

# Curriculum Vitae

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## PERSONAL INFORMATION



**Name:** Tomomi Shimogori  
**Title:** Ph.D.  
**Affiliation :** RIKEN BSI Team Leader of Lab for Molecular Mechanisms of Thalamus Development  
**e-mail:** tshimogori@brain.riken.jp

**Education:** B.A. Hoshi Collage of Pharmacy, Tokyo, Japan **1993**  
Ph.D., Pharmaceutical Sciences, Graduate School, Chiba University, Chiba, Japan **1998**

## ACADEMIC APPOINTMENTS

**1998 to 2004** Dept. Neurobiology, Pharmacology and Physiology, University of Chicago, USA Laboratory of Dr. Elizabeth A. Grove  
**2004 to 2010** RIKEN BSI Unit Leader for Shimogori Research Unit  
2010 to present RIKEN BSI Team Leader of Lab for Molecular Mechanisms of Thalamus Development

## SERVICE TO PROFESSIONAL PUBLICATIONS:

2008-now Review Editor, Frontiers in Neural Circuits  
2008-now Review Editor, Frontiers in Neuroanatomy

## PUBLICATIONS

### *Peer Reviewed Journal Articles*

1. He Y, **Shimogori T**, Kashiwagi K, Shirahata A, Igarashi K. (1995) Inhibition of cell growth by combination of alpha-difluoromethylornithine and an inhibitor of spermine synthase. *J Biochem (Tokyo)*. **117**, 824-9.

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2. Igarashi K, Koga K, He Y, **Shimogori T**, Ekimoto H, Kashiwagi K, Shirahata A. (1995) Inhibition of the growth of various human and mouse tumor cells by 1,15-bis(ethylamino)-4,8,12-triazapentadecane. *Cancer Res.* **55**, 2615-9.
3. **Shimogori T**, Suzuki T, Kashiwagi K, Kakinuma Y, Igarashi K. (1996) Enhancement of helicase activity and increase of eIF-4E phosphorylation in ornithine decarboxylase-overproducing cells. *Biochem Biophys Res Commun.* **222**, 748-52.
4. **Shimogori T**, Kashiwagi K, Igarashi K. (1996) Spermidine regulation of protein synthesis at the level of initiation complex formation of Met-tRNA<sup>i</sup>, mRNA and ribosomes. *Biochem Biophys Res Commun.* **223**, 544-8.
5. Sakata K, **Fukuchi-Shimogori T**, Kashiwagi K, Igarashi K. (1997) Protein Identification of regulatory region of antizyme necessary for the negative regulation of polyamine transport. *Biochem Biophys Res Commun.* **238**, 415-9.
6. **Fukuchi-Shimogori T**, Ishii I, Kashiwagi K, Mashiba H, Ekimoto H, Igarashi K. (1997) Malignant transformation by overproduction of translation initiation factor eIF4G. *Cancer Res.* **57**, 5041-4.
7. Shibata M, Shinga J, Yasuhiko Y, Kai M, Miura K, **Shimogori T**, Kashiwagi K, Igarashi K, Shiokawa K. (1998) Overexpression of S-adenosylmethionine decarboxylase (SAMDC) in early *Xenopus* embryos induces cell dissociation and inhibits transition from the blastula to gastrula stage. *Int J Dev Biol.* **42**, 675-86.
8. Meksuriyen D, **Fukuchi-Shimogori T**, Tomitori H, Kashiwagi K, Toida T, Imanari T, Kawai G, Igarashi K. (1998) Formation of a complex containing ATP, Mg<sup>2+</sup>, and spermine. Structural evidence and biological significance. *J Biol Chem.* **273**, 30939-44.
9. Antognoni F, Del Duca S, Kuraishi A, Kawabe E, **Fukuchi-Shimogori T**, Kashiwagi K, Igarashi K. (1999) Transcriptional inhibition of the operon for the spermidine uptake system by the substrate-binding protein PotD. *J Biol Chem.* **274**, 1942-8.

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10. Iwata S, Sato Y, Asada M, Takagi M, Tsujimoto A, Inaba T, Yamada T, Sakamoto S, Yata J, **Shimogori T**, Igarashi K, Mizutani S. (1999) Anti-tumor activity of antizyme which targets the ornithine decarboxylase (ODC) required for cell growth and transformation. *Oncogene*. **18**, 165-72.
11. Hayashi S, Nishimura K, **Fukuchi-Shimogori T**, Kashiwagi K, Igarashi K. (2000) Increase in cap- and IRES-dependent protein synthesis by overproduction of translation initiation factor eIF4G. *Biochem Biophys Res Commun*. **277**,117-23.
12. **Fukuchi-Shimogori T**, Grove EA. (2001) Neocortex patterning by the secreted signaling molecule FGF8. *Science*. **294**:1071-4.
13. Nishimura K, Ohki Y, **Fukuchi-Shimogori T**, Sakata K, Saiga K, Beppu T, Shirahata A, Kashiwagi K, Igarashi K. (2002) Inhibition of cell growth through inactivation of eukaryotic translation initiation factor 5A (eIF5A) by deoxyspergualin. *Biochem J*. **363**, 761-8.
14. Grove EA and **Fukuchi-Shimogori T**. (2003) Development of the vertebrate forebrain. *Ann. Rev. Neurosci*. **26**, 355-80.
15. **Fukuchi-Shimogori T**, Grove EA. (2003) Emx2 Patterns the Neocortex by Regulating FGF Positional Signaling. *Nat Neurosci*. **8**, 825-31.
16. **Shimogori T.**, VanSant J, Paik ES, and Grove EA. (2004) Members of the Wnt, Fz, and Frp gene families expressed in postnatal mouse cerebral cortex. *J Comp Neurol*. **473**, 496-510.
17. **Shimogori T.**, Banuchi V., Ng HY., Strauss JB. and Grove EA. (2004) Embryonic signaling centers expressing BMP, Wnt and FGF proteins interact to pattern the cerebral cortex. *Development*. **13**,5639-47.
18. **Shimogori T** and Grove EA. (2005) FGF8 Regulates Neocortical Guidance of Area-specific Thalamic Innervation. *J Neurosci*. **13**, 6550-60.

