

Curriculum Vitae

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Kyong-Tai Kim, Ph.D.

Education and Training

- 1985-1989 **Ph.D.** in Molecular and Cellular Biology
University of Massachusetts,
Amherst, Massachusetts, U. S. A.
- 1980-1982 **M.S.** in Biological Engineering
Korea Advanced Institute of Science and Technology,
Seoul, Korea
- 1976-1980 **B.S.** in Agricultural Chemistry
Seoul National University, Seoul, Korea

Professional Experiences

- 2013-present Professor
Division of Integrative Biosciences and Biotechnology, POSTECH
- 2013-present Editorial Board Member, Scientific Reports
- 2013-present Director, BK21 Plus Integrative Biosciences and Technology,
POSTECH
- 2007-present Fellow, Korean Academy of Science and Technology
- 2012-2014 National Medical Research Council (NMRC) International Expert Panel,
Singapore
- 2012-2013 Director of Research Division, Korea Brain Research Institute
- 2010-2012 Director, Pohang Center for Evaluation of Biomaterials
- 2007-2008 Chairman, Department of Life Science, POSTECH
- 2006-2014 Handling Editor, Advisory Member-Reviews, J. Neurochem.
- 2006-2007 Visiting Professor, School of Chemical and Biomedical Engineering,
Nanyang Technological University, Singapore
- 2001-present Professor, Department of Life Science,
Pohang University of Science and Technology, Pohang, Korea
- 1997-1998 Visiting Scientist, Department of Physiology and Biophysics,
University of Washington, Seattle, U. S. A.

1995-2001 Associate Professor, Department of Life Science,
Pohang University of Science and Technology,
Pohang, Korea

1991-1995 Assistant Professor, Department of Life Science,
Pohang University of Science and Technology, Pohang, Korea

1989-1991 Postdoctoral Fellow, Laboratory of Molecular Neurobiology
Cornell University Medical College, New York, U. S. A.

1982-1985 Research Investigator, Genetic Engineering Research Center
Korea Advanced Institute of Science and Technology, Seoul, Korea

Publications (Selected Papers)

1. Kim W, Na KY, Lee KH, Lee HW, Lee JK, and **Kim KT** (2017) Selective uptake of epidermal growth factor-conjugated gold nanoparticle (EFG-GNP) facilitates non-thermal plasma (NTP)-mediated cell death. *Sci. Rep.* **7**,10971
2. Jung HY, Lee D, Ryu H, Choi BH, Go Y, Lee N, Yoon JH, Park SM, Lee D, Kim SH, Son HG, Lee SJ, Lee IK, Choi KY, Ryu SH, Jeong SW, and **Kim KT** (2017) Myricetin improves endurance capacity and mitochondrial function by activating SIRT1 and PGC-1 α . *Sci. Rep.* **7**, 6237
3. Kang MS, Choi TY, Ryu HG, Lee D, Lee SH, Choi SY, and **Kim KT** (2017) Autism-like behavior caused by deletion of vaccinia-related kinase 3 is improved by TrkB stimulation. *J. Exp. Med.* (in press)
4. Seo JY, Kim DY, Kim SH, Kim HJ, Ryu HG, Lee J, Lee KH, and **Kim KT** (2017) Heterogeneous nuclear ribonucleoprotein (hnRNP) L promotes DNA damage-induced cell apoptosis by enhancing the translation of p53. *Oncotarget* **8**(31):51108-51122
5. Kim HJ, Lee HR, Seo JY, Ryu HG, Lee KH, Kim DY, and **Kim KT** (2017) Heterogeneous nuclear ribonucleoprotein A1 regulates rhythmic synthesis of mouse Nfil3 protein via IRES-mediated translation. *Sci. Rep.* **7**, 42882
6. Song H, Kim W, Kim SH, and **Kim KT** (2016) VRK3-mediated nuclear localization of HSP70 prevents glutamate excitotoxicity-induced apoptosis and A β accumulation via enhancement of ERK phosphatase VHR activity. *Sci. Rep.* **6**, 38452.
7. Lee E, Ryu HG, Kim S, Lee D, and **Kim KT** (2016) Glycogen synthase kinase 3 β suppresses polyglutamine aggregation by inhibiting Vaccinia-related kinase 2 activity. *Sci. Rep.* **6**, 29097.
8. Song H, Kim W, Kim SH, Lee D, Park CH, Kim S, Lee HR, Kim DY, and **Kim KT** (2016) Stress-induced nuclear translocation of CDK5 suppresses neuronal death by downregulating ERK activity.

