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Biography

Kyungsu Kang, PhD.

Principal Research Scientist

Korea Institute of Science and Technology



Dr. Kyungsu Kang is a Principal Research Scientist at the Gangneung Institute of Natural Products, Korea Institute of Science and Technology (KIST) located in Gangwon-do, South Korea. He is also a Professor in the Natural Product Applied Science Major, KIST School, University of Science and Technology (UST) and an Adjunct Professor in the Department of Convergence Medicine, Yonsei University Wonju College of Medicine, South Korea. He received his B.S. (in Applied Biology and Chemistry), M.S. and Ph.D. (in Agricultural Biotechnology) degrees from the College of Agriculture and Life Science, Seoul National University, South Korea.

During his early phase of graduate training, he studied agricultural plant biotechnology fields, such as plastid genetic transformation in the monocotyledonous plant rice and the biochemistry of herbicide target enzymes. During his Ph.D. studies, he investigated the pharmacological effects of natural products and elucidated the molecular mechanism underlying their biological activity, especially topoisomerase inhibition, anticancer efficacy, and side effects of various plant lignans. As a post-doctoral scientist in Prof. Michael Ristow's laboratory at ETH Zürich (Swiss Federal Institute of Technology Zurich), Switzerland, Dr. Kang investigated the effect of plant flavonoid compounds on lifespan extension as well as their detailed cellular and biochemical mechanisms in the model animal *Caenorhabditis elegans*.

The main research topic of Dr. Kang's laboratory is to discover bioactive natural products that can promote intestinal health and modulate gut-organ axis. Dr. Kang and his members are interested in AI, data-based discovery of bioactive natural products and elucidating the biochemical and molecular mechanisms underlying the pharmacological and nutraceutical effects of various natural products. For this purpose, they are exploiting not only a tiny model nematode, *C. elegans*, but also cultured human intestinal cells and cultured intestinal microbiome, so called gut biomimetic system.