

## CURRICULUM VITAE

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**NAME:** HAN-KYU LEE, Ph.D.

**E-MAIL ADDRESS:** han-kyu\_lee@brown.edu, david2042@gmail.com

**Biography Online** [https://www.researchgate.net/profile/Han\\_Kyu\\_Lee/contributions](https://www.researchgate.net/profile/Han_Kyu_Lee/contributions)

**Bibliography** <https://www.ncbi.nlm.nih.gov/sites/myncbi/han-kyu.lee.1/bibliography/40546934/public/?sort=date&direction=descending>

### **CURRENT OCCUPATION STATUS:**

#### 1) ACADEMIC AND HOSPITAL APPOINTMENTS

*Assistant Professor (Research) and Senior Research Associate:* 2015.7 – present, Department of Neurology, Rhode Island Hospital and Brown University Warren Alpert Medical School  
*Visiting Scientist:* 2009.5- present, Molecular Cardiology/CVI, Boston University School of Medicine

#### 2) IMMIGRATION : Green Card Holder

### **ACADEMIC HISTORY (Degree):**

Kangwon National University  
192-1, Hyoja2-Dong, Chuncheon-si, Kangwon-Do, 200-701, KOREA  
Major: Physics, Degree: BS (1993.3-1997.2) (Review thesis of Gravitational Lensing effect by giant star)

College of Natural Science, Div. of Life Science, Hallym University  
1 Hallimdaehak-gil, Chuncheon-si, Kangwon-Do, 200-702, South Korea  
Major: Genetic Engineering (Biochemistry, Molecular Biology), Degree: MS (1998.3-2001.2)

Department of Pharmacology, College of Medicine, Hallym University  
1 Hallimdaehak-gil, Chuncheon-si, Kangwon-Do, 200-702, South Korea  
Major: Pharmacology (Neuroscience), Degree: Ph.D. (2001.3-2003.8)

### **POSTGRADUATE RESEARCH EXPERIENCE**

*Research Assistant* (supported by KOSEF; 2003.9 – 2004.8)  
Department of Pharmacology, College of Medicine, Hallym University  
1 Hallimdaehak-gil, Chuncheon-si, Kangwon-Do, 200-702, South Korea

*Post-Doctoral Fellow, Research Associate* (2004.9 – 2009.5)  
Division of Neurology, St. Elizabeth's Medical Center,  
Tufts University School of Medicine, 736 Cambridge Street, Boston, MA 02135, USA

*Instructor and Senior Research Associate* (2009. 5 – 2010. 4)  
Division of Neurology, St. Elizabeth's Medical Center,  
Tufts University School of Medicine, 736 Cambridge Street, Boston, MA 02135, USA

*Research Instructor and Senior Research Associate* (2009.12 – 2015.6), Department of Neurology, Rhode Island Hospital and Brown University Warren Alpert Medical School

*Visiting Scientist (IPA)* (2014- 2016): ENR Memorial Veterans Hospital, 200 Springs Road, Bedford, MA 01730

### **HONORS AND AWARDS**

1) Fellowship

*Teaching Assistant* (1998.3-2000.2), The College of Natural Science, Div. of Life Science, Hallym University

*Research Assistant* (2000.1-2004.8, Institute of Natural Medicine, College of Medicine, Hallym University

*Teaching Assistant* (2000.9-2001.2), Department of Pharmacology, College of Medicine, Hallym University

*Research Assistant* (2001.9-2002.2), Department of Pharmacology, College of Medicine, Hallym University

*Teaching Assistant* (2002.3-2003.2), Department of Pharmacology, College of Medicine, Hallym University

- 2) 1993 B.S. Departmental Award
- 3) 1998-1999 M.S Teaching Assistant Award
- 4) 2000-2002 Research Assistant Award
- 5) 2003 Research Assistant Award from KOSEF

### **GRANTS and SUPPORTS**

- 1) Intra-departmental Research Grant to HKL (11181): RIH Neurology: 2011-2013
- 2) VA Bedford, MA funded collaborative clinical research project (IPA) to Dr. Xia: 2014-2016