- vation via VRK3 phosphorylation. *Sci. Rep.* **6**, 28634.
9. Lee J, Lee HR, Pyo J, Jung Y, Seo JY, Ryu HG, **Kim KT**, and Je JH (2016) Quantitative probing of Cu²⁺ ions naturally present in single living cells. *Adv. Materials* **28**(21), 4071-4076. ([Inside Front Cover image](#))
 10. Hong SM, Park CW, Kim SW, Nam YJ, Yu JH, Shin JH, Yun CH, Im SH, **Kim KT**, Sung YC, and Choi KY (2016) NAMPT suppresses glucose deprivation-induced oxidative stress by increasing NADPH levels in breast cancer. *Oncogene*. **35**(27), 3544-3554.
 11. Kim JH, Jeun EJ, Hong CP, Kim SH, Jang MS, Lee EJ, Moon SJ, Yoon CH, Im SH, Jeong SG, Park BY, **Kim KT**, Seoh JY, Kim YK, Oh SJ, Ham JS, Yang BG, and Jang MH (2016) Extracellular vesicle-derived protein from Bifidobacterium longum alleviates food allergy through mast cell suppression. *J. Allergy Clin. Immun.* **137**(2), 507-516.
 12. Lee HJ, Cho CW, Seo H, Singha S, Jun YW, Lee KH, Jung YS, **Kim KT**, Park S, Bae SC, and Ahn GH (2016) A two-photon fluorescent probe for lysosomal zinc ions. *Chem. Commun.* **52**(1), 124-127.
 13. Lee HR, Kim TD, Kim HJ, Jung Y, Lee D, Lee KH, Kim DY, Woo KC, and **Kim KT** (2015) hnRNP R Regulates Arylalkylamine N-acetyltransferase Synthesis via IRES-mediated Translation in a Circadian Manner. *J. Pineal Res.* **59**(4), 518-29.
 14. Kim SH, Ryu HG, Lee J, Shin J, Harikishore A, Jung HY, Kim YS, Lyu HN, Oh E, Baek NI, Choi KY, Yoon HS, and **Kim KT** (2015) Ursolic acid exerts anti-cancer activity by suppressing vaccinia-related kinase 1-mediated damage repair in lung cancer cells. *Sci. Rep.* **5**, 14570.
 15. Lee N, Kwon JH, Kim YB, Kim SH, Park SJ, Xu W, Jung HY, **Kim KT**, Wang HJ, and Choi KY (2015) Vaccinia-related kinase1 promotes hepatocellular carcinoma by controlling the levels of cell cycle regulators associated with G1/S transition. *Oncotarget* **6**(30), 30130-30148.
 16. Park CH, Ryu HG, Kim SH, Lee D, Song H, and **Kim KT** (2015) Presumed pseudokinase VRK3 functions as a BAF kinase. *BBA-Mol. Cell Res.* **1853**(7), 1738-1748.
 17. Kim SJ, Lee D, Lee J, Song H, Kim HJ, and **Kim KT** (2015) VRK2 controls the stability of the eukaryotic chaperonin TRiC/CCT by inhibiting the deubiquitinating enzyme USP25. *Mol. Cell. Biol.* **35**(10), 1754-1762.
 18. Kim SH, Lee KH, Kim DY, Kwak E, Kim S, and **Kim KT** (2015) Rhythmic control of mRNA stability modulates circadian amplitude of mouse period 3 mRNA. *J. Neurochem.* **132**(6), 642-656.
 19. Kim E, Park S, Choi N, Lee J, Yoe J, Kim S, Jung HY, **Kim KT**, Kang H, Fryer JD, Zoghbi HY, Hwang D, and Lee Y (2015) Deficiency of Capicua disrupts bile acid homeostasis. *Sci. Rep.* **5**, 8272.

