Curriculum Vitae

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Education

2005. 8. Ph.D., Division of Molecular and Life Science, POSTECH, Korea
1998. 2. M.S., Dept. of Life Science, POSTECH, Korea
1996. 2. B.S., Dept. of Genetic Engineering, Sungkyunkwan University, Korea

Professional Experiences

2026. 4 – : 겸임연구원, 면역치료제연구센터, 한국생명공학연구원
2026. 3 – : 교수, 약학과, 연세대학교 약학대학/바이오융합공학과 겸임교수
2021. 6 – : 초빙연구위원, 수리 및 계산과학연구단 의생명수학그룹, iBS
2022. 9 – 2026. 2 : 학연 겸임교수, 바이오의약학융합 전공, 성균관대학교 약학대학
2015. 3 – 2026. 2 : Professor, Advanced Bioconvergence Department, KRIBB School
과학기술연합대학원 대학교 [University of Science and Technology (UST)]
2014. 3 – 2026. 2 : Principal Investigator, Center for Gene & Cell Therapy
Korea Research Institute of Bioscience and Biotechnology (KRIBB)
2012. 3 – 2015. 2 : Associate professor, Dept. of Functional Genomics, UST
2009.10 – 2011.9 : Visiting Scientist, School of Medicine, University of Washington, Seattle. USA
2008. 9 – 2010. 8 : Assistant Professor, Dept. of Functional Genomics, UST, Daejeon
2008. 1 – 2014. 2 : Senior Research Scientist, Immunotherapy Research Center, KRIBB, Daejeon, Korea
2005. 9 – 2008. 1 : Post-Doctoral fellow, Dept. of Life Science, POSTECH, Pohang, Korea

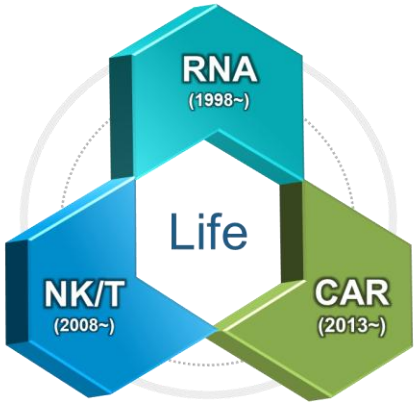
Research Interests

[keywords: **NK/T cell, RNA biology, Gene therapy, CAR-X therapy]**

Immune cell biology (Basics)
- NK/T cell development/activation
- Mathematical modeling
- Regulation of Immune synapse in immunity

RNA Biology (Basics)
- mRNA metabolism
- Noncoding RNAs: miRNA, lncRNA
- RNA methylation (m6A)
- mir-150/FTO KO animal model

Gene-cell therapy (Applications)
- Gene design/RNA design
- CAR-X engineering
- Prime editing (CRISPR)/Gene delivery (LNP)



Sep. 2026
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Publications

ORCID: https://orcid.org/0000-0002-5910-4264
Google Scholars: https://scholar.google.co.kr/citations?user=8J1tZz0AAAAJ&hl=ko
KRI https://www.kri.go.kr/kri2
Web of Science Research ID: KHX-5911-2024
Scopus ID: 7407123158

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92. Dual-mode SOX2 regulation by miR-150 via mRNA suppression and autophagy controls stem cell fate. Zhen X, Koh H, Lee DS, Huh JW, Hong SH, **Kim TD***, Lee JH*. 2026. Signal Transduction and Targeted Therapy. (* equal correspondence). [Correspondence, **IF81.2**]
91. Bioprinted Tumor Microenvironment Models Reveal Immune Evasion and Guide CAR-NK Therapeutic Strategies. Kim D, Jo S, Jang I, Kim YJ, Jung Y, Ahn J, Lim H, Lee JJ, Lee K, **Kim TD***, Park SA*. 2026. Advanced Science. (* equal correspondence). [Correspondence, **IF14.1**]
90. IL-7Rα signaling potentiates the anti-tumor activity of NK92 cells. Wang C, Kim S, Kong LZ, Jang I, Jo S, Lee S, Lee SY, Kim KK, **Kim TD**. 2026. Frontiers of Immunology. Open Access. [Correspondence, **IF5.9**]

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88. Safety and efficacy of immune cell therapeutics targeting a-PD-L1 in lung cancer. Lee A, Kand HY, Lee YB, Lee SY, Yoo MH, Kim SM, Im WJ, Kim JY, Moon KS, **Kim TD***, Park SJ***.** 2025. Biomedicine & Pharmacotherapy. 192:118594. (* equal). [Correspondence, **IF7.5**]
87. Genetic manipulation of OGT enhances NK cell-mediated cytotoxicity in tumor immunity. Oh SC, Jeon BC, Jang I, Song MR, Hwang H, An D, Yue L, Jung YR, Park SK*, **Kim TD*.** 2025. Journal of Advanced Research. 84:169-185. (* equal). [Correspondence, **IF17.1**]
86. Fine-tuning signal strength in CD5 CAR-NK cells for targeted T cell cancer therapy. Jo S, Lee YB, Kim SM, Lee SY, Choi M, Kyun MR, Jeong SY, Lee S, Kim JY, Moon KS, **Kim TD**. 2025. Front Immunol. Open Access. [Correspondence**, IF5.9**]
85. Enhancement of NK cell activity via DNA-sensing inhibition by poxin transgene. Kong LZ, Kim SM, Lee SY, Jang IH, Wang C, Jo S, Oh SC, Lee S, Kim JH, Kim KK, **Kim TD**. J Adv Res. 2025 Jun. Open Access. [Correspondence**, IF 17.1/JCR8.9%**]
84. Developing CAR-T/NK cells that target EphA2 for non-small cell lung cancer treatment. Kim SM, Lee SY, Kim SI, Bae JY, Hong JT, Jo S, Kim JH, Chung HY, **Kim TD.** Front Immunol. 2025 Mar 13; 16:1448438. [Correspondence, **IF 5.9**]
83. Dynamic O-GlcNAcylation governs long-range chromatin interactions in V(D)J recombination during early B-cell development. Jeon BC, Kim YJ, Park AK, Song MR, Na KM, Lee J, An D, Park Y, Hwang H, **Kim TD**, Lim J, Park SK. Cell Mol Immunol. 2025 Jan;22(1):68. [Co-author, IF 21.8]