### **MEMBERSHIP IN SOCIETIES**

- 1) 1998 – present Member of Korean Society for Molecular and Cellular Biology
- 2) 2000 – 2004 Member of Korean Society of Pharmacology
- 3) 2000 – 2004 Member of Korean Society for Brain and Neuroscience
- 4) 2001 – 2004 Member of Korean Society for Brain Science
- 5) 2001 – present Member of the Society for Neuroscience
- 6) 2004 – present Member of New England Bioscience Society

### **INVITED JOURNAL REVIEW:**

Review of Mechanisms of Ageing and Development: June 3, 2009

Reviewing Board of Interdisciplinary Bio Central (IBC): 2009 ~ 2012

Review of BMC Physiology: April 30, 2010

### **MS and Ph.D. DISSERTATION**

- 1) Purification and Characterization of Human Immunodeficiency Virus Type-1 (HIV-1) Tat protein. MS Dissertation. Genetic Engineering (Biochemistry). Hallym University, Chuncheon-si, South Korea. 2001.2.
- 2) Study on neurotransmitters involved in the hippocampal neuronal loss induced by kainic acid. Ph.D. Dissertation. Department of Pharmacology, Collage of medicine, Hallym University, Chuncheon-si, South Korea. 2003.8.

### **RESEARCH EXPERIENCE**

*Visiting Scientist (IPA)*: 2014.10 – 2016.12), Department of Veterans Affairs, 200 Springs Road, Bedford, MA 01730 (research adviser: Dr. Xia).

- Developed induced pluripotent stem cells (iPSCs) of Alzheimer's disease and normal patients (Lee et al., 2015)
- Developed 2D and 3D neuronal culture models differentiated from iPSCs of Alzheimer's disease and normal patients (Lee et al., 2016).

*Research as Research Instructor:* Department of Neurology, Brown University Warren Alpert Medical School and Rhode Island Hospital 2009-2015 (research adviser: Dr. Henry W. Querfurth).

- Investigated Rictor/mTOR-Akt signaling pathway as protective target to inhibition of insulin resistance by intracellular beta-amyloid (Lee et al., 2017).
- Studied Foxo/Atrogin signaling pathway induction in human and experimental myositis (Lee et al., 2012).
- Participated in Aberrant cell cycle reentry in human and experimental inclusion body myositis and polymyositis (Kwon et al., 2014).
- Continued *In vitro* and *In vivo* drug screenings with X compounds blocking beta-amyloid induced cell toxicity and insulin resistance.
- Established intracellular beta-amyloid expressed Alzheimer disease primary cortical cell culture model from rat embryos using AdvTetOn viruses.

*Postdoctoral Research:* Department of Neurology, Tufts University School of Medicine and Saint Elizabeth Medical Center 2004-2009 (research adviser: Dr. Henry W. Querfurth).

- Investigated PI3K and insulin/Akt signaling pathway targeted by intracellular beta-amyloid (Lee et al., 2009).
- Developed *In vitro* and *In vivo* drug screening methods when beta-amyloid induces cell toxicity and insulin resistance.
- Established intracellular beta-amyloid expressed Alzheimer disease cell culture model using AdvTetOn viruses.
- Developed rat pub brain slice cultures with intracellular beta-amyloid expression using AdvTetOn viruses.

*Doctoral Research:* Department of Pharmacology, Collage of medicine, Hallym University, Chuncheon-si, South Korea. 2001-2003. (research adviser: Dr. Hong-Won Suh).

- Studied on neurotransmitters involved in the hippocampal neuronal loss induced by kainic acid and development of neuroprotective materials from natural products (GABA(B), adenosine, nicotinic acetylcholine receptors).

*Mastered Research:* The College of Natural Science, Div. of Life Science, Hallym University, Chuncheon-si, South Korea. 1998-2001. (research adviser: Dr. Jinseu Park)

- Developed purification and characterization of Human Immunodeficiency Virus Type-1 (HIV-1) Tat protein that transparent to the cell membrane.

