YOONTAE LEE, Ph.D. (Last updated: 14 July 2017)

EDUCATION

2003. 3. – 2006. 2. **Ph.D., School of Biological Sciences, Seoul National University**

2001. 3. – 2003. 2. **M.S., Institutes of Molecular Biology and Genetics, Seoul National University**

1994. 3. – 2001. 2. **B.S., Department of Microbiology, Seoul National University**.

PROFESSIONAL EXPERIENCE

2015. 9. – present **Associate Professor, Department of Life Sciences, POSTECH**

2011. 8. – 2105. 8. **Assistant Professor, Department of Life Sciences, POSTECH**

2007. 1. – 2011. 7. **Postdoctoral Associate, Howard Hughes Medical Institute, Baylor College of Medicine**
Supervisor : Huda Y. Zoghbi, M.D.

2006. 3. – 2006.12. **Postdoctoral Associate, School of Biological Sciences, Seoul National University**
Supervisor : V. Narry Kim, Ph.D.

PUBLICATIONS

1. **Lee, Y.**, Jeon, K.P., Lee, J.T., Kim, S and Kim, V.N., MicroRNA maturation: stepwise processing and subcellular localization. ***EMBO Journal.*** **2002**; 21:4663-4670.

2. **Lee, Y.**, Ahn, C., Han, J., Choi, H., Kim, J., Yim, J., Lee, J., Provost, P., Rådmark, O., Kim, S., and Kim, V.N., The Nuclear RNase III Drosha Initiates MicroRNA Processing. ***Nature.*** **2003**; 425:415-419.

3. Suh, M.R., **Lee, Y.**, Kim, J.Y., Kim, S.K., Moon, S.H., Lee, J.Y., Cha, K.Y., Chung, H.M., Yoon, H.S., Moon, S.Y., Kim, V.N.#, and Kim, K.S.# (#co-corresponding authors), Human embryonic stem cells express a unique set of microRNAs. ***Developmental Biology.*** **2004**; 270:488-498.

4. **Lee, Y.**, Kim, M.J., Han, J., Yeom, K.-H., Lee, S.H., Baek, S.H. and Kim, V.N. MicoRNA genes are transcribed by RNA polymerase II. ***EMBO Journal.*** **2004**; 23:4051-4060.

5. Han, J.*, **Lee, Y.***, Yeom, K.-H., Kim, Y.-K., Jin, H., and Kim, V.N. (*co-first authors) The Drosha-DGCR8 complex in primary microRNA processing. ***Genes and Development.*** **2004**; 18:3016-3027.

6. Kim, J., Jung, J.H., Reyes, J.L., Kim, Y.S., Kim, S.Y., Chung, K.S., Kim, J.A., Lee, M., **Lee, Y.**, Kim, V.N., Chua, N.H. and Park, C.M. microRNA-directed cleavage of ATHB15 mRNA regulates vascular development in Arabidopsis inflorescence stems. ***Plant Journal.*** **2005**; 42, 84-94.

7. **Lee, Y.** and Kim, V.N., Preparation and Characterization of Drosha. ***Methods in Molecular Biology.*** **2005**; 309:17.

8. Nam, J.-W., Shin, KR., Han, J., **Lee, Y.**, Kim, V.N., Zhang, BT. Human microRNA prediction through a probabilistic co-learning model of sequence and structure. ***Nucleic Acids Research.*** **2005**; 33:3570.

9. **Lee, Y.***, Hur, I.*, Park, S.-Y.*, Kim, Y.-K., Suh, M.R., and Kim, V.N. (*co-first authors) The role of PACT in the RNA silencing pathway. ***EMBO Journal.*** **2006**; 25:522-532.

10. Han, J.*, **Lee, Y.***, Yeom, K.-H.*, Nam, J.-W., Heo, I., Rhee, J.-K., Sohn, S.Y., Cho, Y., Zhang, B.-T., and Kim, V.N. (*co-first authors) Molecular basis for the recognition of primary microRNAs by the Drosha-DGCR8 complex. ***Cell.*** **2006**; 125(5):887-901

11. Yeom, K.-H., **Lee, Y.**, Han, J.**,** Suh, M.R. and Kim, V.N. Characterization of DGCR8/Pasha, the essential cofactor for Drosha in primary miRNA processing. ***Nucleic Acids Research.*** **2006**; 34(16):4622-9

12. Lee, Y., Han, J., Yeom, K.-H., Jin, H. and Kim, V.N. Drosha in primary microRNA processing. ***Cold Spring Harbor Symposia on Quantative Biology.*** **2006**; 71:51-7

13. Lee, Y. and Kim, V.N. In vitro and in vivo assays for the activity of drosha complex. ***Methods in Enzymology.*** **2007**; 427:87-106

