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12-1pm



MD9-01-02H

MD9 Physiology –
Workshop 1 and 2



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Pathogenesis of *Klebsiella pneumoniae* in the lung-gut-liver axis

Abstract

Klebsiella pneumoniae (Kp) is a bacterial pathogen with high public health importance due to the high frequency of antimicrobial resistance (AMR). Kp could be broadly classified into classical and hypervirulent (hv) pathotype, whereby hvKp has been frequently reported to cause debilitating pyogenic liver abscess complications in Asia. The host factors influencing the pathogenesis of hvKp induced liver abscess remains poorly defined. In this talk, I will be sharing how classical and hvKp differentially modulate the host responses at the mucosal tissues during infection. These differences are important for the pathogenesis of liver abscess unique to hvKp complications.

Recommended Readings

Lim, C., Zhang, C. Y., Cheam, G., Chu, W. H. W., Chen, Y., Yong, M., Lim, K. Y. E., Lam, M. M. C., **Teo, T. H.**, Gan, Y. H. (2025). Essentiality of the virulence plasmid-encoded factors in disease pathogenesis of the major lineage of hypervirulent *Klebsiella pneumoniae* varies in different infection niches. *EBioMedicine*, 115:105683. (IF: 11.2)

Cherrier, M, **Teo, T. H.**, Corrêa, R. O., Picard, M., Couesnon, A., Lebreton, C., Carbone, F., Masson, C., Schnupf, P., Cerf-Bensussan, N., Gaboriau-Routhiau, V. (2025). Hematopoietic MyD88 orchestrates the control of gut colonization by segmented filamentous bacteria. *Mucosal Immunol*, S1933-0219(25)00028-5. (IF: 8.6)

Teo, T. H., Ayuni, N. N., Yin, M., Liew, J. H., Chen, J. Q., Kurepina, N., Rajarethinam, R., Kreiswirth, B. N., Chen, L., Bifani, P. (2024). Differential mucosal tropism and dissemination of classical and hypervirulent *Klebsiella pneumoniae* infection. *iScience*, 27(2):108875. #Co-corresponding author (IF: 4.7)

Samassa, F., Ferrari, M. L., Husson, J., Mikhailova, A., Porat, Z., Sidaner, F., Brunner, K., **Teo, T. H.**, Frigimelica, E., Tinevez, J. Y., Sansonetti, P. J., Thoulouze, M. I., Phalipon, A. (2020). Shigella impairs human T lymphocyte responsiveness by hijacking actin cytoskeleton dynamics and TCR vesicular trafficking. *Cell Microbiol*, 19: e13166