Ryo Tamura

Email: ryotamura@uga.edu

Ph.D. candidate in Cellular Biology

Website: https://ryotamura.mobirisesite.com

-I engineer molecular probes and fluorescent sensors to address pathological mechanisms-

Education

2017 -	Ph.D.	The University of Georgia	Cellular Biology
2015 - 2017	M.A.	The University of Tokyo	Pharmaceutical Sciences
2011 - 2015	B.S.	The University of Tokyo	Pharmaceutical Sciences

Research Interests

Ph.D. thesis

- Directed evolution of split fluorescent proteins for multiplexed imaging of endogenous proteins
- Spatial regulation of dendritic outgrowth mediated by Dscam1 in *Drosophila* aCC motoneuron

M.A. thesis

- Repurposing the sulfated glycosaminoglycan-binding specificity of Cochlin for cancer diagnosis
- Pathology of autosomal-dominant late-onset hearing loss (DFNA9) mediated by Cochlin, a heparan sulfate and chondroitin sulfate binding protein

Other relevant experience

Intern National Institute of Advanced Industrial Science and Technology, Japan
Glycan Profiling Training Course Advisor: Dr. Hiroaki Tateno
: Applied lectin microarray technology to identify cell surface glycan markers

Publication

- **Tamura, R .**and Kamiyama, D. "Spatial regulation of dendritic outgrowth mediated by Dscam1 in *Drosophila* embryonic aCC motoneuron" (in preparation)
- **Tamura, R.** and Kamiyama, D. "CRISPR-Cas9-mediated knock-in approach to insert the GFP_{11} tag into the genome of a human cell line" *Methods in Molecular Biology* (2023)
- Murakami, K., **Tamura, R**., Ikehara, S., Ota, H., Ichimiya, T., Matsumoto, N., Matsubara, H., Nishihara, S., Ikehara, Y., and Yamamoto, K. "Construction of mouse cochlin mutants with different GAG-binding specificities and their use for immunostaining" *Biochemical Journal* (under revision)
- Honda, T., Kawasaki, N., Yanagihara, R., **Tamura, R**., Murakami, K., Furusawa, Y., Ichimiya, T., Matsumoto, N., Nishihara, S., and Yamamoto, K. "Involvement of cochlin binding to *N*-sulfated heparan sulfate/heparin in the pathophysiology of autosomal dominant late-onset hearing loss (DFNA9)" *PLOS ONE* (2022)
- Kamiyama, R., Banzai, K., Liu, P., Marar, A., **Tamura, R**., Jiang, F., Fitch, M, A., Xie, J., and Kamiyama, D. "Cell-type-specific, multi-color labeling of endogenous proteins with split fluorescent protein tags in *Drosophila" PNAS* (2021)
- **Tamura, R**., Jiang, F., Xie, J., and Kamiyama, D. "Multiplexed labeling of cellular proteins with split fluorescent protein tags" *Communications Biology* **(**2021)

Fellowships and Awards

2022	Outstanding Teaching Assistant Award, The University of Georgia	
2017 - 2022	Nakajima Foundation Fellowship	(funded my Ph.D.)
2017	BioCapture EU Training Network Program, University of Copenhagen	
2015 - 2016	Iwadare Foundation Fellowship	(funded my M.A.)
2010	Tokyo Metropolitan Governor Prize	

Relevant Skills

- **Molecular Biology:** Molecular cloning. Directed evolution of proteins via random mutagenesis. Immunoprecipitation. Western blotting. Protein purification (Affinity chromatography by HPLC, AKTA, etc). Immunohistochemistry. ELISA. Flow Cytometry. CRISPR editing.
- **Cell Culture and Animal Experiments:** Transfection. Stable cell line generation. Experience in monoclonal antibody production. Familiarity in rearing, maintenance, and dissection of *Drosophila*, *Mus Musculus, C.elegans*. Single neuronal labeling by lipophilic dye injection.
- **Bioinformatics:** Experience in basic Linux, Python, R. (Earned IBM Data Science Certificate in Coursera). Bulk and single-cell RNA-seq analysis. Molecular visualization in UCSF Chimera.
- **Language:** English (Fluent), Japanese (Native), Spanish (Intermediate)

Presentations

Invited talks

- Tamura, R and Kamiyama, D. "Spatial regulation of dendritic outgrowth mediated by inter-neuronal interaction" *Kanazawa University Graduate School of Medical Science* (2022)

Conferences

- Tamura, R and Kamiyama, D. "Spatial regulation of dendritic outgrowth mediated by Dscam1 in Drosophila embryonic aCC motoneuron" Poster, *Southeast Regional Society for Developmental Biology,* Chapel Hill, NC. (2022)
- Tamura, R and Kamiyama, D. "Multiplexed labeling of cellular proteins with split fluorescent protein tags" Oral Presentation, *Developmental Biology Alliance Retreat,* Athens, GA. (2019)

Teaching Experience

- "Cellular Biology 3400" (2021-2022) led by Drs. Rachel Roberts-Galbraith and Vasant Muralidharan; Led weekly discussions in problem-solving sessions and graded exams.
  - Resulted in receiving Outstanding Teaching Assistant Award (Top 10% TA)
- "Cellular Biology 3400" (2020) led by Drs. Karl Lechtreck and Jacek Gaertig: Led weekly discussions in problem-solving sessions and graded assignments and exams.
- "Genetics with *Saccharomyces cerevisiae*" (2014) led by Dr. Shigeo Murata: Designed experiments and assisted undergraduate students in teaching problem-solving sessions.

Mentors and Contacts

Ph.D. (The University of Georgia)

Dr. Daichi Kamiyama (main advisor)	daichi.kamiyama@uga.edu
Dr. Robert Haltiwanger	rhalti@uga.edu
Dr. Edward Kipreos	ekipreos@uga.edu
Dr. Ping Shen	pshen@uga.edu

Teaching instructors (The University of Georgia)

Dr. Rachel Roberts-Galbraith	robertsgalbraith@uga.edu
Dr. Vasant Muralidharan	vasant@uga.edu
Dr. Karl Lechtreck	lechtrek@uga.edu
Dr. Jacek Gaertig	jgaertig@uga.edu

M.A. (The University of Tokyo)

Dr. Kazuo Yamamoto	yamamoto@edu.k.u-tokyo.ac.jp