14. Lee, Y., Samaco, R.C., Gatchel, J.R., Thaller, C., Orr, H.T. and Zoghbi, H.Y. miR-19, miR-101, and miR-130 co-regulate ATXN1 levels to potentially modulate SCA1 pathogenesis. ***Nature Neuroscience.*** **2008**; 11:1137-9

15. Jin, H., Suh, M.R., Han, J., Yeom, K.-H., **Lee, Y.**, Heo, I., Ha, M., Hyun, S. and Kim, V.N. Human UPF1 modulates small RNA-induced mRNA down-regulation. ***Molecular and Cellular Biology.*** **2009**; 29(21): 5789-99

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17. Han, K.*, Gennarino, V.A.*, **Lee, Y.**, Pang, K., Hashimoto-Torii, K., Choufani, S., Raju, C.S., Oldham, M.C., Weksberg, R., Rakic, P., Liu, Z. and Zoghbi, H.Y**.** (*co-first authors) Human-specific regulation of MeCP2 levels in fetal brains by microRNA miR-483-5p. ***Genes and Development.*** **2013**; 27(5): 485-490

18. Kahle, J.J.*, Souroullas, G.P.*, Yu, P., Zohren, F., **Lee, Y.**, Shaw, C.A.#, Zoghbi, H.Y.#, Goodell M.A.# (*co-first authors, #co-corresponding authors) Ataxin1L is a regulator of HSC function highlighting the utility of cross-tissue comparisons for gene discovery. ***PLoS Genetics.*** **2013;** 9(3):e1003359.

19. Park, J.*, Al-Ramahi, I.*, Tan, Q., Mollema, N., Diaz-Garcia, J.R., Gallego-Flores, T., Lu, H.-C., Lagalwar, S., Duvick, L., Kang, H., **Lee, Y.**, Jafar-Nejad, P., Sayegh, L.S., Richman, R., Liu, X., Gao, Y., Shaw, C.A., Arthur, J.S.C., Orr, H.T.#, Westbrook, T.F.#, Botas, J.# and Zoghbi, H.Y.# (*co-first authors, #co-corresponding authors) RAS–MAPK–MSK1 pathway modulates ataxin 1 protein levels and toxicity in SCA1. ***Nature.*** **2013;** 498: 325-331.

20. Kim, E., Park, S., Choi, N., Lee, J., Yoe, J., Kim, S., Jung, H.-Y., Kim, K.-T., Kang, H., Fryer, J.D., Zoghbi, H.Y., Hwang, D., and **Lee, Y.** Deficiency of Capicua disrupts bile acid homeostasis. ***Scientific Reports.*** **2015;** 5, 8272.

21. Choi, N., Park, J., Lee, J.-S., Yoe, J., Park, G.Y., Kim, E., Jeon, H., Cho, Y.M., Roh, T.-Y., and **Lee, Y.** miR-93/miR-106b/miR-375-CIC-CRABP1: A novel regulatory axis in prostate cancer progression. ***Oncotarget.*** **2015;** 6(27): 23533-47

22. Seo, M., Seo, K., Hwang, W., Koo, H.J., Hahm, J.H., Yang, J.S., Han, S.K., Hwang, D., Kim, S., Jang, S.K., **Lee, Y.**, Nam, H.G.# and Lee, S.J.V.# (#co-corresponding authors) RNA helicase HEL-1 promotes longevity by specifically activating DAF-16/FOXO signaling in C. elegans. ***PNAS.*** **2015**; 112(31):E4246-55

23. Lee, K., Kim, H., An, K., Kwon, O.B., Park, S., Cha, J.H., Kim, M.H., **Lee, Y.**, Kim, J.H., Cho, K., Kim, H.S. Replenishment of microRNA-188-5p restores the synaptic and cognitive deficits in 5XFAD Mouse Model of Alzheimer's Disease. ***Scientific Reports.*** **2016;** 6, 34433

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25. Park, S.*, Lee, S.*, Lee, C.-G.*, Park, G.Y., Hong, H., Lee, J.-S., Kim, Y.M., Lee, S.B., Hwang, D., Choi, Y.S., Fryer, J.D., Im, S.-H.#, Lee, S.-W.# and **Lee, Y.**# (*co-first authors, #co-corresponding authors) Capicua deficiency induces autoimmunity and promotes follicular helper T cell differentiation via derepression of ETV5. ***Nature Communications.*** **2017;** 8, 16037

HONORS AND AWARDS

2004	Lotte fund scholarship
2005	BK21 distinguished studentship, President award (Korean Ministry of Science and Technology)
2006	Weintraub graduate student award (Fred Hutchinson Cancer Research Center at Seattle)
2006	Best thesis award (Korean Society for Molecular and Cellular Biology)
2008	Young investigator award (the 2nd Ataxia Investigator's Meeting at Las Vegas)
2012	TJ Park Junior Faculty Fellowship
2013	Knowledge creation award (Korean Ministry of Science, ICT and Future Planning)