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South Korea

Date of birth: January 16th, 1975

Education

Undergraduate:

College of Engineering, Inha University, Inchon, South Korea

B.E. in Chemical Engineering and Biotechnology, February 2001

Graduate:

College of Medicine, Yonsei University, Seoul, South Korea

M.S. in Medical Science, February 2003

College of Medicine, Yonsei University, Seoul, South Korea

Ph.D. in Medical Science, February 2007

Thesis supervisor: Dr. Jong Eun Lee

Dissertation Title: The role of agmatine in CNS injury

1st Post doctoral:

Department of Anatomy, College of Medicine, Yonsei University, Seoul, South Korea

Post Doctoral Fellow, March 2007 ~ January 2010

(Sponsor: Dr. Jong Eun Lee)

Project Scope: Developing functional neural stem cell via gene transfer
Spinal cord injury
Stroke (Cerebral ischemia)
Neural stem cell

2nd Post doctoral:

W.M. Keck Center for Collaborative Neuroscience, Rutgers,The State University of New Jersey

Post Doctoral Associate, January 2010 ~ January 2013

(Sponsor: Dr. Martin Grumet)

Project Scope: Spinal cord injury and Stem cell therapy

3rd Post doctoral:

ITREN, Dankook University, Cheonan, South Korea

Research Professor, February 2013 ~ September 2013

(Sponsor: Dr. Jung Keun Hyun)

Project Scope: Spinal cord injury

4th Postdoctoral

Department of Anatomy, Yonsei University College of Medicine, Seoul, South Korea

Basic Research Assistant Professor, March 2014 ~ February 2015

(Sponsor: Dr. Jong Eun Lee)

Project Scope: Spinal cord injury, Stroke, biomaterials, and agmatine

Teaching Experience

Department of Anatomy, Yonsei University College of Medicine, Seoul, South Korea

Histology

Teaching Assistant, March 2003 ~ February 2006

Fellow, March 2007 ~ January 2010

Neuroanatomy

Teaching Assistant, March 2003 ~ February 2006

Fellow, March 2007 ~ January 2010

Department of Biological Science, Gachon University of Medicine and Science, Inchon, South Korea

Anatomy and Histology

Lecturer, March 2007 ~ June 2009

Department of Pharmacy, Ajou University College of Pharmacy, Suwon, South Korea

Anatomy and Histology

Lecturer, March 2014 ~ August 2014

References

Available on request

Dr. Jong Eun Lee, jelee@yuhs.ac

Dr. Martin Grumet, mgrumet@rci.rutgers.edu

Dr. Jung Keun Hyun, rhhyun@dankook.ac.kr

Publications

1. Suneel Kumar, Joanne Babiarz, Sayantani Basak, **Jae Hwan Kim**, Jeffrey Barminko, Andrea Gray, Parry Mendapara, Rene Schloss, Martin L. Yarmush, Martin Grumet Sizes and Sufficient Quantities of MSC Microspheres for Intrathecal Injection to Modulate Inflammation in Spinal Cord Injury. **Nano LIFE** 05(04): 1550004, 2015

2. Kim JY, Lee YW, **Kim JH**, Lee WT, Park KA, Lee JE. Agmatine Attenuates Brain Edema and Apoptotic Cell Death after Traumatic Brain Injury. **J Korean Med Sci.** 30(7):943-52, 2015

3. Song J, Park J, **Kim JH**, Choi JY, Kim JY, Lee KM, Lee JE. Dehydroascorbic Acid Attenuates Ischemic Brain Edema and Neurotoxicity in Cerebral Ischemia: An in vivo Study. **Exp Neurobiol.** 24(1):41-54, 2015

4. Park YM, Lee WT, Bokara KK, Seo SK, Park SH, **Kim JH**, Yenari MA, Park KA, Lee JE. The Multifaceted Effects of Agmatine on Functional Recovery after Spinal Cord Injury through Modulations of BMP-2/4/7 Expressions in Neurons and Glial Cells. **PLoS One** 2013;8(1):e53911. doi: 10.1371/journal.pone.0053911.

5. **Kim JH**, Lee YW, Park YM, Park KA, Park SH, Lee WT, Lee JE Agmatine reduced collagen scar area accompanied with surface righting reflex recovery after complete transection spinal cord injury. **Spine** 36(25): 2130-38, 2011

6. Barminko J, **Kim JH**, Otsuka S, Gray A, Schloss R, Grumet M, Yarmush ML. Encapsulated mesenchymal stromal cells for in-vivo transplantation. **Biotechnol Bioeng.** 108(11):2747-58, 2011

7. Sung-Ung Moon, Ki-Hyo Kwon, **Jae-Hwan Kim**, Kiran Kumar Bokara, Kyung Ah Park, Won Taek Lee, Jong-Eun Lee Recombinant hexahistidine arginine decarboxylase (hisADC) induced endogenous agmatine synthesis during stress. **Molecular and Cellular Biochemistry,** 345(1-2):53-60, 2010