### **RESEARCH INTERESTS**

- *In vitro* and *In vivo* drug screening of inhibiting beta-amyloid toxicity to PDK/Akt target.
- PI3K-PDK-Akt signaling pathway related to Alzheimers disease and diabetes.
- mTORC2 (Rictor)-Akt signaling pathway as an alternative mechanism to protect beta-amyloid toxicity
- Developing of induced pluripotent stem cells (iPSCs) of Alzheimer's disease (AD) patient
- Establishing and testing 2D and 3D human neuronal cells differentiated from the AD patient-derived iPSCs with possible drug candidates

**Specialties:** I am competent in the following techniques and knowledgeable in the indicated fields

- Immunocytochemistry, In situ hybridization, Northern and Western blots.
- Confocal microscopy, IN CELL 2000 analysis

- Protein expression and protein affinity purification (e.g. HIV tat protein),
- Excitotoxicity of Kainic Acid in mouse hippocampus
- Skeletal Muscle biochemistry, physiology and anatomy
- Insulin Resistance in Alzheimer's disease, PI3K-PDK-Akt signaling, mTORC1, C2 signaling
- Alzheimer's disease and Inclusion Body Myositis pathogenesis.
- *In vitro* kinase assays, lipid chromatography, quantitative/ RT PCR reactions
- Adenovirus, HSV and Lenti virus cloning and preparation procedures
- Drug screen assay setup and execution, trouble shooting
- Developing patient-derived IPS cell lines from the PBMC
- Differentiation of IPSs to 2D and 3D neurons
- GraphPad Prism (Statistical analysis tool), Adobe Photoshop, Proficient in Microsoft Office and EndNote

### **UNIVERSITY TEACHING ROLES**

*Teaching Assistant* (1998.3-2000.2), The College of Natural Science, Div. of Life Science, Hallym University  
*Research Assistant* (2000.1-2004.8), Institute of Natural Medicine, College of Medicine, Hallym University  
*Teaching Assistant* (2000.9-2001.2), Department of Pharmacology, College of Medicine, Hallym University  
*Research Assistant* (2001.9-2002.2), Department of Pharmacology, College of Medicine, Hallym University  
*Teaching Assistant* (2002.3-2003.2), Department of Pharmacology, College of Medicine, Hallym University  
*Teaching Assistant* of the Lab (UTRA, 2010-2014), Department of Neurology, Rhode Island Hospital and Brown University Warren Alpert Medical School

