

Ji Eun Lee, Ph.D.

Associate Professor

Dept. Health Sciences & Technology, Samsung Advanced Institute for Health
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Education/Professional training

- | | |
|---------------|--|
| 2021- Present | Tenured Associate Professor
Dept. of Health Sciences & Technology, SAIHST
Sungkyunkwan University, Seoul, Korea |
| 2017- 2020 | Associate Professor
Dept. of Health Sciences & Technology, SAIHST
Sungkyunkwan University, Seoul, Korea |
| 2013- 2016 | Assistant Professor
Dept. of Health Sciences & Technology, SAIHST
Sungkyunkwan University, Seoul, Korea |
| 2007- 2012 | Postdoctoral Fellow
Dept. of Neurosciences/HHMI
University of California, San Diego, USA
Advisor: Joseph G. Gleeson, M.D. |
| 2002- 2007 | Ph.D., Neurobiology and Anatomy
University of Utah, Salt Lake City, USA
Advisor: Richard I. Dorsky, Ph.D. |
| 2001 | M.S., Molecular Medical Science
Korea University, Seoul, Korea
Advisor: Eui-Ju Choi, Ph.D. |
| 1999 | B.S., Genetic Engineering
Korea University, Seoul, Korea |

Training/Employment

- 2006 Teaching Assistant
Course of Developmental Neurobiology
University of Utah, Salt Lake City, USA
(Duties: lecturing, conducting office hours, and assisting course directors)
- 2002 Research Assistant
Kyung Hee University, Seoul, Korea

Honors and Awards

- 2020 Awarded 1st place in the education sector in the 2020 Faculty performance evaluation, Sungkyunkwan University, Seoul, Korea
- 2019 Awarded 2nd place in the education sector in the 2019 Faculty performance evaluation, Sungkyunkwan University, Seoul, Korea
- 2009-2011 Awarded a postdoctoral fellowship from American Heart Association (AHA), USA
- 2005 Best poster winners award in Annual Bioscience Symposium, UT, USA
- 2005 A student travel award in West Coast Zebrafish Meeting, OR, USA
- 1999-2001 Full scholarship as an honor graduate student
Korea University, Seoul, Korea

Peer Reviewed Publications (Since 2014)

1. Hui Su Jeong, Hye Jin Kim, Deok-Ho Kim, Ki Wha Chung, Byung-Ok Choi*, and **Ji Eun Lee*** (2021). Therapeutic potential of CKD-504, a novel selective histone deacetylase 6 inhibitor, in a zebrafish model of neuromuscular junction disorders. *Molecules & Cells (In Press)*. **(Corresponding author)**
2. Soo Mi Ki[#], Hui Su Jeong[#], and **Ji Eun Lee** (2021). Primary Cilia in Glial Cells: An Oasis in the Journey to Overcoming Neurodegenerative Diseases. *Frontiers in Neuroscience* 15:736888. **(Corresponding author)**
3. Hye Jin Kim, Soo Hyun Nam, Hye Mi Kwon, Si On Lim, Jae Hong Park, Hyun Su Kim, Sang Beom Kim, Kyung Suk Lee, **Ji Eun Lee**, Byung-Ok Choi, Ki Wha Chung (2021). Genetic and clinical spectrums in Korean Charcot-Marie-Tooth disease patients with myelin protein zero mutations. *Molecular Genetics & Genomic Medicine* 9(6): e1678.
4. So Yeon Won[#], Soojin Kwon[#], Hui Su Jeong, Ki Wha Chung, Byung-Ok Choi, Jong Wook Chang*, and **Ji Eun Lee*** (2020). Fibulin 5, a human WJ-MSCs-derived paracrine factor, attenuates PNS myelination defects through the Integrin-RAC1 signaling axis. *Stem Cells* 38(12): 1578-1593. **(Corresponding author)**
5. Yong Joon Kim[#], Eunji Jung[#], Eunbie Shin, Sin-Hyoung Hong, Hui Su Jeong, Gayeong Hur, Hye Yun Jeong, Seung-Hyo Lee, **Ji Eun Lee***, Gun-Hwa Kim*, and Joon Kim* (2020). Genome-wide RNA interference screening reveals a COPI-MAP2K3 pathway required for YAP regulation. *Proc. Natl. Acad. Sci. USA* 17(33): 19994-20003. **(Corresponding author)**
6. Joon-Tae Kim[#], So Yeon Won[#], KyungWook Kang, Sang-Hoon Kim, Man-Seok Park, Kang-Ho Choi, Tai-Seung Nam, Simone W. Denis, Sacha Ferdinandusse, **Ji Eun Lee***, Seok-Yong Choi*, Myeong-Kyu Kim* (2020). ACOX3 Dysfunction as a Potential Cause of Recurrent Spontaneous Vasospasm of Internal Carotid Artery. *Translational Stroke Research* 11(5): 1041-1051. **(Corresponding author)**
7. Soo Mi Ki[#], Ji Hyun Kim[#], So Yeon Won[#], Shin Ji Oh, In Young Lee, Young-Ki Bae, Ki Wha Chung, Byung-Ok Choi, Boyoun Park, Eui-Ju Choi, **Ji Eun Lee** (2020). CEP41-mediated ciliary tubulin glutamylation drives angiogenesis through AURKA-dependent deciliation. *EMBO Reports* 21(2):e48290. **(Corresponding author)**

