

6th Annual Meeting on

Infectious Diseases, Microbiology & Beneficial Microbes

May 21-22, 2025 | Webinar

Volume : 16

Alpha-protein kinase 1 is a negative regulator of Helicobacter pylori-induced inflammasome activation

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Chronic infection with *Helicobacter pylori* often results in gastritis, inflammation of the gastric epithelial layer of the stomach. Alpha-protein kinase 1 (ALPK1), an intracellular pattern recognition receptor (PRR), is a key driver of inflammation in epithelial cells by activating the NF κ B-mediated proinflammatory response. Its ligand ADP-heptose is produced by almost all Gram-negative bacteria as a by-product of lipopolysaccharide (LPS) biosynthesis. In innate immune cells, a plethora of PRRs contribute to enhance inflammatory conditions, yet the role of Alpk1 in these cells, in particular macrophages, is not well deciphered.

Results: This study highlights the opposing roles of Alpk1 in different cell types, in epithelial cells driving the production of proinflammatory cytokines in an ADP-heptose dependent manner, in macrophages acting as a negative regulator of inflammasome activation.

Biography

Mr. Peng Huo is a researcher at the Infection Oncology Laboratory, Institute of Clinical Molecular Biology, Christian-Albrechts-Universität zu Kiel, Germany. His work focuses on the intersection of infectious diseases and oncology, with an emphasis on molecular mechanisms and translational research in cancer biology.

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Abstract received : April 23, 2025 | Abstract accepted : April 28, 2025 | Abstract published : December 17, 2025