### **PUBLICATIONS (1-38).**

1. Lee, H. K., Kwon, B., Lemere, C. A., de la Monte, S., Itamura, K., Ha, A. Y., and Querfurth, H. W. (2017) mTORC2 (Rictor) in Alzheimer's Disease and Reversal of Amyloid-beta Expression-Induced Insulin Resistance and Toxicity in Rat Primary Cortical Neurons. *J Alzheimers Dis* **56**, 1015-1036
2. Lee, H. K., Velazquez Sanchez, C., Chen, M., Morin, P. J., Wells, J. M., Hanlon, E. B., and Xia, W. (2016) Three Dimensional Human Neuro-Spheroid Model of Alzheimer's Disease Based on Differentiated Induced Pluripotent Stem Cells. *PLoS One* **11**, e0163072
3. Lee, H. K., Morin, P., and Xia, W. (2016) Peripheral blood mononuclear cell-converted induced pluripotent stem cells (iPSCs) from an early onset Alzheimer's patient. *Stem Cell Res* **16**, 213-215
4. Lee, H. K., Morin, P., Wells, J., Hanlon, E. B., and Xia, W. (2015) Induced pluripotent stem cells (iPSCs) derived from frontotemporal dementia patient's peripheral blood mononuclear cells. *Stem Cell Res* **15**, 325-327
5. Kwon, B., Gamache, T., Lee, H. K., and Querfurth, H. W. (2015) Synergistic effects of beta-amyloid and ceramide-induced insulin resistance on mitochondrial metabolism in neuronal cells. *Biochim Biophys Acta*
6. Zeng, L., Maruyama, S., Nakamura, K., Parker-Duffen, J. L., Adham, I. M., Zhong, X., Lee, H. K., Querfurth, H., and Walsh, K. (2014) The injury-induced myokine insulin-like 6 is protective in experimental autoimmune myositis. *Skelet Muscle* **4**, 16
7. Kwon, B., Lee, H. K., and Querfurth, H. W. (2014) Oleate prevents palmitate-induced mitochondrial dysfunction, insulin resistance and inflammatory signaling in neuronal cells. *Biochim Biophys Acta*
8. Kwon, B., Kumar, P., Lee, H. K., Zeng, L., Walsh, K., Fu, Q., Barakat, A., and Querfurth, H. W. (2014) Aberrant cell cycle reentry in human and experimental inclusion body myositis and polymyositis. *Hum Mol Genet*
9. Lee, H. K., Rocnik, E., Fu, Q., Kwon, B., Zeng, L., Walsh, K., and Querfurth, H. (2012) Foxo/Atrogin induction in human and experimental myositis. *Neurobiol Dis* **46**, 463-475
10. Rosen, K. M., Moussa, C. E., Lee, H. K., Kumar, P., Kitada, T., Qin, G., Fu, Q., and Querfurth, H. W. (2010) Parkin reverses intracellular beta-amyloid accumulation and its negative effects on proteasome function. *J Neurosci Res* **88**, 167-178
11. Lee, H. K., Kumar, P., Fu, Q., Rosen, K. M., and Querfurth, H. W. (2009) The insulin/Akt signaling pathway is targeted by intracellular beta-amyloid. *Mol Biol Cell* **20**, 1533-1544
12. Kwon, M. S., Seo, Y. J., Lee, J. K., Lee, H. K., Jung, J. S., Jang, J. E., Park, S. H., and Suh, H. W. (2008) The repeated immobilization stress increases IL-1beta immunoreactivities in only neuron, but not astrocyte or microglia in hippocampal CA1 region, striatum and paraventricular nucleus. *Neurosci Lett* **430**, 258-263
13. Suh, H. W., Lee, H. K., Seo, Y. J., Kwon, M. S., Shim, E. J., Lee, J. Y., Choi, S. S., and Lee, J. H. (2005) Kainic acid (KA)-induced Ca(2+)/Calmodulin-dependent protein kinase II (CaMK II) expression in the neurons, astrocytes and

microglia of the mouse hippocampal CA3 region, and the phosphorylated CaMK II only in the hippocampal neurons. *Neurosci Lett* **381**, 223-227