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80. Therapeutic effect of TN13 peptide on acute respiratory syndrome and sepsis models in vivo. Byun JE, Lee JW, Choi EJ, Lee J, Yun SH, Park CH, Kim H, Kim MS, Yoon SR, **Kim TD**, Noh JY, Min SH, Seong HA, Ahn KS, Choi I, Jung H. J. Cli, Med. 2025 Mar; 14(6):1804. [Co-author, IF 3]

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79. 3D Scaffold-Based Culture System Enhances Preclinical Evaluation of Natural Killer Cell Therapy in A549 Lung Cancer Cells. Han EH, Cho SH, Lee SN, Cho MY, Lee H, Lee SY, Ngoc Thi Tran C, Park HS, Min JY, Kim HM, Park MS, **Kim TD**, Lim YT, Hong KS. ACS Appl Bio Mater. 2024 Nov;7(11):7194. [Co-author, IF 4.7]
78. B7H6 is the predominant activating ligand driving natural killer cell-mediated killing in liquid tumor patients: Evidence from clinical, in silico, in vitro, and in vivo studies. Lee S, Chae SJ, Jang IH, Oh SC, Kim SM, Lee SY, Kim JH, Ko S, Kim HJ, Kim JK*, **Kim TD***. eBiomedicine 2024 Dec; 110:105459. (* equal correspondence). [Correspondence, **IF 9.7/JCR4.76%**]
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75. Deficiency of thioredoxin-interacting protein (TXNIP) results in age-related thrombocytopenia due to megakaryocyte oxidative stress. Shin E, Park C, Park T, Chung H, Hwang H, Bak SH, Chung KS, Yoon SR, **Kim TD**, Choi I, Lee CH, Jung H, Noh JY. J Thromb Heamost. 2024 Mar; 22(3):834. [Co-author, IF 5.5]
74. STAT1 as a tool for non-invasive monitoring of NK cell activation in cancer. Min JY, Kim HM, Lee H, Cho MY, Park HS, Lee SY, Park MS, Ha SK, Kim D, Jeong HG, **Kim TD**, Hong KS, Han EH.Commun Biol. 2024 Sep;7(1):1222. [Co-author, IF 5.2]
73 Harnessing B7-H6 for Anticancer Immunotherapy: Expression, Pathways, and Therapeutic Strategies. Lee S, Kim JH, Jang IH, Jo S, Lee SY, Oh SC, Kim SM, Kong L, Ko J, **Kim TD.** Int J Mol Sci. 2024 Sep; 25(19):10326. [Correspondence, **IF 4.9**]

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71. Understanding nucleic acid sensing and its therapeutic applications. Kong LZ, Kim SM, Wang C, Lee SY, Oh SC, Lee S, Jo S, **Kim TD**. Experimental and Molecular Medicine. 2023 Nov; 55(11):2320. [Correspondence, **IF 9.5**]
70. NK cells encapsulated in micro/macropore-forming hydrogels via 3D bioprinting for tumor immunotherapy. Kim D, Jo S, Lee D, Kim SM, Seok JM, Yeo SJ, Lee JH, Lee JJ, Lee K, **Kim TD***, Park SA*. Biomaterials Research. 2023 Jun; 27(1):60 (* equal correspondence). [Correspondence, **IF 8.1**]
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67. FTO negatively regulates NK cell killing efficacy. Kim SM, Oh SC, Lee SY, Kong LZ, Lee JH, **Kim TD**. EMBO Rep. 2023 Apr;24(4): e55681. [Correspondence, **IF 6.5**]
66. NgR1 is an NK cell inhibitory receptor that destabilizes immunological synapse. Oh SC, Kim SE, Jang IH, Kim SM, Lee SY, Lee SY, Chu IS, Yoon SR, Jung HY, Choi I, Doh JS*, **Kim TD***. Nat. Immunol. 2023 Mar;24(3):463 (* equal correspondence). **[**Correspondence, **IF 28.2/JCR1.1%]**
65. A modifiable universal cotinine-chimeric antigen system of NK cells with multiple targets. Kang HY, Lee SY, Kim HM, Lee H, Cho MY, Park HS, Han EH, Chung J, Hong KS*, Choi I*, **Kim TD***. Frontiers in Immunol. 2023 Jan;13:1089369 (* equal correspondence). [Correspondence, **IF 5.7**]

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62. *Aurantii Fructus Immaturus* enhances natural killer cytolytic activity and anticancer efficacy *in vitro* and *in vivo.* Park A, Yang Y, Lee Y, Jung H, **Kim TD**, Noh JY, Lee S, Yoon SR. Frontiers in Med. 2022 Aug;9:973681. [co-author, IF3.9]
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