CURRICULUM VITAE

SEUNGJAE LEE, Ph.D.

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EDUCATION

09/2014-02/2019	Ph. D	Department of Biotechnology, Korea University, South Korea
03/2012-08/2014	M. S.	Department of Biotechnology, Korea University, South Korea
03/2005-02/2012	B. S.	*summa cum laude* in Department of Biotechnology and Bioinformatics (1st Major) and Medical Science (2nd Major), Korea University, South Korea

RESEARCH EXPERIENCES

08/2019-Present	Postdoctoral fellow, Developmental Biology Program, Sloan Kettering Institute, Memorial Sloan Kettering Cancer Center, New York PI: Dr. Eric C. Lai
03/2019-07/2019	Postdoctoral fellow, Department of Biotechnology, Korea University, South Korea PI: Dr. Young Sik Lee
10/2011-02/2012	Undergraduate research assistant, Korea University, South Korea PI: Dr. Young Sik Lee
03/2011-09/2011	Undergraduate research assistant, Korea University, South Korea PI: Dr. Kyung-Hee Paek

MANUSCRIPTS IN PREPARATION

1. **Seungjae Lee**, Makiko Yasuda, Robert Desnick, and Eric C. Lai (2023). Non-canonical role of ALAS1 as a heme-independent inhibitor of RNA interference. *Manuscript in preparation*

PUBLICATIONS

Google scholar profile: https://scholar.google.com/citations?user=PVrnpWIAAAAJ&hl=en

11. **Seungjae Lee**, Joseph I. Aubee, and Eric C. Lai (2023). Regulation of alternative splicing and polyadenylation in neurons. *Life Science Alliance* 6(12): e202302000. PMID: 37793776
10. Renfu Shang, **Seungjae Lee**, Gayan Senavirathne, and Eric C. Lai (2023). microRNAs in action: biogenesis, function and regulation. *Nature Review Genetics* 1-18. PMID: 37380761
9. Tzu-Chiao Lu, Maria Brbić, Ye-Jin Park, Tyler Jackson, Jiaye Chen, Sai Saroja Kolluru, Yanyan Qi, Nadja Sandra Katheder, Xiaoyu Tracy Cai, **Seungjae Lee**, Yen-Chung Chen, Niccole Auld, Doug Welsch, Samuel D'Souza, Angela Oliveira Pisco, Robert C. Jones, Jure Leskovec, Eric C. Lai, Hugo J. Bellen, Liqun Luo, Heinrich Jasper, Stephen R. Quake, and Hongjie Li (2023). Aging Fly Cell Atlas Identifies Exhaustive Aging Features at Cellular Resolution. *Science* 380, 1145. PMID: 37319212
8. **Seungjae Lee**, David Jee, Sid Srivastava, Acong Yang, Abhinav Ramidi, Renfu Shang, Diane Bortolamiol-Becet, Sebastian Pfeffer, Shuo Gu, Jiayu Wen, and Eric C. Lai (2023). Promiscuous splicing-derived hairpins are dominant substrates of tailing-mediated defense of miRNA biogenesis in mammals. *Cell Reports* 42(2), 112111. PMID: 36800291
7. **Seungjae Lee**, Yen-Chung Chen, FCA Consortium, Austin E. Gillen, J. Matthew Taliaferro, Bart Deplancke, Hongjie Li, and Eric C. Lai (2022). Diverse cell-specific patterns of alternative polyadenylation in *Drosophila. Nature Communications* 12, 5372. PMID: 36100597

6. **Seungjae Lee**, Lu Wei, Binglong Zhang, Raeann Goering, Sonali Majumdar, Jiayu Wen, J. Matthew Taliaferro, and Eric C. Lai (2021). ELAV/Hu RNA binding proteins determine multiple programs of neural alternative splicing. *PLoS Genetics* 17(4): e1009439. PMID: 33826609
5. Lu Wei*, **Seungjae Lee***, Sonali Majumdar, Binglong Zhang, Piero Sanfilippo, Brian Joseph, Pedro Miura, Matthias Soller, and Eric C. Lai (2020) (*, co-first authors). Overlapping activities of ELAV/Hu family RNA binding proteins specify the extended neuronal 3' UTR landscape in *Drosophila. Molecular Cell* 80, 140-155. PMID: 33007254
4. **Seungjae Lee**, Jae-Sang Hong, Do-Hwan Lim, and Young Sik Lee (2020). Roles for *Drosophila* Cap1 2'-*O*-ribose methyltransferase in the small RNA silencing pathway associated with Argonaute 2. *Insect Biochemistry and Molecular Biology* 123, 103415. PMID: 32504809
3. Do-Hwan Lim*, **Seungjae Lee***, Min-Seok Choi, Jee Yun Han, Youngmo Seong, Dokyun Na, Young-Soo Kwon, Kyoung Sang Cho, KyeongJin Kang, and Young Sik Lee (2020) (*, co-first authors). The conserved microRNA miR-8-3p coordinates the expression of V-ATPase subunits to regulate ecdysone biosynthesis for *Drosophila* metamorphosis. *The FASEB Journal* 34, 6449-6465. PMID: 32196731
2. Do-Hwan Lim*, **Seungjae Lee***, Jee Yun Han*, Min-Seok Choi, Jae-Sang Hong, and Young Sik Lee (2019) (*, co-first authors). MicroRNA miR-252 targets *mbt* to control the developmental growth of *Drosophila. Insect Molecular Biology* 28, 444-454. PMID: 30582233
1. Do-Hwan Lim*, **Seungjae Lee***, Jee Yun Han, Min-Seok Choi, Jae-Sang Hong, Youngmo Seong, Young-Soo Kwon, and Young Sik Lee (2018) (*, co-first authors). Ecdysone-responsive microRNA-252-5p controls the cell cycle by targeting *Abi* in *Drosophila. The FASEB Journal* 32, 4519-4533. PMID: 29543534