8. Eunji Jung, Tae-Ik Choi, **Ji Eun Lee**, Cheol-Hee Kim, Joon Kim (2020). ESCRT subunit CHMP4B localizes to primary cilia and is required for the structural integrity of the ciliary membrane. *FASEB Journal* 34(1):1331-1344.
9. So Yeon Won, Byung-Ok, Choi, Ki Wha, Chung, **Ji Eun Lee** (2019). Zebrafish is a central model to dissect the peripheral neuropathy. *Gene & Genomics* 41(9): 993–1000. (Corresponding author)
10. Ah Jin Lee, Soo Hyun Nam, Jin-Mo Park, Sumaira Kanwal, Yu Jin Choi, Hyun Jung Lee, Kyung Suk Lee, **Ji Eun Lee**, Jin-Sung Park, Byung-Ok Choi & Ki Wha Chung (2019). Compound heterozygous mutations of SH3TC2 in Charcot–Marie–Tooth disease type 4C patients. *J Hum Genet* 64(9): 961-965.
11. Jung Eun Shim, Ji Hyun Kim, Junha Shin, **Ji Eun Lee**, Insuk Lee (2019). Pathway-specific protein domains are predictive for human diseases. *PLoS Comput Biol* 15(5):e1007052.
12. Ashok Patowary[#], So Yeon Won[#], Shin Ji Oh, Ryan R Nesbitt, Marilyn Archer, Debbie Nickerson, Wendy H. Raskind, Raphael Bernier, **Ji Eun Lee**^{*} and Zoran Brkanac^{*} (2018). Family-based exome sequencing and casecontrol analysis implicate CEP41 as an ASD gene. *Translational Psychiatry* 9:4. (Corresponding author)
13. Jaegal Shim[#], Jung-Hwa Choi[#], Moon-Hak Park, Hyena Kim, Jong Hwan Kim, Seon-Young Kim, Dongwan Hong, Sunshin Kim, **Ji Eun Lee**, Cheol-Hee Kim^{*}, Jeong-Soo Lee^{*}, and Young-Ki Bae^{*} (2017). Development of zebrafish medulloblastoma-like PNET model by TALEN-mediated somatic gene inactivation. *Oncotarget* 8:55280-55297.
14. Eunhye Lee[#], Taeyun A. Lee[#], Ji Hyun Kim[#], Areum Park, Eun A. Ra, Sujin Kang, Hyun Jin Choi, Junhee L. Choi, Hyunbin D. Huh, **Ji Eun Lee**^{*}, Sungwook Lee^{*}, and Boyoun Park^{*} (2017). CNBP acts as a key transcriptional regulator of sustained expression of Interleukin-6. *Nucleic Acids Research* 45:3280-3296. (Corresponding author)
15. Ji Hyun Kim and **Ji Eun Lee** (2017). Mitotic control by mRNA splicing regulators ensures primary cilia formation. *Animal Cells and Systems* 21: 17-22. (Corresponding author)
16. Jeong Hwi Lee, Young Cheul Chung, Eugene Bok, Hankyu Lee, Sue Hee Huh, **Ji Eun Lee**, Byung Kwan Jin, Hyuk Wan Ko (2017). Injury-stimulated Sonic hedgehog expression in microglia contributes to

