
Curriculum Vitae

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Professor and Director

Medicinal Bioconvergence Research Center (Biocon)
Dept of Molecular Medicine and Biopharmaceutical Sciences
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Academic background

Year	Schools	Major area	Degree
1977–1981	Seoul National Univ.	Pharmaceutics	B.S.
1981–1983	KAIST	Biological Sciences	M.S.
1986–1991	Brown University	Biology and Medicine	Ph.D.

Professional Experiences

Year	Organizations	Title
1983–1986	KAIST, Genetic Eng. Center	Researcher
1991–1994	MIT, USA	Post-doc
1993–1994	Cubist Pharmaceuticals, USA	Senior Scientist
1994–2001	Sung Kyun Kwan Univ.	Associate Professor
2001–present	Seoul National Univ. College of Pharmacy, Graduate Program in Bioinformatics, Genetic Engineering, Cancer Biology	Professor
1998–2007	Center for ARS Network National Creative Research Initiatives	Director
2007–2010	Center for Medicinal Protein Network and Systems Biology, Seoul National University	Director
2008–2010	Information Center of Bio-pharmacological Network	Director

2008- present	Integrated Bioscience and Biotechnology Institute, Advanced Institutes of Convergence Technology	Director
2010- present	Medicinal Bioconvergence Research Center	Director
1998 - present	The National Center for Drug Screening	consultant
2010 - present	Institute for Integrated Cell-Material Sciences, Kyoto University	visiting professor
2007 – 2009	Scripps Institute, USA	visiting professor
2008- present	BMC Systems Biology, Amino Acids	editorial board member
2012- present	Biochemical Journal	editorial board member
2017 - 2021	Journal of Molecular Cell Biology	editorial board member

Awards

Year	Title	Description
1991	Barry Rosen Premier	Brown University, USA.
1997	Intl. Fellowship Award	Matsumae International Foundation, Japan
1998	Sung Kyun Grand Prize	Sung Kyun Kwan Univ
1999	Seoul City Award (Life Science)	Seoul Metropolitan
2000	Dong Hun Award	Korean Society of Biochemistry and Molecular Biology
2002	The Best researcher in Biomedical Science	Korean Medical Association
2003	The Scientist of the Month	Korea Science and Engineering Foundation (KOSEF)
2003	National Presidential Award	Ministry of Science and Technology
2004 2006	Research Excellency Award	Biopharmaceutical Society
2006	The Scientist of the Year	Ministry of Science and Technology
2012	The Leading Creative Researcher Award	Seoul National University
2012	The Best Scientist Award	The National Academy of Sciences, Republic of Korea
2014	The Distinguished Alumni Award	Korea Advanced Institute of Science and Technology
2015	Ho-Am Prize, Medicine	Ho-Am Foundation
2015	Tech Biz Star Award	Ministry of Industry

Selected Recent Publications

1. Coordination of leucine-sensing Rag GTPase cycle by leucyl-tRNA synthetase for the mTORC1 signaling pathway, Lee et al, , Proc Natl Acad Sci, in press, 2018
2. Control of leucine-dependent mTORC1 pathway through chemical intervention of leucyl-tRNA synthetase and RagD GTPase interaction, Kim, JH, et al. Nat Comm, 8(1):732, 2017
3. Caspase-8 controls the secretion of inflammatory lysyl-tRNA synthetase in exosomes from cancer cells. Kim SB, et al. J Cell Biol, 216(7):2201-2216, 2017
4. Secreted tryptophanyl-tRNA synthetase as a primary defence system against infection. Ahn YH, et al. Nature Microbiol, 17;2:16191, 2016
5. Infection-specific phosphorylation of glutamyl-prolyl tRNA synthetase induces antiviral immunity. Lee EY, et al, Nat Immunol, 17(11):1252-1262, 2016
6. Leucyl-tRNA synthetase activates Vps34 in amino acid-sensing mTORC1 signaling. Yoon MS, et al, Cell Reports, 16, 1510, 2016
7. Structural basis for full-spectrum inhibition of translational functions on a tRNA synthetase, Fang P, et al, Nat Comm. 6,6402, 2015
8. Chemical inhibition of prometastatic lysyl-tRNA synthetase–laminin receptor interaction. Kim DG, et al, Nat Chem Biol, 10(1):29-34, 2014
9. Structure of the ArgRS–GlnRS–AIMP1 complex and its implications for mammalian translation. Fu Y, et al, Proc Natl Acad Sci, 111(42):15084-9, 2014
10. Structural switch of lysyl-tRNA synthetase between translation and transcription. Ofir-Birin Y, et al, Mol Cell, 49(1): 30-42. 2013
11. Trp-tRNA synthetase bridges DNA-PKcs to PARP-1 to link IFN- γ and p53 signaling. Sajish M, et al, Nat Chem Biol, 8: 547-554, 2012
12. Leucyl-tRNA synthetase is an intracellular leucine sensor for the mTORC1-signaling pathway. Han JM, Cell, 149: 410-424, 2012
13. Secreted human glycyl-tRNA synthetase implicated in defense against ERK-activated tumorigenesis. Park MC, et al, Proc Natl Acad Sci, 109: E640-647, 2012

14. Aminoacyl-tRNA synthetases and tumorigenesis: more than housekeeping. **Kim S**, et al, *Nat Rev Cancer*, **11**: 708-718, 2011
15. Dual role of methionyl-tRNA synthetase in the regulation of translation and tumor suppressor activity of aminoacyl-tRNA synthetase-interacting multifunctional protein-3. Kwon NH, et al, , *Proc Natl Acad Sci*, 108: 19635-19640, 2011
16. MSC p43 required for axonal development in motor neurons. Zhu X, et al, , *Proc Natl Acad Sci*, 106: 15944-15949, 2009
17. LysRS serves as a key signaling molecule in the immune response by regulating gene expression. Yannay-Cohen N, et al, *Mol Cell*, 34: 603-611, 2009
18. AIMP2/p38, the scaffold for the multi-tRNA synthetase complex, responds to genotoxic stresses via p53. Han JM, et al, , *Proc Natl Acad Sci*, 105: 11206-11211, 2008
19. Aminoacyl tRNA synthetases and their connections to disease. Park SG, et al, , *Proc Natl Acad Sci*, 105: 11043-11049, 2008
20. Hormonal activity of AIMP1/p43 for glucose homeostasis. Park SG, , *Proc Natl Acad Sci*, 103: 14913-14918, 2006
21. Functional expansion of aminoacyl-tRNA synthetases and their interacting factors: new perspectives on housekeepers. Park SG, *Trends Biochem Sci*, 30: 569-574, 2005
22. The haploinsufficient tumor suppressor p18 upregulates p53 via interactions with ATM/ATR. Park BJ, et al, *Cell*, 120: 209-221, 2005
23. Noncanonical function of glutamyl-prolyl-tRNA synthetase: gene-specific silencing of translation. Sampath P, et al, *Cell*, 119: 195-208, 2004
24. A short peptide insertion crucial for angiostatic activity of human tryptophanyl-tRNA synthetase. Kise Y, et al, *Nat Struct Mol Biol*, 11: 149-156, 2004
25. Downregulation of FUSE-binding protein and c-myc by tRNA synthetase cofactor p38 is required for lung cell differentiation. Kim MJ, et al, *Nat Genet*, 34: 330-336, 2003