Staff Scientist; Laboratory for Neuronal Growth Mechanisms, RIKEN Brain Science Institute
2008–2010: Research Scientist; Laboratory for Neuronal Growth Mechanisms, RIKEN Brain Science Institute
2005–2007: Special Postdoctoral Researcher; Laboratory for Neuronal Growth Mechanisms, RIKEN Brain Science Institute
2003–2004: Research Scientist; Laboratory for Neuronal Growth Mechanisms, RIKEN Brain Science Institute
2002: Research Fellow of the Japan Society for the Promotion of Science (PD); Division of Molecular Neurobiology, The Institute of Medical Science, The University of Tokyo
2001: Research Fellow of the Japan Society for the Promotion of Science (DC); Division of Biological Sciences, Graduate School of Science, Hokkaido University

ADJUNCTIVE APPOINTMENTS:

2013, 2015: Invited Lecturer; Department of Biology, Faculty of Science, Chiba University
2010–2014: PRESTO Researcher; Japan Science and Technology Agency

AWARDS:

2011: Japan Neuroscience Society Young Investigator Award
2011: RIKEN Research Incentive Award
2009: Japan Society for Cell Biology Young Scientist Award for Presentation

PROFESSINAL SOCIETY MEMBERSHIP:

The Japan Neuroscience Society
Japan Society for Cell Biology
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PUBLICATIONS:

[English]

1. **Takuro Tojima**, Hiroyuki Kamiguchi. (2015) Exocytic and endocytic membrane trafficking in axon development. ***Development, Growth & Differentiation*** doi: 10.1111/dgd.12218. (in press)

2. Rurika Itofusa, **Takuro Tojima**, Hiroyuki Kamiguchi. Visualization of clathrin-mediated endocytosis during Semaphorin-guided axonal growth. ***Methods in Molecular Biology*** (in press)

3. **Takuro Tojima**, Rurika Itofusa, Hiroyuki Kamiguchi. (2014) Steering neuronal growth cones by shifting the imbalance between exocytosis and endocytosis. ***Journal of Neuroscience*** 34:7165-7178.

4. Tomoharu Kuboyama, Xueting Luo, Kevin Park, Murray G. Blackmore, **Takuro Tojima**, Chihiro Tohda, John L. Bixby, Vance P. Lemmon, Hiroyuki Kamiguchi. (2013) Paxillin phosphorylation counteracts proteoglycan-mediated inhibition of axon regeneration. ***Experimental Neurology*** 248:157-169.

5. **Takuro Tojima**. (2012) Intracellular signaling and membrane trafficking control bidirectional growth cone guidance. ***Neuroscience Research*** 73:269-274.

6. **Takuro Tojima**, Jacob H. Hines, John R. Henley, Hiroyuki Kamiguchi. (2011) Second messengers and membrane trafficking direct and organize growth cone steering. ***Nature Reviews Neuroscience*** 12:191-203.

7. **Takuro Tojima**, Hiroyuki Kamiguchi. (2011) The driving machinery for growth cone navigation. ***Cytoskeleton of the Nervous System, Advances in Neurobiology*** (Springer, New York), R.A. Nixon, A. Yuan (eds.), vol. 3 pp. 447-454.

8. **Takuro Tojima**, Rurika Itofusa, Hiroyuki Kamiguchi. (2010) Asymmetric clathrin-mediated endocytosis drives repulsive growth cone guidance. ***Neuron*** 66:370-377.

9. **Takuro Tojima**, Rurika Itofusa, Hiroyuki Kamiguchi. (2009) 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.

10. Kenji Amano, Morimitsu Fujii, Satoru Arata, **Takuro Tojima**, Masaharu Ogawa, Noriyuki Morita, Atsushi Shimohata, Teiichi Furuichi, Shigeyoshi Itohara, Hiroyuki Kamiguchi, Julie Korenberg, Akiko Arata, Kazuhiro Yamakawa. (2009) DSCAM deficiency causes loss of pre-inspiratory neuron synchroneity and perinatal death. ***Journal of Neuroscience*** 29:2984-2996.