20. Kim JK, Park TJ, Kwon N, Lee D, Kim S, Kohmura Y, Ishikawa T, **Kim KT***, Curran T*, and Je JH* (2015) Dendritic planarity of Purkinje cells is independent of Reelin signaling. *Brain Structure and Function* **220**(4), 2263-2273 (***co-corresponding authors**)
21. Patil SP, Kim SH, Jadhav JR, Lee JH, Jeon EM, **Kim KT***, and Kim BH* (2014) Cancer-specific gene silencing through therapeutic siRNA delivery with B vitamin-based nanoassembled low-molecular weight hydrogelators. *Bioconjug. Chem.* **25**(8), 1517-1525. (***co-corresponding authors**)
22. Seo H, Jun ME, Ranganathan K, Lee KH, **Kim KT**, Lim W, Rhee YM, and Ahn KH (2014) Ground-state elevation approach to suppress side reactions in gold sensing systems based on alkyne activation. *Organic Letters* **16**(5), 1374-1377.
23. Lee KH, Kim SH, Kim HJ, Kim W, Lee HR, Jung Y, Choi JH, Hong GY, Jang SK, and **Kim KT** (2014) Auf1 contributes to Cryptochrome1 mRNA degradation and rhythmic translation. *Nucl. Acids Res.* **42**(6), 3590-3606.
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27. Jeong MW, Kang TH, Kim W, Choi YH, Park CH, and **Kim KT** (2013) MKP2 regulates histone H3 phosphorylation via interaction with VRK1. *Mol. Biol. Cell.* **24**(3), 373-384.
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37. Kim D, Sambasivan S, Nam H, Kim KH, Kim JY, Joo TH, Lee KH, **Kim KT**, and Ahn KH (2012) Reaction-based two-photon probes for *in vitro* analysis and cellular imaging of monoamine oxidase activity. *Chem. Commun.* **48**, 6833-6835.
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40. Kim W, Chakraborty G, Kim S, Shin J, Park CH, Jeong MW, Bharatham N, Yoon HS, and **Kim KT** (2012) MacroH2A1 suppresses mitotic kinase VRK1 during interphase. *J. Biol. Chem.* **287** (8), 5278-5289.
41. Lee KH, Woo KC, Kim DY, Kim TD, Shin J, Park SM, Jang SK, and **Kim KT** (2012) Rhythmic interaction between *Period 1* mRNA and hnRNP Q leads to circadian time-dependent translation.

Mol. Cell. Biol. **32**(3), 717-728.

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44. Kim DY, Kwak E, Kim SH, Lee KH, Woo KC, and **Kim KT** (2011) HnRNP Q mediates a phase-dependent translation-coupled mRNA decay of mouse Period3. *Nucleic Acids Res.* **39**(20), 8901-8914.
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- atmospheric pressure plasma jet for biomedical applications. *Plasma Processes and Polymers* **7**, 258-263.
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 56. Park YS and **Kim KT** (2009) Dominant role of lipid rafts L-type calcium channel in activity-dependent potentiation of exocytosis. *J. Neurochem.* **110**(2), 520-529.
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 63. Park YS, Choi YH, Park CH, and **Kim KT** (2008) Non-genomic glucocorticoid effects on activity-dependent potentiation of catecholamine release in chromaffin cells. *Endocrinology* **149**(10), 4921-4927.
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- in cancer cells. *Cancer Letters*. **261**(1), 37-45.
66. Kang TH and **Kim KT** (2008) VRK3-mediated inactivation of ERK signaling in adult and embryonic rodent tissues. *BBA-Mol. Cell Res.* **1783**, 49-58.
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(Others)

전문분야

VRK family 기능 연구

퇴행성 뇌질환 연구

신경세포에서 mRNAs 의 국소 발현연구

생체시계(circadian rhythm)의 기전 연구