

KU LKS Faculty of Medicine Department of Pharmacology & Pharmacy 香港大學藥理及藥劑學系



Dr Li Dak-Sum Research Centre 李達三博士研究中心

The University of Hong Kong

Department of Pharmacology and Pharmacy & Dr. Li Dak-Sum Research Centre

Present

Seminar series – Drug Delivery and Translational Medicine Modulation of Nitric Oxide for the Treatment of Inflammatory

Disease and Cancer

by

Prof. Won Jong Kim

Professor Department of Chemistry Pohang University of Science and Technology, Korea

Date: 28 February 2025 (Friday) Time: 10:00 a.m. – 11:00 a.m. Venue: Zoom Seminar Zoom Link: https://hku.zoom.us/j/94511785848 Meeting ID: 945 1178 5848 Password: 893407

Abstract:

Nitric oxide (NO) contributes to inflammation in rheumatoid arthritis (RA) and suppresses T cell activity in tumors. To counteract these effects, we developed nanoscavenger-based platforms for selective NO depletion. For RA, an injectable NO-scavenging gel reduced oxidative stress and inflammation, significantly alleviating symptoms when combined with dexamethasone. In oncology, NO-ROS scavenging micelles (NRSM) protected T cells from NO- and ROS-induced exhaustion, improving αPD-1 therapy efficacy and boosting survival rates. Additionally, LipoNOX liposomes restored T cell activation and enhanced tumor infiltration. These findings establish NO scavenging as a powerful strategy for treating RA and improving cancer immunotherapy.

Bio:

Prof. Won Jong Kim earned his B.Sc. degree from Hanyang University in Seoul, Korea, in 1998. He then pursued his M.S. and Ph.D. degrees in Biomolecular Engineering at the Tokyo Institute of Technology in 2004. During his graduate studies, he worked under the guidance of Professors T. Akaike and A. Maruyama, developing a polymer-mediated DNA detection system. After completing his doctoral studies, Prof. Kim served as a postdoctoral fellow at the University of Utah from 2004 to 2007, under the supervision of Professor Sung Wan Kim. He is currently the esteemed Mueunjae Chaired Professor in the Department of Chemistry at POSTECH. Prof. Kim has published over 200 articles in prestigious journals, delivered over 80 talks, and received numerous prestigious awards, including the PSK-Mid-career Researcher Academy Award. Additionally, Prof. Kim serves as an Associate Editor for WIRES: Nanomedicine and Nanobiotechnology and the newly launched journal Nanotheranostics. He is also a member of the editorial board for Materials Today Chemistry.

Moderator: Prof. Weiping Wang, Associate Professor, Department of Pharmacology and Pharmacy & Dr. Li Dak-Sum Research Centre, The University of Hong Kong For enquiries, please contact Ms. Esther Ng at +852 3917-9123 or esther09@hku.hk

Seminar series website QR code