FELLOWSHIP & GRANT

11/2020-10/2022	New York State Stem Cell Science (NYSTEM) Postdoctoral Fellowship "Novel post-transcriptional regulatory networks in stem cells" Amount: $126,000

AWARDS & SCHOLARSHIP

05/2023	MSK Annual Postdoctoral Researcher Award
04/2021-03/2023	MSK Society Scholars Prize
02/2019	Korea University Graduate School Best Paper Award
02/2012-02/2019	Research Assistant Scholarships (8 semesters)
06/2006-08/2006	Brain Korea 21 (BK21) Global Summer Research Internship Award
09/2005-02/2012	Best Honors Scholarships (1 semester) Honors Scholarships (5 semesters) Nuri Scholarships (2 semesters)

ORAL PRESENTATIONS

12/2023	Tri-Institutional RNA Club Mini Symposium, The Rockefeller University, New York, NY
11/2023	SKI Developmental Biology Program Colloquium, MSKCC, New York, NY
10/2023	NYKB Monthly SRC Seminar, MSKCC, New York, NY
09/2023	2023 SKI Basic Science Research Retreat, Tarrytown House Estate, Tarrytown, NY
06/2023	2023 RNA Therapeutics Symposium, UMass Chan Medical School, Worcester, MA
04/2023	School of Systems Biomedical Science, Soongsil University, South Korea
05/2022	NYC-wide NYSTEM Meeting, New York, NY
05/2022	SKI Developmental Biology Program Colloquium, MSKCC, New York, NY
03/2022	CSCB Postdoc & Student Stem Cell Forum, MSKCC, New York, NY
05/2021	NYC-wide NYSTEM Meeting, New York, NY
04/2021	CSCB Postdoc & Student Stem Cell Forum, MSKCC, New York, NY

MENTORING & TEACHING EXPERIENCES

07/2023-till date	Xin Yu, Graduate Student
02/2022-09/2023	Abhinav Ramidi, Undergraduate Trainee
05/2021-09/2023	Sid Srivastava, Undergraduate Trainee
12/2022-07/2023	Rebecca Kum, Research Technician
06/2022-07/2023	Alexander Stein, Research Technician (now at University of Maryland, MD)
05/2021-10/2022	Sirus Mrazik, Research Technician (now at New York Medical College, NY)
05/2021-09/2022	Himari Gunasinghe, Research Technician (now at Weill Cornell, NY)
08/2019-11/2020	Brian Joseph, Graduate Student (now at Columbia University, NY)
09/2014-02/2019	Teaching Assistant for the Advanced RNA Biology and the Advanced Molecular Biology courses taught by Dr. Young Sik Lee. Led hands-on workshops, and graded assignments and exams.

PATENTS

5. Eric C. Lai, **Seungjae Lee**, and David Jee (2023). Methods for enhancing antiviral activity of endogenous human Dicer. *Provisional filing: 63/608,100*
4. Eric C. Lai, **Seungjae Lee**, Makiko Yasuda, and Robert Desnick (2023). Methods for enhancing the efficacy of RNAi therapy by targeting Alas1/Alas2. *Provisional filing: 63/437,575*
3. Young Sik Lee, **Seungjae Lee**, Jae-Sang Hong, and Do-Hwan Lim (2022). New use of cmtr1 having sirna production and function enhancing activity. *US20230210960A1*
2. Young Sik Lee, **Seungjae Lee**, Jae-Sang Hong, and Do-Hwan Lim (2022). Novel use of cmtr1 with activity of enhancing siRNA production and function. *APP1023614790000*
1. Young Sik Lee, Do-Hwan Lim, **Seungjae Lee**, Min-Seok Choi, Jae-Sang Hong, and Jee Yun Han (2020). Ecdysone-responsive miR-252-5p controls the cell cycle by targeting abi in *Drosophila*. *APP1021823350000*

REFERENCES

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