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Professor

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2001	MD College of Medicine, Yonsei University
2003	MS College of Medicine, Yonsei University
2006	PhD Nano-science and technology, Yonsei University
2007-2010	Postdoctoral Fellow; Emory/Tufts University
2010-2011	Assistant Professor; CHA University
2011-2015	Assistant Professor, Associate Professor; Hanyang University
2015-present	Assistant Professor, Associate Professor, Professor; Yonsei University College of medicine

Research Interests: Genome editing/Gene therapy

Awards

- Wunsch Medical Award, Young Medical Scientist (Korean Academy of Medical Sciences and Boehringer Ingelheim), 2013
- National Young Scientist Award (Presidential award, Ministry of the Interior), 2014
- Asan Medical Award, Young Medical Scientist (ASAN Foundation), 2015
- 30 Young Scientists of Korea (POSTECH/Dong-A ILBO), 2016
- Pfizer Medical Research Award (National Academy of Medicine of Korea and Pfizer), 2017

Selected publications

1. Lee HJ, Gopalappa R, Sunwoo H, Choi SW, Ramakrishna S, Lee JT, **Kim HH⁺**, Nam JW⁺ (*Corresponding authors). En bloc and segmental deletions of human XIST reveal X chromosome inactivation-involving RNA elements. *Nucleic Acids Res.* 2019 Feb 20. [Epub ahead of print]
2. Kim HK, Min S, Song M, Jung S, Choi JW, Kim Y, Lee S, Yoon S⁺, **Kim H⁺** (*Corresponding authors). Deep learning improves prediction of CRISPR–Cpf1 guide RNA activity. *Nat. Biotechnol.* 2018; 36(3):239-241.
3. Kim W, Lee S, Kim HS, Song M, Cha YH, Kim YH, Shin J, Lee ES, Joo Y, Song JJ, Choi EJ, Choi JW, Lee J, Kang M, Yook JI, Lee MG, Kim YS, Paik S, **Kim H⁺** (*Corresponding author). Targeting mutant KRAS with CRISPR-Cas9 controls tumor growth. *Genome Res.* 2018; 28: 374-382.

4. Gopalappa R, Suresh B, Ramakrishna S⁺, **Kim H⁺** (*Corresponding authors). Paired D10A Cas9 nickases are sometimes more efficient than individual nucleases for gene disruption. *Nucleic Acids Res.* 2018.
5. Lim JS, Gopalappa R, Kim SH, Ramakrishna S, Lee M, Kim W, Kim J, Park SM, Lee J, Oh JH, Kim HD, Park CH, Lee JS, Kim S, Kim SD, Han JM, Kang HC⁺, **Kim H⁺**, Lee JH⁺ (*Corresponding authors). Somatic Mutations in TSC1 and TSC2 cause focal cortical dysplasia. *Am. J. Hum. Genet.* 2017;100(3) :454-472.
6. Kim HK, Song M, Lee J, Menon AV, Jung S, Kang YM, Choi JW, Woo E, Koh HC, Nam JW, **Kim H⁺** (*Corresponding author). In vivo high-throughput profiling of CRISPR-Cpf1 activity. *Nat. Methods.* 2017; 14(2):153-159.
7. Kim YH, Kim HO, Baek EJ, Kurita R, Cha HJ, Nakamura Y, **Kim H⁺** (*Corresponding author). Rh D blood group conversion using transcription activator-like effector nucleases. *Nat. Commun.*, 2015; 6:7451.
8. Ramakrishna S, Dad A-B D, Beloor J, Gopalappa R, Lee S-K, **Kim H⁺** (*Corresponding author). Gene disruption by cell-penetrating peptide-mediated delivery of Cas9 protein and guide RNA. *Genome Res.*, 2014; 24(6):1020-7. (Featured on the cover).
9. **Kim H**, Kim JS. A guide to genome engineering with programmable nucleases. *Nat. Rev. Genet.*, 2014; 15 (5): 321-334.
10. Ramakrishna S, Cho SW, Kim S, Song M, Gopalappa R, Kim JS⁺, **Kim H⁺** (*Corresponding authors). Surrogate reporter-based enrichment of cells containing RNA-guided Cas9 nuclease-induced mutations. *Nat. Commun.*, 2014; 5: 3378.
11. Kim H, Um E, Cho SR, Jung C, **Kim H⁺**, and Kim JS⁺ (*Corresponding authors). Surrogate reporters for enrichment of cells with nuclease-induced mutations. *Nat. Methods*, 2011; 8: 941-3.

Selected Invited talks

1. The 2018 Cold Spring Harbor Asia Conference Conference (Genome Editing: All Things Considered) Highly Accurate Prediction of CRISPR-CPF1 Activity. Suzhou, China. (April, 2018)
2. The 5th International Conference On Cellular and Molecular Bioengineering. Deep learning-based prediction of CRISPR-Cpf1. Singapore. (Mar, 2018)
3. 2017 IBS-Nature Conference on Frontiers in Genome Engineering. In vivo high-throughput profiling of CRISPR-Cpf1. Seoul, Korea. (Sep, 2017)