8. **Kim JH**, Lee YW, Park KA, Lee WT, Lee JE Agmatine attenuates brain edema through reducing the expression of aquaporin-1 after cerebral ischemia **Journal of Cerebral Blood Flow and Metabolism,** 30(5): 943-949, 2010

9. D Uranchimeg, **Jae Hwan Kim**, Jae Young Kim, Won Taek Lee, Kyung Ah Park, G Batbaatar, S Tundevrentsen, D Amgalanbaatar, Jong Eun Lee Recovered changes in the spleen by agmatine treatment after transient cerebral ischemia. **Anatomy and Cell Biology,** 43(1): 44-53, 2010

10. Chin Hee Mun, **Jae Hwan Kim**, Kyung Ah Park, Won Taek Lee, Ja-Hyun Baik, Jong Eun Lee Agmatine attenuates nitric oxide synthesis and protects ER-structure from global cerebral ischemia in rats. **The Korean J. Anat.**, 42(3): 149-160, 2009

11. **Jae Hwan Kim**, Mei Zi Yang, Soo Kyung Ahn, Jong Eun Lee Strategy for maintenance of blood brain barrier integrity and neurorpotection in experimental stroke (review article). **Vascular Neurology**, 1:16-23, 2009

12. Lee WT, Hong S, Yoon SH, **Kim JH**, Park KA, Seong GJ, Lee JE Neuroprotective effects of agmatine on oxygen-glucose deprived primary-cultured astrocytes and nuclear translocation of nuclear factor-kappa B. **Brain Research**, 24;1281:64-70, 2009

13. Cho IH, Hong J, Suh EC, **Kim JH**, Lee H, Lee JE, Lee S, Kim CH, Kim DW, Jo EK, Lee KE, Karin M, Lee SJ Role of microglial IKKbeta in kainic acid-induced hippocampal neuronal cell death. **Brain**, 131(11): 3019-3033, 2008

14. **Jae Hwan Kim**, Yong Woo Lee, Jae Young Kim, Won Taek Lee, Kyung Ah Park, Jong Eun Lee The effect of Agmatine on expression of MMP2 and MMP9 in cerebral ischemia. **The Korean J. Anat.**, 41(1): 97-104, 2008

15. Minsun Park, Yeryoung Yong, Seung-Won Choi, **Jae Hwan Kim**, Jong Eun Lee, Dae-Won Kim Constitutive RelA activation mediated by Nkx3.2 controls chondrocyte viability. **Nature cell biology**, 9(3): 287-298, 2007

16. Hokyou Lee, Jong Youl Kim, **Jae Hwan Kim**, Ja Hyun Baik, Jong Eun Lee, Won Taek Lee, Kyung Ah Park Proteomic and cell Death analysis after ischemia like injury attenuated by glucose metabolites in primary cultured neurons. **Experimental Neurobiology**, 14(2): 79-91, 2005

17. Won Taek Lee, Hyung Seok Oh, Hyo Seok Jeong, **Jae Hwan Kim**, Soo Kyung Ahn, Jong Eun Lee, Kyung Ah Park The effect of ependymal cell transplantation on nerve regeneration after spinal cord injury in rats. **The Korean Journal of Anatomy**, 37(6): 529-538, 2004

18. Seung-Koo Lee, Dong Ik Kim, Si Yeon Kim, Dong Joon Kim, Jong Eun Lee, **Jae Hwan Kim** Reperfusion Cellular Injury in an Animal Model of Transient Ischemia. **Am J Neuroradiol.**, 25: 1342-1347, 2004

19. **Kim JH**, Yenari MA, Giffard RG, Cho SW, Park KA, Lee JE Agmatine reduces infarct area in a mouse model of transient focal cerebral ischemia and protects cultured neurons from ischemia-like injury. **Experimental Neurology**, 189(1): 122-130, 2004.

20. Jong Soon Hong, Hyug Chun, Hyo Seok Jeong, **Jae Hwan Kim**, Won Taek Lee, Kyung Ah Park, Jong Eun Lee Quantitative Analysis of Agmatine by HPLC in Ischemic Brain. **The Korean Journal of Anatomy**, 36(4): 257-264, 2003.

Awards

2008 KAA (Korean Association of Anatomists) poster award
2008 KSBNS (Korean Society for Brain and Neural Science) poster award
2001 KAA (Korean Association of Anatomists) poster award

Patents

US Patent

1. "Therapeutic encapsulated embryonic stem cells and mesenchymal stromal cells"
   US Patent OPN: 20120020931 (2012.01.26)

KOREA Patent

1. "Agmatine serving as efficacy enhancers for stem cells"
   KOREA Patent GN: 1011489830000 (2012.05.16)

2. “Compositions for Enhancing Viability and Proliferation of Stem Cell”
   KOREA Patent GN: 1011018350000 (2011.12.27)
3. “Pharmaceutic Compositions for Prevention or Treatment of Brain Diseases”
   KOREA Patent GN: 1011018340000 (2011.12.27)