Regulation of autophagy-related mechanisms during bacterial infection

Xie, J.

Propositions

accompanying the dissertation

Regulation of autophagy-related mechanisms during bacterial infection

1. The role of DRAM1 in autophagic defense against infectious diseases is conserved among vertebrate species (Chapter 2-5).

2. DRAM1 promotes ROS production in phagosomes to increase LC3-associated phagocytosis against infection (Chapter 2).

3. The endogenous levels of Optn, p62 and Dram1 are limiting for autophagic defense, therefore increasing the activities of these proteins could have therapeutic value (Chapter 3).

4. DRAM1 interacts with SNARE protein VTI1B to promote vesicle fusions and antimicrobial peptide delivery (Chapter 5).

5. Although autophagy is a focal point for research into many different diseases, the role of DRAM1 in this context is underappreciated.

6. In addition to their housekeeping functions, many autophagy-related proteins play crucial roles in innate immunity by regulating inflammation and defense mechanisms against pathogens.

7. Functional overlap between proteins is key to biological homeostasis.

8. Interplay between xenophagy and mitophagy increases the complexity of mycobacteria-host interactions (Song et al., Autophagy, 2022).

9. Even minor tasks deserve a significant amount of effort to achieve excellence.

10. Planning helps overcome procrastination.

11. Mastering a new language opens the door to a new world.

Jiajun Xie
Leiden, 5 December 2023