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19. Sasaki T, Nishihara H, Hirakawa M, Fujimura K, Tanaka M, Kokubo N, Kimura-Yoshida C, Matsuo I, Sumiyama K, Saitou N, **Shimogori T**, Okada N. (2008) Possible involvement of SINEs in mammalian-specific brain formation. *Proc Natl Acad Sci U S A*. 105, 4220-5.
20. **Shimogori T** and Ogawa M. (2008) Gene application with in utero electroporation in mouse embryonic brain. *Dev Growth Differ*. 50;499-506 (review).
21. Imayoshi I, **Shimogori T**, Ohtsuka T and Kageyama R. (2008) Hes genes and neurogenin regulate non-neural versus neural fate specification in the dorsal telencephalic midline. *Development*. 135; 2531-41.
22. Kataoka A and **Shimogori T**. (2008) FGF8 controls regional identity in the developing thalamus. *Development*. 135; 2873-81
23. Kinameri E, Inoue T, Aruga J, Imayoshi I, Kageyama R, **Shimogori T\*** and Moore AW\*. (2008) Prdm proto-oncogene transcription factor family expression and interaction with the Notch-Hes pathway in mouse neurogenesis. *PLoS ONE*. 3:e3859. \*corresponding authors
24. Suzuki-Hirano A and **Shimogori T**. (2009) The role of Fgf8 in telencephalic and diencephalic patterning. *Semin. Cell. Devbiol*. 20; 719-725 (review).
25. Fabre P, **Shimogori T**, Charron F. (2010) Segregation of ipsilateral retinal ganglion cell axons at the optic chiasm requires the Shh receptor Boc. *J Neurosci*. 30; 266-75.
26. Aggarwal M, Mori S, **Shimogori T**, Blackshaw S, Zhang J. (2010) Three dimensional rapid diffusion tensor microimaging for anatomical characterization and gene expression mapping the mouse brain. *Journal Magnetic Resonance in Medicine*. 64; 249-261.

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27. **Shimogori T\***, Lee DA, Miranda-Angulo A, Yang Y, Jiang L, Yoshida AC, Kataoka A, Mashiko H, Avetisyan M, Qi L, Qian J, and Blackshaw S\*. (2010) A genomic atlas of mouse hypothalamic development. *Nat Neurosci.* 13:767-75. \*corresponding authors.
28. Okada N, Sasaki T, **Shimogori T**, Nishihara H. (2010) Emergence of mammals by emergency: exaptation. *Genes Cells.* 15:801-12.
29. Toyoda R, Assimacopoulos S, Wilcoxon J, Taylor A, Feldman P, Suzuki-Hirano A, **Shimogori T**, Grove EA. (2010) FGF8 acts as a classic diffusible morphogen to pattern the neocortex. *Development.* 137:3439-48.
30. Blackshaw S, Scholpp S, Placzek M, Ingraham H, Simerly R, **Shimogori T**. (2010) Molecular pathways controlling development of thalamus and hypothalamus: from neural specification to circuit formation. *J Neurosci.* 30:14925-30. Review.
31. Suzuki-Hirano A, Ogawa M, Kataoka A, Yoshida AC, Itoh D, Ueno M, Blackshaw S, **Shimogori T**. (2011) Dynamic spatiotemporal gene expression in embryonic mouse thalamus. *J Comp Neurol.* 519; 528-43.
32. Yuge K, Kataoka A, Yoshida AC, Itoh D, Aggarwal M, Mori S, Blackshaw S, **Shimogori T**. (2011) Region-specific expression in early postnatal mouse thalamus. *J Comp Neurol.* 519; 544-61.
33. Matsui A, Yoshida AC, Kubota M, Ogawa M and **Shimogori T**. (2011) Mouse *in utero* electroporation: Controlled spatio-temporal gene transefection. *J Vis Exp.* 54 pii: 3024. doi: 10.3791/3024.
34. Hama H, Kurokawa H, Kawano H, Ando R, Shimogori T, Noda H, Fukami K, Sakaue-Sawano A, Miyawaki A. (2011) Scale: a chemical approach for fluorescence imaging and reconstruction of transparent mouse brain. doi: 10.1038/nn.2928.

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## *Book Chapters*

1. **Shimogori T** and Grove EA. (2006) Subcortical and Neocortical Guidance of Area-specific Thalamic innervation: Development and Plasticity in sensory thalamus and cortex, Eds: Erzurumlu, R., Guido, W., Molnar, Z., Springer, Heidelberg. P68
2. **Shimogori T.** (2006) Micro In Utero Electroporation for Efficient Gene Targeting in Mouse Embryos, In: Gene Transfer, Eds: Friedmann T. and Rossi J., Cold Spring Harbor, Laboratory Press, p427
3. **Shimogori T** and Ogawa M. (2008) Practical application of micro electroporation into developing mouse brain. Springer. P153-167.