DahaiYang

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Profile

Dahai Yang obtained his Ph.D. from East China University of Science and Technology (ECUST) in 2015. Prior to returning to China to assume an Assistant Professor at ECUST, he was a joint PhD student with Dr. Gabriel Núñez from the University of Michigan (2013-2015). In 2018, he was promoted to become an Associate Professor at ECUST. He awards the Young Elite Scientists Sponsorship Program, Shanghai Pujiang Program and Shanghai Chenguang Program. Dr. Yang' s research spans from bacterial pathogenesis to pyroptotic cell death and to septic-organ dysfunction.

Research Field

Dr. Dahai Yang' s group is interested in fundamental research in microbial-host interactions, innate immunity, trained innate immunity and the pathogenesis of inflammatory disease. Specifically, the research focuses on mechanistic studies to understand the role of bacterial infection-induced pyroptosis in regulating multi-organ dysfunction during sepsis. Several approaches that include biochemical reconstitution, cell biology, analysis of genetically modified mutant animals to identify new components in pathogen-induced innate immune responses and to further reveal the underlying biochemical mechanism in vivo.

Research results and selected published papers

1. Yang D., He Y., Muñoz-Planillo R., Liu Q.*, Núñez G.*. Caspase-11 requires the pannexin-1 channel and the purinergic P2X7 pore to mediate pyroptosis and endotoxic shock. Immunity2015, 43: 923-932. (Q1, IF=24.082)

Previewed by:Aude de Gassart and Fabio Martinon*. Pyroptosis: Caspase-11 unlocks the gates of death. Immunity 2015, 43: 835-837.

2. Yang D., Zheng X., Chen S., Wang Z., Xu W., Tan J., Hou M., Wang W., Gu Z., Wang Q., Zhang R., Zhang Y., Liu Q.*, Sensing of cytosolic LPS through caspy2 pyrin domain mediates noncanonical inflammasome activation in zebrafish, Nature Communications2018, 9: 3025. (Q1, IF=12.353)

3. Yang D.#, Liu X. #, Xu W., Gu Z., Yang C., Zhang L., Tan J., Zheng X., Wang Z., Quan S., Zhang Y., Liu Q.*. The Edwardsiella piscicida thioredoxin-like protein inhibits ASK1-MAPKs signaling cascades to promote pathogenesis during infection, PLoS Pathogens2019, 15(7): e1007917.(Q2, IF=6.4)

4. Wen Y., Chen S., Jiang Z., Wang Z., Tan J., Hu T., Wang Q., Zhou X., Zhang Y., Liu Q., Yang D.*, Haemolysin promotes bacterial outer membrane vesicles-induced pyroptotic-like cell death in zebrafish, Cellular Microbiology2019, e13010. (Q2, IF=4.41)

5. Cao H., Yang C., Quan S., Hu T., Zhang L., Zhang Y., Yang D.*, Liu Q.*, Novel T3SS effector EseK in Edwardsiella piscicida is chaperoned by EscH and EscS to express virulence, Cellular Microbiology2018, 20 (1): e12790. (Q2, IF=4.41)

6. Wang Z., Lin L., Chen W., Zheng X., Zhang Y., Liu Q., Yang D.*, Neutrophil plays critical role during Edwardsiella piscicida immersion infection in zebrafish larvae. Fish and Shellfish Immunology2019, 87: 565-572.(Q1, IF=3.185)

7. Cao H., Han F., Tan J., Hou M., Zhang Y., Yang D.*, Liu Q.*, Edwardsiella piscicida T3SS effector EseK inhibits MAPKs phosphorylation and promotes bacterial colonization in zebrafish larvae, Infection and Immunity2018, 68 (9): e00233-18.(Q2, IF=3.63)

8. Xu W., Gu Z., Zhang L., Zhang Y., Liu Q., Yang D.*, Edwardsiella piscicida virulence effector trxlp promotes the NLRC4 inflammasome activation during infection, Microbial Pathogenesis 2018, 123: 496-504. (Q4, IF=2.332)

9. Yang D., Liu Q.*, Ni C., Li S., Wu H., Wang Q., Xiao J., Zhang Y., Gene expression profiling in live attenuated Edwardsiellatarda vaccine immunized and challenged zebrafish: Insights into the basic mechanisms of protection seen in immunized fish, Developmental and Comparative Immunology2013, 40: 132-141. (Q1, IF=3.25)

10. Yang D., Liu Q.*, Yang M, Wu H., Wang Q., Xiao J., Zhang Y.*, RNA-seq liver transcriptome analysis reveals an activated MHC-I pathway and an inhibited MHC-II pathway at the early stage of vaccine immunization in zebrafish, BMC genomics 2012, 13: 319. (Q2, IF=3.620)

11. Hara H., Seregin SS., Yang D., Fukase K., Chamaillard M., Emad SA., Inohara N., Chen G.Y, Nunez G.*, NLRP6 recognizes lipoteichoic acid and activates caspase-11 and caspase-1 to regulate Gram-positive pathogen infection.Cell2018, 18: 31259-5 (Q1, IF=28.71)

12. He Y., Zeng M.Y., Yang D., Motro B., Núñez G.*, Nek7 is an essential mediator of NLRP3 activation downstream of potassium efflux. Nature2016, 530(7590): 354-7. (Q1, IF=41.577)

13. Chen S., Yang D., Wen Y., Jiang Z., Zhang L., Jiang J., Chen Y., Hu T., Wang Q., Zhang Y., Liu Q.*, Dysregulated hemolysin liberates bacterial outer membrane vesicles for cytosolic lipopolysaccharide sensing. PLoS Pathogens 2018, 14(8): e1007240 (Q2, IF=6.158)

14. Chen H., Yang D., Han F., Tan J., Wang Q., Zhang Y., Liu Q.*, Bacterial T6SS effector EvpP prevents NLRP3 inflammasome activation by inhibiting Ca2+-dependent JNK pathway, Cell Host & Microbe2017, 21: 47-58. (Q1, IF=17.872)

15. Xu C., Yan Y., Tan J., Yang D., Jia X., Wang L., Xu Y., Cao S., Sun S., Biodegradable Nanoparticles of Polyacrylic Acid-Stabilized Amorphous CaCO3 for Tunable pH-Responsive Drug Delivery and Enhanced Tumor Inhibition. Advanced Functional Materials 2019, 29 (24): 1808146. (Q1, IF=13.325)