

KangAe Lee
Princeton University
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EDUCATION

- 09/2002 – 06/2007 Michigan State University
Ph.D. Cell and Molecular Biology
Mentor: John J. LaPres, Ph.D.
Thesis title: The role of hypoxia signaling in tumorigenesis
- 03/1998 – 12/2000 Korea University, Seoul, Korea
M.Sc. College of Life Science and Biotechnology, Division of Biotechnology
Mentor: Zin-Soo Kim, Ph.D.
Thesis title: RAPD analysis of *Pinus Koreanasis*
- 03/1994 – 12/1997 Korea University, Seoul, Korea
B.Sc. College of Life Science and Biotechnology, Division of Biotechnology

PROFESSIONAL EXPERIENCE

- 07/2009 – Present Post-Doctoral Fellow, Laboratory of Celeste M. Nelson, Ph.D.
Characterizing the role of neo-expression of mesenchymal markers in epithelial branching morphogenesis
Department of Chemical Engineering, Princeton University, Princeton, NJ.
- 09/2007 – 06/2009 Post-Doctoral Fellow, Laboratory of Gregg L. Semenza, Ph.D.
Characterizing the chemotherapeutic effects of drugs targeting HIF1 signaling.
Institute of Genetic Medicine, Johns Hopkins University, Baltimore, MD.
- 01/2000 – 06/2002 Research Scientist, Laboratory of Sang Chul Park, Ph.D.
Aging-related apoptotic responses and MAPKs signaling to genotoxic stress
Cancer Research Institute, Seoul National University Hospital, Seoul, Korea
- 10/1997 – 02/1998 Research Scientist, Laboratory of Yong-pyo Hong, Ph.D.
RAPDs and SSLP analysis of *Gingko Biloba*
Division of Molecular Genetics Agriculture Research Institute Suwon, Korea

PUBLICATION

1. **KangAe Lee**, David Z. Qian, Jun O. Lui, and Gregg L. Semenza. (2009). Acriflavine inhibits HIF-1 dimerization and blocks tumor growth. *Cancer Cell* (In Revision)
2. **KangAe Lee**, David Z. Qian, Sergio Rey, Hong Wei, Jun O. Liu, and Gregg L. Semenza. (2009). Anthracycline chemotherapy inhibits HIF-1 transcriptional activity and tumor-induced mobilization of bone marrow-derived cells. *Proc. Natl. Acad. Sci. U.S.A.* 106(7); 2353-2358
3. Huafeng Zhang, David Z. Qian, Yee Sun Tan, **KangAe Lee**, Ping Gao, Yunzhao R. Ren, Sergio Rey, Hans Hammers, Daniel Chang, Roberto Pili, Chi V. Dang, Jun O. Liu, and Gregg L. Semenza. (2008). Digoxin and other cardiac glycosides inhibit HIF-1 α synthesis and block tumor growth. *Proc. Natl. Acad.*

4. **KangAe Lee**, Jeremy D. Lynd, Sandra O'Reilly, Matti Kiupel, J. Justin McCormick, and John J. LaPres. (2008). The biphasic role of the Hypoxia-Inducible Factor Prolyl-4-Hydroxylase, PHD2, in modulating tumor-forming potential. *Mol. Cancer Res.* 6(5);829-842
5. **KangAe Lee**, Robert A. Roth and John J. LaPres. (2007). Hypoxia, drug therapy and toxicity. *Pharm & Ther.* 113; 229-246
6. **KangAe Lee**, Lyle D. Burgoon, Laura Lamb, Edward Dere, Timothy R. Zacharewski, John B. Hogenesch, and John J. LaPres. (2006). Identification and characterization of genes susceptible to transcriptional cross-talk between the hypoxia and dioxin signaling cascades. *Chem. Res. Toxicol.* 19; 1248-1293.
7. Heather A. Hirsch, Gauri W. Jawdekar, **Kang-Ae Lee**, Liping Gu, and R. William Henry. (2004) Distinct mechanisms for repression of RNA polymerase III transcription by the retinoblastoma tumor suppressor protein. *Mol. Cell. Biol.* 21; 5989-5999.
8. Suh, Y., **Kang-Ae Lee**, Woo-Ho Kim, Jan Vijg, and Sang Chul Park. (2002) Absence of apoptotic response to genotoxic stress in the liver of aged rats. *Nat. Med.* 8; 3-4.
9. Suh Yousin, **Kang-Ae Lee**, and Sang Chul Park. (2001). Differential activation of mitogen-activated protein kinases by methylmethanesulfonate (MMS) in the kidney of young and old rats. *Exp.Mol.Med.*33; 7.
10. Suh Yousin, **Kang-Ae Lee**, Woo-Ho Kim, Bok-Ghee Han, Jan Vijg, and Sang Chul Park. (2001). Aging alters the apoptotic response to genotoxic Stress. *Exp. Mol. Med.* 33; 9-10.
11. Suh Yousin, **Kang-Ae Lee**, and Sang Chul Park. (2001). Age-specific changes in expression, activity, and activation of the c-jun NH2-terminal kinase and p38 mitogen-activated protein kinases by methylmethanesulfonate (MMS) in Rats. *Exp. Mol. Med.* 34; 11.
12. **Kang-Ae Lee** and Yousin Suh. (2000). Aging-related expression profiling using tissue array. In : The 1st Tissue array workshop. Lee, W (ed) Vol 1. pp 151-168. Academy Press.

