中国科学院上海巴斯德研究所
INSTITUT PASTEUR OF SHANGHAI
CHINESE ACADEMY OF SCIENCES

Seminar

The activation and regulation of inflammasomes and pyroptosis

[Speaker] Prof. Tsan Sam Xiao

[Time] 10:00-11:30 AM ,June 26, 2017

[Host] Prof. Hui Xiao

[Venue] A201 , Life Science Research Building

[Speaker introduction]

2014-Now Associate Professor
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[Research Focus]

The Xiao lab uses structural and biochemical approaches to study important immune receptors with the goal of understanding and modulating their functions for diagnostic and therapeutic applications. They employ cellular assays and animal models to examine the roles of these receptors in immune defense against infections by Mycobacterium tuberculosis, HIV, vaccinia virus and HSV-1, as well as in autoimmune/autoinflammatory disorders such as systemic lupus erythematosus (SLE) and psoriasis. Currently They are studying a number of cytosolic and cell surface receptors that mediate inflammatory immune responses to nucleic acids. Inflammasomes are large signaling platforms composed of the receptors, the adapter protein ASC, and the effector enzyme procaspase-1. Activation of the inflammasomes leads to maturation of proinflammatory cytokines IL-1β and IL-18 and to a specific type of cell death named “pyroptosis.” Their structural studies on the AIM2 inflammasome reveal the mechanisms of inflammasome activation through sequence-independent DNA recognition, the autoinhibition of the receptor via intramolecular domain-domain interactions, and the formation of the inflammasome through oligomerization at the multivalent DNA ligand.