14. Lee, H. K., Seo, Y. J., Choi, S. S., Kwon, M. S., Shim, E. J., Lee, J. Y., and Suh, H. W. (2005) Role of gamma-aminobutyric acid B (GABA(B)) receptors in the regulation of kainic acid-induced cell death in mouse hippocampus. *Exp Mol Med* **37**, 533-545
15. Kwon, M. S., Shim, E. J., Seo, Y. J., Choi, S. S., Lee, J. Y., Lee, H. K., and Suh, H. W. (2005) Differential modulatory effects of cholera toxin and pertussis toxin on pain behavior induced by TNF-alpha, interleukin-1beta and interferon-gamma injected intrathecally. *Arch Pharm Res* **28**, 582-586
16. Kwon, M. S., Shim, E. J., Seo, Y. J., Choi, S. S., Lee, J. Y., Lee, H. K., and Suh, H. W. (2005) Effect of Aspirin and Acetaminophen on Proinflammatory Cytokine-Induced Pain Behavior in Mice. *Pharmacology* **74**, 152-156
17. Han, K. J., Choi, S. S., Shim, E. J., Seo, Y. J., Kwon, M. S., Lee, J. Y., Lee, H. K., and Suh, H. W. (2005) Formalin pretreatment attenuates tail-flick inhibition induced by beta-endorphin administered intracerebroventricularly or intrathecally in mice. *Arch Pharm Res* **28**, 227-231
18. Han, K. J., Choi, S. S., Lee, J. Y., Lee, H. K., Shim, E. J., Kwon, M. S., Seo, Y. J., and Suh, H. W. (2005) Antinociceptive effect of nicotine in various pain models in the mouse. *Arch Pharm Res* **28**, 209-215
19. Choi, S. S., Seo, Y. J., Kwon, M. S., Shim, E. J., Lee, J. Y., Ham, Y. O., Lee, H. K., and Suh, H. W. (2005) Increase of phosphorylation of calcium/calmodulin-dependent protein kinase-II in several brain regions by substance P administered intrathecally in mice. *Brain Res Bull* **65**, 375-381
20. Suh, H. W., Choi, S. S., Lee, J. K., Lee, H. K., Han, E. J., and Lee, J. (2004) Regulation of c-fos and c-jun gene expression by lipopolysaccharide and cytokines in primary cultured astrocytes: effect of PKA and PKC pathways. *Arch Pharm Res* **27**, 396-401
21. Lee, H. K., Choi, S. S., Han, K. J., Han, E. J., and Suh, H. W. (2004) Roles of adenosine receptors in the regulation of kainic acid-induced neurotoxic responses in mice. *Brain Res Mol Brain Res* **125**, 76-85
22. Lee, H. K., Choi, S. S., Han, E. J., Lee, J. Y., Kwon, M. S., Shim, E. J., Seo, Y. J., and Suh, H. W. (2004) Role of nicotinic acetylcholine receptors in the regulation of kainic acid-induced hippocampal cell death in mice. *Brain Res Bull* **64**, 309-317
23. Kim, H. S., Cho, J. Y., Kim, D. H., Yan, J. J., Lee, H. K., Suh, H. W., and Song, D. K. (2004) Inhibitory effects of long-term administration of ferulic acid on microglial activation induced by intracerebroventricular injection of beta-amyloid peptide (1-42) in mice. *Biol Pharm Bull* **27**, 120-121