- neuroinflammatory response in the MPTP model of Parkinson's disease. *Biochemical and Biophysical Research Communications (BBRC)* 482: 980-986.
17. Eun Jang Yoon, Yong Taek Jeong, **Ji Eun Lee**, Seok Jun Moon, Chul Hoon Kim (2017). Tubby domain superfamily protein is required for the formation of the 7S SNARE complex in Drosophila. *Biochemical and Biophysical Research Communications (BBRC)* 482: 814-820.
 18. Hyunbin D. Huh, Eun A. Ra, Taeyun A. Lee, Sujin Kang, Areum Park, Eunhye Lee, Junhee L. Choi, Eunji Jang, **Ji Eun Lee**, Sungwook Lee and Boyoun Park (2016). STRAP acts as a scaffolding protein in controlling the TLR2/4 signaling pathway. *Scientific Reports* 6: 38849.
 19. Rana Lee, Jane Melissa Lim, Kyung-Hye Roh, Ji Hyun Kim, Seongman Kang, **Ji Eun Lee**^{*}, and Eui-Ju Choi^{*} (2016). S-nitrosylated GAPDH mediates neuronal apoptosis induced by amyotrophic lateral sclerosis-associated mutant SOD1^{G93A}. *Animal Cells and Systems* 20: 310-316. (Corresponding author)
 20. Hongseok Shim[#], Ji Hyun Kim[#], Chan Yeoung Kim[#], Sohyun Hwang, Hyojin Kim, Sunmo Yang, **Ji Eun Lee**^{*} and Insuk Lee^{*} (2016). Function-driven discovery of disease genes in zebrafish using an integrated genomics big data resource. *Nucleic Acids Research* 44: 9611-9623. (Corresponding author)
 21. Yeojin Lee[#], In Young Lee[#], Hee Yun, Woo Lee, Seongman Kang, Ssang-Goo Cho, **Ji Eun Lee**^{*} and Eui-Ju Choi^{*} (2016). BAT3 negatively regulates lipopolysaccharide-induced NF-κB signaling through TRAF6. *Biochemical and Biophysical Research Communications (BBRC)* 478: 784-790. (Corresponding author)
 22. Soo Jin Kwon[#], Soo Mi Ki[#], Sang Eon Park, Brian Hyung, Min-Jung Kim, Sangmi Shim, Jong Hwa Kim, Duk L Na, Byongok Choi, **Ji Eun Lee**^{*}, and Jong Wook Chang^{*} (2016). Anti-Apoptotic Effects of Human Wharton's jelly-derived Mesenchymal Stem Cells on Skeletal Muscle Cells Mediated via Secretion of XCL1. *Molecular Therapy* 24: 1550-1560. (Corresponding author)
 23. Eun A. Ra, Taeyun A. Lee, Seung Won Kim, Areum Park, Hyun jin Choi, Insook Jang, Sujin Kang, Jae Hee Cheon, Jin won Cho, **Ji Eun Lee**, Sungwook Lee^{*}, Boyoun Park^{*} (2016). TRIM31 promotes Atg5/Atg7-independent autophagy in intestinal cells. *Nature Communications* 7: 11726.

