

MAYU INABA-OGURO MD, PHD

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Curriculum Vitae

Present Title and Affiliation

Assistant professor, Department of Cell Biology, UConn Health Center (Mar 31, 2017-present)

Research Interest

Molecular and cellular mechanisms that regulate the asymmetric stem cell division. Primary focus is how niche signal is spatially restricted with the emphasis on the novel stem cell specific structure, MT (microtubule based) -nanotubes. Long-term research interest is to comprehensively understand the mechanism how the extrinsic and intrinsic regulations are integrated to ensure the precise cell fate determination.

Degrees

MD: Ehime University School of Medicine, Japan, April 28, 1997
PhD (Pathological Medicine): Graduate School of Kyushu University, Japan, March 25, 2004

Positions

Mar 2017-present

Assistant professor, Department of Cell Biology, UConn Health Center

July 2009- Mar 2017

Postdoctoral fellow, Research Specialist I at the Howard Hughes Medical Institute, Center for stem cell biology, University of Michigan, Ann Arbor, MI.
Laboratory of Dr. Yukiko M. Yamashita

Other location (2012-2017) The University of Texas Southwestern Medical Center, Dallas, TX. Laboratory of Dr. Michael Buszczak

Jan 2006- June 2009

Physician at Koyukai-memorial hospital, Internal Medicine

Apr 2004- Jan 2006

Postdoctoral fellow; Laboratory of Stem Cell Therapy, Center for Experimental Medicine, Institute of Medical Science, University of Tokyo, Tokyo, Japan.
Laboratory of Dr. Hiromitsu Nakauchi.

Apr 1999- Apr 2000

Research Assistant; Molecular Genetics, Institute of Life Science, Kurume University, Fukuoka, Japan. Laboratory of Dr. Akihiko Yoshimura.

Sep 1998- Apr 1999

Clinical residency at Department of Radiology, Osaka University Hospital, Suita, Osaka, Japan.

Honors and Awards

- R35 Outstanding Investigator Award, The National Institute of General Medical Sciences 2018-2022
- A DeLill Nasser Travel Award for Professional Development in Genetics, 2016
- Travel award for 52nd Annual Meeting, The American Society for Cell Biology, 2012
- Research Fellowship of the Japan Society for the Promotion of Science for Young Scientists, 2004- 2006

Invited Presentations

- Queens College Biology Colloquium, Queens College, CUNY, NY, Mar 13, 2019.
- The Fifth International Oocyte Meetings, Villefranche-sur-mer, Nice, France, Jan 8, 2019.
- The 15th Stem Cell Research Symposium, Tokyo, Japan, May 26-27, 2017.
- Keio University, Department of Microbiology and Immunology, Tokyo, Japan, May 25, 2017.

Oral Presentations at Conferences

- Cold Spring Harbor Meeting, Germ Cells, Cold Spring Harbor Laboratory, NY, Oct 11, 2018
- Northeast Society for Developmental Biology Regional Meeting at MBL, MBL, MA, April 27, 2017
- International Society for Stem Cell Research, Annual Meeting, San Francisco, CA, June 24, 2016.
- 56th Annual Drosophila Research Conference, "Cell Biology & Signal Transduction", Chicago, IL, Mar 7, 2015
- Annual Meeting, The American Society for Cell Biology, "Positioning the Microtubule Organizing Center: A Matter of Life or Death?", Philadelphia, PA, Dec 6, 2014.
- 52nd Annual Meeting, The American Society for Cell Biology, Mini symposium, Cell Polarity, San Francisco, CA, Dec 18, 2012.

Professional Memberships

- Genetics Society of America, 2012-present
- The American Society for Cell Biology, 2012-present
- International Society for Stem Cell Research 2010-present

Publications[1-25]

1. Ladyzhets S, Antel M, Simao T, Gasek N, Cowan AE, Inaba M. Self-limiting stem-cell niche signaling through degradation of a stem-cell receptor. PLoS Biol. 2020;18(12):e3001003. Epub 2020/12/15. doi: 10.1371/journal.pbio.3001003. PubMed PMID: 33315855; PubMed Central PMCID: PMC7769618.
2. Antel M, Inaba M. Modulation of Cell-Cell Interactions in Drosophila Oocyte Development. Cells. 2020;9(2). Epub 2020/01/26. doi: 10.3390/cells9020274. PubMed PMID: 31979180; PubMed Central PMCID: PMC7072342.