11. **Takuro Tojima**, Hiroki Akiyama, Rurika Itofusa, Yan Li, Hiroyuki Katayama, Atsushi Miyawaki, Hiroyuki Kamiguchi. (2007) Attractive axon guidance involves asymmetric membrane transport and exocytosis in the growth cone. ***Nature Neuroscience*** 10:58-66.

12. Masae Kinoshita, Masahiro Fukaya, **Takuro Tojima**, Satoshi Kojima, Hironori Ando, Masahiko Watanabe, Akihisa Urano, Etsuro Ito (2005) Retinotectal transmission in the optic tectum of rainbow trout. ***Journal of Comparative Neurology*** 484:249-259.

13. **Takuro Tojima**, Etsuro Ito. (2004) Signal transduction cascades underlying de novo protein synthesis required for neuronal morphogenesis in differentiating neurons. ***Progress in Neurobiology*** 72:183-193.

14. Koji Chono, Hatsuki Shiga, **Takuro Tojima**, Etsuro Ito. (2004) Initiation of functional synapses is associated with AMPA receptor expression. ***Neuroscience Research Communications*** 35:24-31.

15. Kazunari Nishimura, Fumie Yoshihara, **Takuro Tojima**, Noriko Ooashi, Woohyun Yoon, Katsuhiko Mikoshiba, Vann Bennett, Hiroyuki Kamiguchi. (2003) L1-dependent neuritogenesis involves ankyrinB that mediates L1-CAM coupling with retrograde actin flow. ***Journal of Cell Biology*** 163:1077-1088.

16. **Takuro Tojima**, Suguru Kobayashi, Etsuro Ito. (2003) Dual role of cyclic AMP-dependent protein kinase in neuritogenesis and synaptogenesis during neuronal differentiation. ***Journal of Neuroscience Research*** 74:829-837.

17. **Takuro Tojima**, Masayuki Takahashi, Etsuro Ito. (2003) Dual regulation of LIM kinase 1 expression by cyclic AMP and calcium determines cofilin phosphorylation states during neuritogenesis in NG108-15 cells. ***Brain Research*** 985:43-55.

18. Koichi Kawahara, Munetaka Saitoh, Takayuki Nakajima, Hideomi Sato, Motoki Tanaka, **Takuro Tojima**, Etsuro Ito. (2002) Increased resistance to nitric oxide cytotoixicity associated with differentiation of neuroblastoma-glioma hybrid (NG108-15) cells. ***Free Radical Research*** 36:545-554.

19. **Takuro Tojima**, Etsuro Ito. (2001) A cyclic AMP-regulated negative feedforward system for neuritogenesis revealed in a neuroblastoma × glioma hybrid cell line. ***Neuroscience*** 104:583-591.

20. Hatsuki Shiga, **Takuro Tojima**, Etsuro Ito. (2001) Ca^{2+} signaling regulated by an ATP dependent autocrine mechanism in astrocytes. ***NeuroReport*** 12:2619-2622.

21. Etsuro Ito, **Takuro Tojima**, Yukako Yamane, Tomoko Hosono, Hatsuki Shiga. (2001) Biophysical and biochemical aspects of nerve and glial cells as revealed by atomic force microscopy. ***Recent Research Developments in Biophysical Chemistry*** 1:61-72.

22. **Takuro Tojima**, Yukako Yamane, Hiroshi Takagi, Tomoko Takeshita, Takashi Sugiyama, Hisashi Haga, Kazushige Kawabata, Tatsuo Ushiki, Kazuhiro Abe, Tohru Yoshioka, Etsuro Ito. (2000) Three-dimensional characterization of interior structures of exocytotic apertures of nerve cells using atomic force microscopy. ***Neuroscience*** 101:471-481.

23. **Takuro Tojima**, Etsuro Ito. (2000) Bimodal effects of acetylcholine on synchronized

calcium oscillation in rat cultured cortical neurons. ***Neuroscience Letters*** 287:179-182.