PROCEEDING AND ABSTRACT

1. Suh Yousin, **Kang-Ae Lee**, Sang Chul Park. Cell signaling pathways of genotoxic stress in cancer and aging. In: The 17th Congress of the International Association of Gerontology in the Symposium "Carcinogenesis and aging", Vancouver, Canada, July 2001.
2. Suh Yousin, **Kang-Ae Lee**, Sang Chul Park. Cellular responses to alkylating agents: implications for cancer and aging. In: Japan-Korea Cancer Research Symposium; Investigation on the balanced cooperation of cancer cells with the human body, Omiya, Japan, February 2001.
3. Suh Yousin, **Kang-Ae Lee**, Sang Chul Park. Tissue arrays in aging research: cellular responses to genotoxic stress. In: The 2000 Annual Meeting of Gerontology Society of America in the Symposium of "The Blue Sky Technology Revolution and Aging Research", Washington DC, USA, November 2000.
4. Suh Yousin, **Kang-Ae Lee**, Sang Chul Park. Cellular responses to alkylating agents: implications for cancer and aging. In: Symposium of The Korean Society for Gerontology - Stress Response and Aging. Bukyung University, Pusan, Korea, August 2000.

5. **Kang-Ae Lee** and Yousin Suh. Aging-related expression profiling using tissue array. In: The 1st Tissue Array Workshop 2000, Seoul National University College of Medicine, Seoul, Korea. July 2000.

SEMINAR PRESENTATION

1. **KangAe Lee** and John J. LaPres. The effect of altered PHD expression levels on the tumorigenicity of various cell lines. Michigan State University, Cell and Molecular Biology Research Forum. November 2005.
2. **KangAe Lee** and John J. LaPres. The role of the HIF1 signaling pathway in tumorigenesis. Michigan State University Carcinogenesis Forum. February 2005.
3. **KangAe Lee** and John J. LaPres. The role of hypoxia signaling pathway in tumorigenesis. Michigan State University Cell and Molecular Biology Research Forum. September 2004.

POSTER PRESENTATION

1. **KangAe Lee**, Sandra O'Reilly, J. Justin McCormick, and John J. LaPres. The biphasic role of prolyl hydroxylase domain protein 2 (PHD2/EGLN1) in modulating tumor-forming potential. April 2007. American Association for Cancer Research. Los Angeles. CA.
2. **KangAe Lee** and John J. LaPres. Identification of proteins capable of interacting with the Aryl Hydrocarbon Receptor (AhR) using Tandem Affinity Purification. August 2005. Biochemistry and Molecular Biology Poster Session. Michigan State University
3. **KangAe Lee**, Park SangChul and Suh Yousin. Differential activation of mitogen-activated protein kinases by methylmethanesulfonate in the kidney of young and old rats. October 2001. The 13th Annual Meeting of the Korea Society for Molecular and Cellular Biology. Seoul Korea.
4. **KangAe Lee**, Woo-Ho Kim, Bok-Ghee Han, Jan Vijg, SangChul Park, and Suh Yousin. Aging alters the apoptotic response to genotoxic stress. October 2000. The 12th Annual Meeting of the Korea Society for Molecular and Cellular Biology. Seoul Korea.
5. **KangAe Lee**, SangChul Park and Yousin Suh. Age-specific changes in expression, activity, and activation of the c-jun NH2-terminal kinase and p38 mitogen-activated protein kinases by methyl-methanesulfonate (MMS) in rats. August 2000. The 1st Asian Society of Toxicology. Cheju Korea.

TEACHING EXPERIENCES

09/2004 – 12/2004	Graduate Teaching Assistant Biochemistry 472 (Experiment in Molecular Biology), Michigan State University
08/1999 – 12/1999	Graduate Teaching Assistant Molecular population Genetics, Korea University

AWARD AND HONOR

07/2008 – 06/2009	FARM Research Fellowship Award Dr. Richard and Mavis Fowler & The Foundation for Advanced Research in The Medical Sciences, Inc. (FARMS), Johns Hopkins Univ. MD
05/2007 – 08/2007	Dissertation Completion Fellowship Michigan State Univ. MI

12/2002 – 08/2003 Research Fellowship
Van Andel Research Institute, MI

09/1994 – 12/1998 Academic Scholarship
Korea University, Seoul, Korea