3. Yamashita YM, Inaba M, Buszczak M. Specialized Intercellular Communications via Cytonemes and Nanotubes. *Annual Review of Cell and Developmental Biology*. 2018;34(1):59-84. doi: 10.1146/annurev-cellbio-100617-062932.
4. Inaba M, Yamashita YM. Evaluation of the asymmetric division of *Drosophila* male germline stem cells 2017.
5. Inaba M, Sorenson DR, Kortus M, Salzmann V, Yamashita YM. Merlin is required for coordinating proliferation of two stem cell lineages in the *Drosophila* testis. *Scientific Reports*. 2017;7(1). doi: 10.1038/s41598-017-02768-z.
6. Chen C, Inaba M, Venkei ZG, Yamashita YM. Klp10A, a stem cell centrosome-enriched kinesin, balances asymmetries in *Drosophila* male germline stem cell division. *eLife*. 2016;5. doi: 10.7554/eLife.20977.
7. Buszczak M, Inaba M, Yamashita YM. *Signaling by Cellular Protrusions: Keeping the Conversation Private*. Elsevier Ltd; 2016. p. 526-34.
8. Inaba M, Yamashita YM, Buszczak M. Keeping stem cells under control: New insights into the mechanisms that limit niche-stem cell signaling within the reproductive system. *Molecular Reproduction and Development*. 2016;83(8):675-83. doi: 10.1002/mrd.22682.
9. Chaturvedi D, Inaba M, Scoggin S, Buszczak M. *Drosophila* CG2469 encodes a homolog of human CTR9 and is essential for development. *G3: Genes, Genomes, Genetics*. 2016;6(12). doi: 10.1534/g3.116.035196.
10. Inaba M, Buszczak M, Yamashita YM. Nanotubes mediate niche-stem-cell signalling in the *Drosophila* testis. *Nature*. 2015;523(7560):329-32. doi: 10.1038/nature14602.
11. Inaba M, Venkei ZG, Yamashita YM. The polarity protein baz forms a platform for the centrosome orientation during asymmetric stem cell division in the *Drosophila* male germline. *eLife*. 2015;2015(4). doi: 10.7554/eLife.04960.
12. Ma X, Wang S, Do T, Song X, Inaba M, Nishimoto Y, et al. Piwi is required in multiple cell types to control germline stem cell lineage development in the *Drosophila* ovary. *PLoS One*. 2014;9(3). doi: 10.1371/journal.pone.0090267.
13. Salzmann V, Inaba M, Cheng J, Yamashita YM. Lineage tracing quantification reveals symmetric stem cell division in *Drosophila* male germline stem cells. *Cellular and Molecular Bioengineering*. 2013;6(4). doi: 10.1007/s12195-013-0295-6.
14. Inaba M, Yamashita YM. Asymmetric stem cell division: Precision for robustness. *Cell Stem Cell*. 2012;11(4). doi: 10.1016/j.stem.2012.09.003.
15. Roth TM, Chiang CYA, Inaba M, Yuan H, Salzmann V, Roth CE, et al. Centrosome misorientation mediates slowing of the cell cycle under limited nutrient conditions in *Drosophila* male germline stem cells. *Molecular Biology of the Cell*. 2012;23(8). doi: 10.1091/mbc.E11-12-0999.
16. Inaba M, Yuan H, Yamashita YM. String (Cdc25) regulates stem cell maintenance, proliferation and aging in *Drosophila* testis. *Development*. 2011;138(23). doi: 10.1242/dev.072579.
17. Inaba M, Yuan H, Salzmann V, Fuller MT, Yamashita YM. E-cadherin is required for centrosome and spindle orientation in *Drosophila* male germline stem cells. *PLoS One*. 2010;5(8):e12473-e. doi: 10.1371/journal.pone.0012473.
18. Sekine Y, Yumioka T, Yamamoto T, Muromoto R, Imoto S, Sugiyama K, et al. Modulation of TLR4 signaling by a novel adaptor protein signal-transducing adaptor protein-2 in macrophages. *Journal of immunology (Baltimore, Md : 1950)*. 2006;176(1):380-9.
19. Sekine Y, Yamamoto T, Yumioka T, Sugiyama K, Tsuji S, Oritani K, et al. Physical and functional interactions between STAP-2/BKS and STAT5. *The Journal of biological chemistry*. 2005;280(9):8188-96. doi: 10.1074/jbc.M411692200.
20. Kato Y, Iwama A, Tadokoro Y, Shimoda K, Minoguchi M, Akira S, et al. Selective activation of STAT5 unveils its role in stem cell self-renewal in normal and leukemic hematopoiesis. *The Journal of experimental medicine*. 2005;202(1):169-79. doi: 10.1084/jem.20042541.

21. Yamamoto T, Yumioka T, Sekine Y, Sato N, Minoguchi M, Yoshimura A, et al. Regulation of FcepsilonRI-mediated signaling by an adaptor protein STAP-2/BSK in rat basophilic leukemia RBL-2H3 cells. *Biochemical and biophysical research communications*. 2003;306(3):767-73.
22. Endo T, Sasaki A, Minoguchi M, Joo A, Yoshimura A. CIS1 interacts with the Y532 of the prolactin receptor and suppresses prolactin-dependent STAT5 activation. *Journal of biochemistry*. 2003;133(1):109-13.
23. Minoguchi M, Minoguchi S, Aki D, Joo A, Yamamoto T, Yumioka T, et al. STAP-2/BKS, an adaptor/docking protein, modulates STAT3 activation in acute-phase response through its YXXQ motif. *The Journal of biological chemistry*. 2003;278(13):11182-9. doi: 10.1074/jbc.M211230200.
24. Minoguchi S, Minoguchi M, Yoshimura A. Differential control of the NIMA-related kinases, Nek6 and Nek7, by serum stimulation. *Biochemical and biophysical research communications*. 2003;301(4):899-906.
25. Ono SJ, Zhou G, Tai AK, Inaba M, Kinoshita K, Honjo T. Identification of a stimulus-dependent DNase I hypersensitive site between the Ialpha and Calpha exons during immunoglobulin heavy chain class switch recombination. *FEBS letters*. 2000;467(2-3):268-72.