24. Ji Hyun Kim[#], Soo Mi Ki[#], Je-Gun Joung, Eric Scott, Susanne Heynen-Genel, Pedro Aza-Blanc, Chang Hyuk Kwon, Joon Kim, Joseph G. Gleeson^{*}, and **Ji Eun Lee^{*}** (2016). Genome-wide screen identifies novel machineries required for both ciliogenesis and cell cycle arrest upon serum starvation. *BBA-Molecular Cell Research* 1863: 1307-1318. **(Corresponding author)**
25. Hong YB, Kang J, Kim JH, Lee J, Kwak G, Hyun YS, Nam SH, Hong HD, Choi YR, Jung SC, Koo H, **Lee JE^{*}**, Choi BO^{*}, and Chung KW^{*} (2016). DGAT2 mutation in a family with autosomal dominant early-onset axonal Charcot-Marie-Tooth disease. *Human Mutation* 37: 473-480. **(Corresponding author)**
26. Park HJ, Hong YB, Choi YC, Lee J, Kim EJ, Lee JS, Mo WM, Ki SM, Kim HI, Kim HJ, Hyun YS, Hong HD, Nam K, Jung SC, Kim SB, Kim SH, Kim DH, Oh KW, Kim SH, Yoo JH, **Lee JE^{*}**, Chung KW^{*}, and Choi BO^{*} (2016). ADSSL1 mutation relevant to autosomal recessive adolescent onset distal myopathy. *Annals of Neurology* 79: 231-243. **(Corresponding author)**
27. Jae Keun Lee, Jin Hee Shin, **Ji Eun Lee^{*}**, and Eui-Ju Choi^{*} (2015). Role of autophagy in the pathogenesis of amyotrophic lateral sclerosis. *BBA-Molecular Basis of Disease* 1852: 2517-2524. **(Corresponding author)**
28. Roosing S, Hofree M, Kim S, Scott E, Copeland B, and Romani M. *et al.* (2015). Functional genome-wide siRNA screen identifies KIAA0586 as mutated in Joubert syndrome. *Elife* 30; 4.
29. Thomas Sophie, Cantagrel Vincent, Mariani Laura, Serre Valerie, **Ji Eun Lee**, Elkhartoufi Nadia, Lonlay Pascale, Desguerre Isabelle, Munnich Arnold, Boddaert Nathalie, Lyonnet Stanislas, Vekemans Michel, Ligo Steven, Caspary Tamara, Gleeson Joseph, and Attie-Bitach Tania (2015). Identification of a novel ARL13B variant in a Joubert syndrome-affected patient with retinal impairment and obesity. *European J Human Genetics* 23: 621-627.
30. Seung Tae Baek, Geraldine Kerjan, Stephanie L. Bielas, **Ji Eun Lee**, Ali G. Fenstermaker, Gaia Novarino, Joseph G. Gleeson (2014). Off-Target Effect of doublecortin Family shRNA on Neuronal Migration Associated with Endogenous MicroRNA Dysregulation. *Neuron* 82: 1255-1262.

^{*}: Co-corresponding author [#]: Co-first author

Patents

1. CEP41 유전자 결손 제브라피쉬 모델, 이의 용도 및 이를 이용한 치료제 스크리닝 방법
(Patent number: 10-2174851)
2. ADSSL1 유전자 결핍 돌연변이 제브라피쉬 및 이의 용도
(Patent number: 10-1918344)
3. 원위 근육병의 진단용 바이오 마커 및 이의 용도
(Patent number: 10-1863417)
4. 중간엽 줄기세포 또는 XCL1 을 포함하는 근육질환의 예방 또는 치료용 약학적 조성물
(Patent number: 10-1833971)
5. FBLN5 유전자 결손 동물 모델 및 이를 이용한 신경 또는 근육 질환 치료제 스크리닝 방법
(출원번호: 10-2019-0118315)
6. DGAT2 돌연변이 유전자가 도입된 제브라피쉬 모델 및 이의 용도
(출원번호: 10-2015-0179383)

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- 2021-2024 The National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (2021R1A4A2001389)
Sungkyunkwan University, Seoul, Korea
- 2018-2021 The National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (2018R1A2A3074597)
Sungkyunkwan University, Seoul, Korea
- 2018-2021 The National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (2018R1A4A1024506)

Sungkyunkwan University, Seoul, Korea

- 2017-2018 The National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (2017R1E1A2A01076144)
Sungkyunkwan University, Seoul, Korea
- 2016-2019 The National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (2016R1C1B2008930)
Sungkyunkwan University, Seoul, Korea
- 2013-2016 The National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIP) (2013R1A1A1059056)
Sungkyunkwan University, Seoul, Korea
- 2009-2011 American Heart Association Postdoctoral Fellowship
(ID#:09POST2250641)
UCSD/HHMI, La Jolla, USA
- 1999-2001 BK21 Graduate Research Fellowship (PI: Eui-Ju Choi)
Korea University, Seoul, South Korea