Institute of Molecular and Cell Biology
A*STAR

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Prof. Wanjin Hong:

Date: 12 February 2019, Tuesday
Time: 11:00AM – 12:00PM
Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Speaker: Prof. Wang Hongyan, PI & Professor, Institute of Biochemistry and Cell Biology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, China
Title : Identification of new effectors that regulate TLR pathways and inflammation related diseases

Although the surface receptor TLR4 triggers NF-κB activation to produce proinflammatory cytokines for bacteria clearance, excessive activation of the TLR4 pathway causes acute cytokine storm or chronic inflammation, which leads to septic shock or inflammation-related cancer. We have long-term interests to identify novel effectors that could block excessive TLR4 activation to prevent sepsis or infection-related tumour, which include the role of the surface receptor VEGFR-3 (Vascular endothelial growth factor receptor 3), the kinase STK-4 (Serine/threonine protein kinase 4) and the methylcytosine dioxygenase Tet3 in TLR4 or TLR3 pathways. Recently, we have screened over 280 E3 ubiquitin ligases and discovered that the endoplasmic reticulum (ER)-located E3 specifically regulates TLR4-induced inflammation. This E3 directly interacts with the deubiquitinating enzyme Usp15 and ubiquitinated Usp15 loses its DUB activity, which results in IκBα degradation and excessive NF-κB activation. Importantly, knock-out this E3 protects mice against LPS-induced septic shock, and Usp15 KD restores IL-6 production. This study has identified that a novel ER-located E3 could cooperate with the membrane TLR4 signalling to promote inflammation.

Biography:
Dr. Hongyan Wang got her PhD degree in Imperial College London, UK in 2016, then worked as a Research Fellow in University of Cambridge, Cambridge, UK. Since 2010, she was appointed as a PI and Professor in Shanghai Institute of Biochemistry and Cell Biology (SIBCB), Chinese Academy of Sciences. Dr. Wang was funded by 100 Talent Program, Chinese Academy of Sciences and Shanghai Pu-Jiang Program in 2011.
Her research interests focus on signal transduction in T lymphocytes and macrophages, which regulate inflammatory responses or the development of inflammation related diseases. As a corresponding author, she has published 11 research articles in the recent 5 years, including Immunity, JEM, JCI, PLoS Pathogen and EMBO Mol Med.
Dr. Wang has obtained several awards, including National Natural Science Funds for Excellent Young Scholars, 2014; and National Science Fund for Distinguished Young Scholars, 2018. She

also serves as a member of the Editorial Board for JBC, Immunology and Frontiers in Immunology.

ALL ARE WELCOME *(No registration required)*