Job Opening ID: 9307247

Postdoctoral Position Available at Thomas Jefferson University – The Role of Short Non-Coding RNAs in Asthma, Acute Lung Injury, and Infectious Diseases

A postdoctoral researcher position is available for NIH-funded research in the lab of Dr. Yohei Kirino at the Department of Biochemistry and Molecular Biology/Computational Medicine Center at Thomas Jefferson University. Our lab conducts cutting-edge biomedical research focusing on short non-coding RNAs (sncRNAs), with a particular emphasis on tRNA/rRNA-derived sncRNAs and cyclic phosphate-containing RNAs (cP-RNAs). We are seeking a highly motivated postdoctoral researcher to join the following research projects:

[1] The role of tRNA/rRNA-derived sncRNAs in the innate immune response (NIH AI168975, AI171366).
[2] The role of tRNA-derived sncRNAs in asthma (NIH HL150560).
[3] The role of tRNA/rRNA-derived sncRNAs in acute lung injury (NIH HL175371).

We are particularly interested in candidates with a strong background in RNA biology and/or molecular and cell biology. Experience in bioinformatics analysis is advantageous but not essential. Applicants should hold a Ph.D., have a productive research track record, and possess strong writing and communication skills. Successful candidates will have the unique opportunity to collaborate closely within Thomas Jefferson University at the Computational Medicine Center, Department of Biochemistry and Molecular Biology, Sidney Kimmel Cancer Center, and Vickie & Jack Farber Institute for Neuroscience, as well as with external institutions, including UPENN.

Applicants should submit a CV, contact information of three references, and a cover letter describing their research experience and interests through the online application for Job Opening ID 9307247.

Selected recent publications:

- Shigematsu, M., *et al*. “Immunoactive signatures of circulating tRNA- and rRNA-derived RNAs in chronic obstructive pulmonary disease.” ***Molecular Therapy Nucleic Acids***, 35 (3): 102285, 2024. [Pubmed]

- Pawar, K., *et al*. “The $tRNA^{Val}$ half: A strong endogenous Toll-like receptor 7 ligand with a 5'-terminal universal sequence signature.” ***Proceedings of the National Academy of Sciences, USA***, 121 (19): e2319569121, 2024. [Pubmed]

- Gumas, J., *et al*. “Immunostimulatory short non-coding RNAs in the circulation of patients with tuberculosis infection.” ***Molecular Therapy Nucleic Acids***, 35 (1): 102156, 2024. [Pubmed]

- Shigematsu, M., *et al*. “RNase κ promotes robust piRNA production by generating 2',3'-cyclic phosphate-containing precursors.” ***Nature Communications***, 12 (1): 4498, 2021. [Pubmed]

- Pawar, K., *et al*. “Infection-induced 5'-half molecules of $tRNA^{HisGUG}$ activate Toll-like receptor 7.” ***PLoS Biology***, 18 (12): e3000982, 2020. [Pubmed]

- Shigematsu, M., *et al*. “Genome-wide identification of short 2',3'-cyclic phosphate-containing RNAs and their regulation in aging.” ***PLoS Genetics***, 15 (11): e1008469, 2019. [Pubmed]

- Honda, S., *et al*. “The biogenesis pathway of tRNA-derived piRNAs in Bombyx germ cells.” ***Nucleic Acids Research***, 45: 9108-9120, 2017. [Pubmed]

- Shigematsu, M., *et al*. “YAMAT-seq: an efficient method for high-throughput sequencing of mature tRNAs.” ***Nucleic Acids Research***, 45: e70, 2017. [Pubmed]

- Honda, S., *et al*. “Selective amplification and sequencing of cyclic phosphate-containing RNAs by the cP-RNA-seq method.” ***Nature Protocols***, 11: 476-489, 2016. [Pubmed]

- Honda, S., *et al*. “Sex hormone-dependent tRNA halves enhance cell proliferation in breast and prostate cancers.” ***Proceedings of the National Academy of Sciences, USA***, 112: E3816-E3825, 2015. (*Featured in “In This Issue”*) [Pubmed]

Contact information:

Yohei Kirino Ph.D.
Professor and Vice Chair for Research
Department of Biochemistry and Molecular Biology
Computational Medicine Center
Sidney Kimmel Medical College
Thomas Jefferson University
1020 Locust Street, Jefferson Alumni Hall 222
Philadelphia, PA 19107
Phone: 215-503-8648
Email: Yohei.Kirino@jefferson.edu