Department of Medical Laboratory Science and Biotechnology, College of Medicine, National Cheng Kung University
Tainan, Taiwan, 701 R. O. C.
TEL:886-6-2353535-5781 FAX:886-6-2363956

Yi-Lin Cheng, Assistant Professor

E-mail: yilincheng@gs.ncku.edu.tw

Experience

Postdoctoral Fellow, Institute of Biochemistry II and Buchmann Institute for Molecular Life Sciences, Goethe University Frankfurt, Germany

Postdoctoral Fellow, Department of Biotechnology and Laboratory Science in Medicine, National Yang Ming University, Taipei, Taiwan

Education

Ph.D., Institute of Basic Medical Sciences, NCKU, Taiwan
M. Sc., Department of Medical Laboratory Science and Biotechnology, NCKU, Taiwan
B. Sc., Department of Medical Laboratory Science and Biotechnology, NCKU, Taiwan

The research interest of our group is centered on the host-pathogen interaction with specific reference to autophagic mechanisms, exosomes biogenesis, and interaction of host proteins with bacterial components or virulence factors. Our recent study focus on the role of intracellular lipopolysaccharides (LPS), which can be exposed to cytosol of host cells via intracellular bacterial infection or endocytosis of outer membrane vesicles (OMVs) released from extracellular bacteria. LPS, which is enriched on outer membrane of Gram-negative bacteria, recognized as the critical factor for sepsis by inducing overwhelming cytokines. Over decades, people mostly studied its extracellular role. Until recently, caspase-4/-5/-11 was identified as the intracellular receptors of LPS. However, whether there is other cytosolic receptors or LPS-interacting proteins, as well as the roles of these interactions still need further investigation. Notably, exosomes, which can be induced by LPS, are identified as the critical mediator for sepsis. However, how LPS regulates exosome biogenesis for sepsis development is still largely unknown. Therefore, our group aims to investigate the following topics:

1. To explore the role of intracellular LPS-binding proteins

2. To investigate the role of intracellular LPS and bacterial outer membrane vesicles in exosomes production and the implications in sepsis

3. To verify the role of exosomes in the urinary tract infection (UTI) and the implications in sepsis, as well as acute kidney injury and chronic kidney disorders (AKI-to-CKD) transition (collaboration with Ming-Yuan Hong MD. Ph.D.)