24. **Takuro Tojima**, Yukako Yamane, Masayuki Takahashi, Etsuro Ito. (2000) Acquisition of neuronal proteins during differentiation of NG108-15 cells. ***Neuroscience Research*** 37:153-161.

25. Takashi Sugiyama, Toru Shinoe, Yoko Ito, Hidemi Misawa, **Takuro Tojima**, Etsuro Ito, Tohru Yoshioka. (2000) A novel function of synapsin II in neurotransmitter release. ***Brain Research Molecular Brain Research*** 85:133-143.

26. **Takuro Tojima**, Dai Hatakeyama, Kazushige Kawabata, Kazuhiro Abe, Etsuro Ito. (1999) Reexamination of fine surface topography of nerve cells revealed by atomic force microscopy. ***Bioimages*** 7:89-94.

27. Tomoko Hosono, Mari Yamanaka, **Takuro Tojima**, Yukako Yamane, Hisayo Sadamoto, Dai Hatakeyama, Hisashi Haga, Kazushige Kawabata, Kazuhiro Abe, Etsuro Ito. (1999) Atomic force microscopic observation of three-dimensional morphological changes of neurons when stimulated by a neurotransmitter. ***Japanese Journal of Applied Physics*** 38:3940-3945.

28. **Takuro Tojima**, Dai Hatakeyama, Yukako Yamane, Kazushige Kawabata, Tatsuo Ushiki, Shigeaki Ogura, Kazuhiro Abe, Etsuro Ito. (1998) Comparative atomic force and scanning electron microscopy for fine structural images of nerve cells. ***Japanese Journal of Applied Physics*** 37:3855-3859.

29. Yukako Yamane, Dai Hatakeyama, **Takuro Tojima**, Kazushige Kawabata, Tatsuo Ushiki, Shigeaki Ogura, Kazuhiro Abe, Etsuro Ito. (1998) Fine surface images that reflect cytoskeletal structures in cultured glial cells by atomic force microscopy. ***Japanese Journal of Applied Physics*** 37:3849-3854.

30. Shin Nagayama, **Takuro Tojima**, Mayumi Morimoto, Shigeo Sasaki, Kazushige Kawabata, Tatsuo Ushiki, Kazuhiro Abe, Etsuro Ito. (1997) Practical scan speed in atomic force microscopy for live neurons in a physiological solution. ***Japanese Journal of Applied Physics*** 36:3877-3880.

[Japanese]

1. 戸島拓郎，上口裕之．(2015) 成長円錐はどのように動くのか．***Clinical Neuroscience*** 33:474-475.

2. 戸島拓郎，上口裕之．(2013) サイクリック AMP. ***脳科学辞典*** http://bsd.neuroinf.jp/wiki/サイクリック AMP

3. 秋山博紀, 戸島拓郎, 上口裕之. (2012) 神経軸索突起の進路決定メカニズム. ***生化学*** 84:848-853.

4. 戸島拓郎，秋山博紀，上口裕之．(2011) 神経軸索突起をターゲットへ導く細

胞内メカニズム. *生物物理* 51:214-217.

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6. 戸島拓郎, 上口裕之. (2008) 神経軸索の伸長とガイダンス制御. *シリーズ脳科学4：脳の発生と発達*（*東京大学出版会*）pp. 141-185.

7. 戸島拓郎, 上口裕之. (2008) 誘引性・反発性軸索ガイダンスを制御するカルシウムシグナル. *実験医学* 26:1852-1858.

8. 秋山博紀, 戸島拓郎, 大芦典子, 上口裕之. (2008) カルシウムシグナルによる軸索ガイダンスの制御機構. *蛋白質核酸酵素* 53:153-163.

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11. 伊藤悦朗, 戸島拓郎. (2001) 神経伝達物質の放出・受容に伴うニューロンの局所的機能と微細形態変化の測定. *ブレインサイエンス・レビュー2001*（*医学書院*）pp. 129-141.

12. 戸島拓郎, 山根ゆか子, 細野倫子, 伊藤悦朗. (1999) 特集・原子間力顕微鏡: 培養神経細胞とグリア細胞. *細胞* 31:20-22.