24. Choi, S. S., Lee, H. K., Shim, E. J., Kwon, M. S., Seo, Y. J., Lee, J. Y., and Suh, H. W. (2004) Alterations of c-Fos mRNA expression in hypothalamic-pituitary-adrenal axis and various brain regions induced by intrathecal single and repeated substance P administrations in mice. *Arch Pharm Res* **27**, 863-866
25. Choi, S. S., Han, E. J., Lee, T. H., Han, K. J., Lee, H. K., and Suh, H. W. (2004) Antinociceptive profiles of platycodin D in the mouse. *Am J Chin Med* **32**, 257-268
26. Lee, J. K., Choi, S. S., Lee, H. K., Han, K. J., Han, E. J., and Suh, H. W. (2003) Effects of ginsenoside Rd and decursinol on the neurotoxic responses induced by kainic acid in mice. *Planta Med* **69**, 230-234
27. Lee, H. K., Choi, S. S., Han, K. J., Han, E. J., and Suh, H. W. (2003) Cycloheximide inhibits neurotoxic responses induced by kainic acid in mice. *Brain Res Bull* **61**, 99-107
28. Lee, H. K., Choi, S. S., Han, E. J., Han, K. J., and Suh, H. W. (2003) Role of glutamate receptors and an on-going protein synthesis in the regulation of phosphorylation of Ca<sup>2+</sup>/calmodulin-dependent protein kinase II in the CA3 hippocampal region in mice administered with kainic acid intracerebroventricularly. *Neurosci Lett* **348**, 93-96
29. Chung, K. M., Choi, S. S., Han, K. J., Han, E. J., Lee, H. K., and Suh, H. W. (2003) Antinociceptive effects of methysergide in various pain models. *Pharmacology* **69**, 93-101
30. Choi, S. S., Lee, J. K., Han, E. J., Han, K. J., Lee, H. K., Lee, J., and Suh, H. W. (2003) Effect of ginsenoside Rd on nitric oxide system induced by lipopolysaccharide plus TNF-alpha in C6 rat glioma cells. *Arch Pharm Res* **26**, 375-382
31. Choi, S. S., Han, K. J., Lee, J. K., Lee, H. K., Han, E. J., Kim, D. H., and Suh, H. W. (2003) Antinociceptive mechanisms of orally administered decursinol in the mouse. *Life Sci* **73**, 471-485
32. Choi, S. S., Han, K. J., Lee, H. K., Han, E. J., and Suh, H. W. (2003) Possible antinociceptive mechanisms of opioid receptor antagonists in the mouse formalin test. *Pharmacol Biochem Behav* **75**, 447-457
33. Choi, S. S., Han, K. J., Lee, H. K., Han, E. J., and Suh, H. W. (2003) Antinociceptive profiles of crude extract from roots of *Angelica gigas* NAKAI in various pain models. *Biol Pharm Bull* **26**, 1283-1288
34. Choi, S. S., Han, E. J., Han, K. J., Lee, H. K., and Suh, H. W. (2003) Antinociceptive effects of ginsenosides injected intracerebroventricularly or intrathecally in substance P-induced pain model. *Planta Med* **69**, 1001-1004
35. Lee, J. K., Choi, S. S., Lee, H. K., Han, K. J., Han, E. J., and Suh, H. W. (2002) Effects of MK-801 and CNQX on various neurotoxic responses induced by kainic acid in mice. *Mol Cells* **14**, 339-347
36. Jang, C. G., Lee, S. Y., Lee, H. K., Suh, H. W., and Song, D. K. (2002) Time courses of pCREB expression after

