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Education & Training

2000 - 2004	**Ph.D. in Molecular Toxicology**, The Pennsylvania State University, PA
2005 - 2009	**Postdoctoral Fellow/Instructor**, The University of Texas M.D. Anderson Cancer Center, TX
2010	**Research Associate**, The University of Texas at Austin, TX

Work Experience

1996 - 2000	**Research Scientist,** Samyang Genex Biotechnology Research Institute, Korea

Professional Memberships

2002 - present	**Member,** Society of Toxicology
2003 - present	**Member,** The American Society for Cell Biology
2005 - present	**Member,** American Association for Cancer Research
2018 - present	**Member,** American Society for Photobiology

Honors & Awards

2000 – 2001	**Integrative Biosciences Fellowship,** The huck Institutes of the Life Science, The Pennsylvania State University
2006 – 2008	**The M.D. Anderson Odyssey Postdoctoral Fellowship and the H-E-B Foundation Awards for Scientific Achievement,** The University of Texas M.D. Anderson Cancer Center
2008	**AACR-Busch Scholar-in-Training Award,** The 99th Annual Meeting of American Association for Cancer Research
2009	**The AMGEN Award in Basic Research,** The University of Texas M.D. Anderson Cancer Center
2010	**Stratacor – Port Royal Postdoctoral Award,** The 49th Annual Meeting of Society of Toxicology
2012	**AACR Minority-Serving Institution Faculty Scholar in Cancer Research Award,** The 103rd Annual Meeting of American Association for Cancer Research
2014	**AACR Minority-Serving Institution Faculty Scholar in Cancer Research Award,** The 105th Annual Meeting of American Association for Cancer Research

Research Focus

The primary focus of research in Dr. Kim's laboratory is to identify roles played by protein tyrosine phosphatases (PTPs) in environmental skin carcinogenesis and DNA damage repair. Dr. Kim has a broad background in molecular biology, toxicology, and oncology which includes substantial training and knowledge in carcinogenesis and cancer biology. His studies revealed that TC-PTP, an intracellular and nonreceptor PTP, plays a critical role in a protective mechanism against skin carcinogenesis. His research team generated both epidermal-specific TC-PTP knockout (*K14Cre.Ptpn2*$^{fl/fl}$; TC-PTP KO) and TC-PTP-overexpressing (*K5HA.Ptpn2*) transgenic mice as *in vivo* models from which his team also generated immortalized mouse primary keratinocyte cell lines. Using these tools, his team will continue to investigate how TC-PTP contributes to prevention of skin cancer development during skin carcinogenesis. The findings will contribute substantial new information towards understanding how skin cancer arises, and this can then be used in developing more effective anti-skin cancer therapeutics. The secondary focus of research in his laboratory is to investigate molecular mechanisms of chemoresistance in cutaneous squamous cell carcinoma and other types of cancer.

Selected Publications

1. Asare, O., Ayala, Y., Hafeez, B.B., Ramirez-Correa, G.A., Cho, Y.Y., and **Kim, D.J.** Ultraviolet radiation exposure and its impacts on cutaneous phosphorylation signaling in carcinogenesis: focusing on protein tyrosine phosphatases. *Photochemistry and Photobiology* 99:344-355, 2023. PMID:36029171
2. An, H.J., Lee, C.J., Lee, G.E., Choi, Y., Jeung, D., Chen, W., Lee, H.S., Kang H.C., Lee, J.Y., **Kim, D.J.**, Choi, J.S., Cho, E.S., Choi, J.S., and Cho, Y.Y. FBXW7-mediated ERK3 degradation regulates the proliferation and migration of lung cancer cells. *Experimental & Molecular Medicine* 54:35-46, 2022. PMCID: PMC8813941.
3. Park, J., Lee, G.E., An, H.J., Lee, C.J., Cho, E.S., Kang, H.C., Lee, J.Y., Lee, H.S., Choi, J.S., **Kim, D.J.**, Choi, J.S., and Cho, Y.Y. Kaempferol sensitizes cell proliferation inhibition in oxaliplatin-resistant colon cancer cells. *Archives of Pharmacal Research* 44:1091-1108, 2021. PMID: 34750753.
4. Lee, G.E., Lee, C.J., An, H.J., Kang, H.C., Lee, H.S., Lee, J.Y., Oh, S.R., Cho, S.J., **Kim, D.J.**, and Cho, Y.Y. Fargesin inhibits EGF-induced cell transformation and colon cancer cell growth by suppression of CDK2/cyclin E signaling pathway. *International Journal of Molecular Sciences* 22:2073, 2021. PMCID: PMC7922630.
5. Kim, M., Morales, L.D., Lee, C.J., Olivarez, S.A., Kim, W.J., Hernandez, J., Mummidi, S., Jenkinson, C., Tsin, A.T., Jang, I.S., Slaga, T.J., and **Kim, D.J.** Overexpression of TC-PTP in murine epidermis attenuates skin cancer formation. *Oncogene* 39:4241-4256, 2020. PMCID: PMC7244373.
6. Lee, C.J., An, H.J., Kim, S.M., Kim, W.Y., **Kim, D.J.**, Kang, H.C., Lee, J.Y., Lee, H.S., Cho, S.J., and Cho, Y.Y. FBXW7-mediated stability regulation of signal transducer and activator of transcription 2 in melanoma formation. *Proceedings of the National Academy of Sciences U.S.A.* 117:584-594, 2020. PMID: 31843895.
7. Morales, L.D., Archbold, A.K., Olivarez, S.A., DiGiovanni, J., and **Kim, D.J.** The role of T-cell protein tyrosine phosphatase in carcinogenesis. *Molecular Carcinogenesis* 58:1640-1647, 2019. PMCID: PMC6692238.
8. Jang, H.J., Yang, K.E., Hwang, I.H., Huh, Y.H., **Kim, D.J.**, Yoo, H.S., Park, S.J., and Jang, I.S. Cordycepin inhibits human ovarian cancer by inducing autophagy and apoptosis through Dickkopf-related protein 1/β-catenin signaling. *American Journal of Translational Research.* 11:6890-6906, 2019. PMCID: PMC6895532.
9. Yoo, S.M., Lee, C.J., Kang, H.C., Lee, H.S., Lee, J.Y., Kim, K.D., **Kim, D.J.**, An, H.J., and Cho, Y.Y. Epimagnolin targeting on an active pocket of mammalian target of rapamycin suppressed cell transformation and colony growth of lung cancer cells. *Molecular Carcinogenesis* 58:1121-1233, 2019. PMID: 30887599.
10. Mancha-Ramirez, A., Yang, X., Liang, H., Junco, J.J., Lee, K.P., Bovio, S.F., Espinoza, M., Wool, J., Slaga, A., Glade, D.C., Hanes, M., Malik, G., **Kim, D.J.**, DiGiovanni, J., and Slaga, T.J. Harnessing the gatekeepers of glucocorticoids for chemoprevention of non-melanoma skin cancer. *Molecular Carcinogenesis* 58:102-112, 2019. PMCID: PMC6563487.
11. Kim, M., Morales, L.D., Jang, I.S., Cho, Y.Y., and **Kim, D.J.** Protein tyrosine phosphatases as potential regulators of STAT3 signaling. *International Journal of Molecular Sciences* 19:2708, 2018. PMCID: PMC6164089.
12. Junco, J.J., Cho, J., Mancha, A., Malik, G., Wei, S.J., **Kim, D.J.**, Liang, H., DiGiovanni, J., and Slaga, T.J. Role of AMPK and PPARα in the anti-skin cancer effects of ursolic acid. *Molecular Carcinogenesis* 57:1698-1706, 2018. PMCID: PMC6519015.
13. Baek, M., Kim, M., Lim, J.S., Morales, L.D., Hernandez, J., Mummidi, S., Williams-Blangero, S., Jang, I.S., Tsin, A.T., and **Kim, D.J.** Epidermal-specific deletion of TC-PTP