- dopaminergic stimulation by apomorphine in mouse brain. *Arch Pharm Res* **25**, 370-374
37. Choi, S. S., Han, E. J., Lee, T. H., Lee, J. K., Han, K. J., Lee, H. K., and Suh, H. W. (2002) Antinociceptive mechanisms of platycodin D administered intracerebroventricularly in the mouse. *Planta Med* **68**, 794-798
38. Park, J., Lee, H., Lee, Y., Kang, Y. H., Rhim, H., and Choi, S. Y. (2000) Expression of Human Immunodeficiency Virus Type 1 Tat Proteins in Escherichia coli and Application to Study Tat Functions. *J Biochem Mol Biol* **33**, 337-343

## **ABSTRACTS**

### **PRESENTATIONS IN USA**

1. Jin-Koo Lee, Seong-Soo Choi, Mi-Ran Choi, **Han-Kyu Lee**, Hong-Won Suh: Roles of NMDA and non-NMDA receptors in the regulation of toxicological response induced by kainic acid administered supraspinally. 11/10-15/2001. Society for Neuroscience's 31th Annual Meeting. San Diego, CA, USA
2. Seong-Soo Choi, **Han-Kyu Lee**, Ki-Jung Han, Eun-Jung Han, Hong-Won Suh: Profiles of several signal transduction molecules induced by intrathecal substance P in pain-related brain regions: Differential effects of opioids. 8/17-22/2002 IASP 10th World Congress on Pain. San Diego, CA, USA
3. **Han-Kyu Lee**, Kenneth M. Rosen, Jordi Magrane, and Henry W. Querfurth: How does A $\beta$  affect Akt signaling? 11/12-16/2005 Society for Neuroscience's 35th Annual Meeting. Washington DC, USA
4. P. Kumar, Q. Fu, **H. K. Lee**, K. M. Rosen H. W. Querfurth: Cell Cycle Re-entry and the Role of Molecular Chaperones in  $\beta$ -Amyloid Laden Skeletal Muscle Cells and Alzheimer's Disease Brain. 11/3-7/2007 Neuroscience Meeting, 2007, San Diego, USA
5. Pravir Kumar, Qinghao Fu, **Han-Kyu Lee**, Henry Querfurth: Cell Cycle Re-entry and the Role of Molecular Chaperones in  $\beta$ -Amyloid Laden Skeletal Muscle Cells and Alzheimer's Disease Brain. TUFTS University A Research Day on Translational Research: Applying Discovery. November 29, 2007 Jean Mayer USDA Human Nutrition Research Center on Aging 711 Washington Street Boston, MA 02111
6. **Han-Kyu Lee**, Edward Rocnik, Kenneth Walsh, Qinghao Fu, Kenneth Rosen, and Henry Querfurth: Foxo/Atrogin induction in skeletal muscle by intracellular  $\beta$ -amyloid. 11/15-19/2008 Neuroscience Meeting, 2008, Washington DC, USA
7. **H.K. Lee**<sup>1</sup>, C. Moussa<sup>1</sup>, G. Qin<sup>2</sup>, T. Kitada<sup>3</sup>, K.M. Rosen<sup>1</sup>, P. Kumar<sup>1</sup>, Q. Fu<sup>1</sup> H.W. Querfurth<sup>1</sup>: Parkin reverses intracellular beta-amyloid accumulation and its negative effects on proteasome function. September 15, 2009 7th Annual Alzheimer's Research Day Boston University School of Medicine, Boston, USA
8. **Lee, H. K.**, Kumar, P., Qin, G., Kitada, T., Rosen, K. M., Fu, Q., Moussa, C. E., Querfurth, H. W.: Parkin reverses intracellular beta-amyloid accumulation and its negative effects on proteasome function. 10/17-21/2009 Neuroscience Meeting, 2009, Chicago, Ill, USA
9. **Han-Kyu Lee** (*Selected Oral Presentation*), The Insulin/Akt Signaling Pathway Is Targeted by Intracellular beta-Amyloid. 2010 18th NEBS Annual Conference, Saturday, 05/01/2010, Harvard School of Public Health 677 Huntington Avenue, Boston, MA 02115
10. Yun Wang, Hongwei Zhou, **Han-Kyu Lee**, Amey Barakat, Henry Querfurth: Differential Effects of  $\beta$ -Amyloids on Facilitating and Depressing Synaptic Connections in rat Prefrontal Cortex. 135th Annual Meeting of the American Neurological Association San Francisco Marriott Marquis, San Francisco, CA September 12-15, 2010
11. **Han-Kyu Lee**, Pravir Kumar, Gangjian Qin, Tohru Kitada, Kenneth M. Rosen, Qinghao Fu, Jon Degnore, Charbel E-H Moussa, Henry W. Querfurth : Parkin reverses intracellular beta-amyloid accumulation and its negative effects on proteasome function, 18th Annual Hospital Research Celebration, RIH, Providence, USA, 10-21-2010
12. Bumsup Kwon, **Han-Kyu Lee** and Henry W. Querfurth. Experimental insulin resistance, Alzheimer's proteinopathy and mitochondrial function in cultured neurons, 19th Annual Hospital Research Celebration, RIH, Providence, RI 02903, 2011
13. **Han-Kyu Lee**, Bumsup Kwon, and Henry W. Querfurth. mTOR in Alzheimer's Disease and Cellular Models: changes yes but which way? Alzheimer's Association International Conference 2012 (AAIC), July 14 - 19, 2012; Vancouver, British Columbia, Canada
14. \***H.-K. LEE**, B. KWON, H. W. QUERFURTH; mTOR pathway characterization in AD brain and a Cellular Model., Neuroscience meeting 2012, Oct. 13 -17, 2012, New Orleans. USA
15. \*B. KWON, **H.-K. LEE**, H. QUERFURTH; Synergetic effects of insulin resistance and  $\beta$ -amyloid on mitochondrial function in cultured neurons, Neuroscience meeting 2012, Oct. 13 -17, 2012, New Orleans. USA
16. **H.-K. LEE**, C. VELAZQUEZ, M. CHEN, P. MORIN, J. M. WELLS, E. HANLON, W. XIA Induced pluripotent stem cell differentiated three dimensional alzheimer's human neuronal culture exhibits compounds' efficacies on abeta production and tau phosphorylation, Neuroscience meeting 2016, Nov. 12 -16, 2016, San Diego. USA
17. Mei Chen, **Han-Kyu Lee**, Clara Velazquez, Peter Morin, Thor Stein, Weiming Xia, Proteomic Analysis of Blood, Induced Pluripotent Stem Cells, Three Dimensional Neurons, and Post-mortem Brain Tissue Specimens from the

Same Alzheimer Patients for Biomarker Exploration, Neuroscience meeting 2016, Nov. 12 -16, 2016, San Diego. USA

18. Mei Chen; **Han-Kyu Lee**; Peter Morin; John M Wells; Eugene B Hanlon; Nicole Daniels; Lauren Moo; Thor Stein; Weiming Xia, Proteomic profiling of plasma, iPSC, 3D neuron, and brain tissue from Alzheimer patients using LC-MS/MS, ASMS 2017, June 4-8, 2017, Indianapolis, IN 46225

#### PREVIOUS PRESENTATIONS

1. **Hangyu Lee**, Jiyeon Ryu, Hyangshuk Rhim, Soo Young Choi, Jinseu Park. Expression and Purification of the Biologically Active Human Immunodeficiency Virus Type 1 Tat Protein. Annual Meeting of The Korean Society for Molecular and Cellular Biology. 1998. Seoul.
2. **Hangyu Lee**, Jiyeon Ryu, Hyangshuk Rhim, Soo Young Choi, Jinseu Park. Expression and Purification of the Biologically Active Human Immunodeficiency Virus Type 2 Tat Protein. The Korean Society of Virology 31th Annual Meeting. 1999. 11. 5. ChunChon, Kangwon National University.
3. **Han-Kyu Lee**, Sung-Oh Huh, Hong-Won Suh Dong-Keun Song, Choon-Gon Jang: Upregulation of neuronal NOS immunoreactivity in the mouse striatum and hippocampus following treatment with apomorphine. 10/20-21/2000 Annual Meeting of The Korean Society of Pharmacology. Kyung Hee University. Seoul.
4. Choon-Gon Jang, **Han-Kyu Lee**, Ing Kang Ho: AMPA-sensitive glutamatergic involvement in expression of the morphine withdrawal in rat brain. 10/20-21/2000 Annual Meeting of The Korean Society of Pharmacology. Kyung Hee University. Seoul.
5. **Han-Kyu Lee**, Sung Oh Huh, Hong Won Suh, Dong Keun Song, Yung Hi Kim, Choon-Gon Jang: TIME COURSE CHANGES IN PHOSPHOR-CREB IMMUNOREACTIVITY INDUCED BY DOPAMINERGIC STIMULATION IN THE MOUSE BRAIN. 12/1-2/2000 Annual Meeting of the Korean Society for Brain and Neural Sciences. Seoul National University. Seoul.
6. Choon Gon Jang, **Han-Kyu Lee**, Sung Oh Huh, Hong Won Suh, Dong Keun Song, Yung Hee Kim, Seok Yong Lee: SPATIAL LEARNING AND ELEVATED PLUS MAZE ARE CHANGED IN MICE DEFICIENT FOR  $\mu$ -OPIOID RECEPTORS. 11/5-6/2001. Annual Meeting of The Korean Society of Pharmacology. Paradise Hotel Busan. Busan.
7. Seong-Soo Choi, **Han-Kyu Lee**, Jin-Koo Lee, Ki-Jung Han, Dong-Keun Song, Sung-Oh Huh, Yung-Hi Kim, Hong-Won Suh: CHARACTERIZATION OF c-FOS, pERK AND pCREB IMMUNOREACTIVITIES INDUCED BY GLUTAMATE, SUBSTANCE P AND CAPSAICIN ADMINISTERED INTRATHECALLY IN THE MOUSE HYPOTHALAMUS. 11/5-6/2001. Annual Meeting of The Korean Society of Pharmacology. Paradise Hotel Busan. Busan.
8. Jin-Koo Lee, **Han-Kyu Lee**, Seong-Soo Choi, Ki-Jung Han, Dong-Keun Song, Sung-Oh Huh, Yung-Hi Kim, Hong-Won Suh: The involvements of several neurotransmitter on the kainic acid induced cell death in hippocampus. 11/5-6/2001. Annual Meeting of The Korean Society of Pharmacology. Paradise Hotel Busan. Busan.
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