promotes UVB-induced epidermal cell survival through the regulation of Flk-1/JNK signaling. *Cell Death & Disease* 9:730, 2018. PMCID: PMC6023867.

14. Cui, Z.Y., Park, S.J., Jo, E., Hwang, J.H., Lee, K.B., Kim, S.W., **Kim, D.J.**, Joo, C.J., Hong, S.H., Lee, M.G., and Jang, I.S. Cordycepin induces apoptosis of human ovarian cancer cells by inhibiting CCL5-mediated AKT/NF-κB signaling pathway. *Cell Death Discovery* 4:62, 2018. PMCID: PMC5966410.
15. Kim, M. and **Kim, D.J.** GFRA1: A novel molecular target for the prevention of osteosarcoma chemoresistance. *International Journal of Molecular Sciences* 19:1078, 2018. PMCID: PMC5979596.
16. Kim, M., Morales, L., and **Kim, D.J.** TC-PTP nuclear trafficking in keratinocytes. Editorial. *Aging* 9:2459-2460, 2017. PMCID: PMC5764380.
17. Kim, M., Morales, L., Baek, M., Slaga, T.J., DiGiovanni, J., and **Kim, D.J.** UVB-induced nuclear translocation of TC-PTP by AKT/14-3-3σ axis inhibits keratinocyte survival and proliferation. *Oncotarget* 8:90674-90692, 2017. PMCID: PMC5710877. **Cover Article and Priority Research Paper**.
18. Hwang, J.H., Park, S.J., Ko, W.G., Kang, S.M., Lee, D.B., Bang, J., Park, B.J., Wee, C.B., **Kim, D.J.**, Jang, I.S., and Ko, J.H. Cordycepin induces human lung cancer cell apoptosis by inhibiting nitric oxide mediated ERK/Slug signaling pathway. *American Journal of Cancer Research* 7:417-432, 2017. PMCID: PMC5385633.
19. Kim, M., Baek, M., and **Kim, D.J.** Tyrosine phosphorylation signaling and its potential therapeutic implications in carcinogenesis. *Current Pharmaceutical Design* 23:4226-4246, 2017. PMCID: PMC6745708.
20. Lee, H., Kim, M., Baek, M., Morales, L.D., Jang, I.S., Slaga, T.J., DiGiovanni, J., and **Kim, D.J.** Targeted disruption of TC-PTP in the proliferative compartment augments STAT3 and AKT signaling and skin tumor development. *Scientific Reports* 7:45077, 2017. PMCID: PMC5359614.
21. Kim, M., Jung, J., Choi, S., Lee, H., Morales, L.D., Koh, J.T., Kim, S.H., Choi, Y., Choi, C., Slaga, T.J., Kim, W.J.*, and **Kim, D.J.*** GFRA1 promotes cisplatin-induced chemoresistance in osteosarcoma by inducing autophagy. (*Co-corresponding authors) *Autophagy* 13:149-168, 2017. PMCID: PMC5240831.
22. Lee, H., Kim, M., Morales, L., Riggs, P.K., DiGiovanni, J., and **Kim, D.J.** Constitutive activation of Stat3 in mouse epidermis is linked to hair deficiency and cytoskeletal network damage. *Experimental Dermatology* 24:796-798, 2015. PMID: 25940573.
23. Lee, H., Morales, L., Slaga, T.J., and **Kim, D.J.** Activation of T-cell protein tyrosine phosphatase suppresses keratinocyte survival and proliferation following UVB irradiation. *Journal of Biological Chemistry* 290:13-24, 2015. PMCID: PMC4281716.