

- Presentation sheet :

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Analysis of immune responses after inoculation of *Encephalitozoon cuniculi* microsporidia in mice

Immunobiology of microsporidia remains poorly studied. Among cellular components involved in immune responses against microsporidia, dendritic cells and macrophages represent key cells that facilitate the transition between innate and adaptive immune responses in infected hosts. Parasites can modulate these responses by hacking the host immune system, but little is known about the mechanisms involved. The goal of our project is to explore, both in vitro in cellular models, and in vivo in mice, the initiation of innate immune responses against parasites, and the circumvention of these responses by parasites. At term, immunotherapies will be developed to better control these infections in future.

*The study will articulate in 2 parts: a first one performed in vitro, by using human derived immune cells, and a second one performed in vivo in mice, by using the ear pinna model previously set up in the context of a *Staphylococcus aureus* biofilm infection. Qualitative real-time intravital imaging (confocal microscopy) and quantitative analysis of the dynamic processes at the cellular level in tissues inoculated with parasites will be performed.*

Abdul Hamid Al, et al (2020). A mouse ear skin model to study the dynamics of innate immune responses against *Staphylococcus aureus* biofilms. *BMC Microbiol.* Jan 29;20(1):22. PMID: 31996131

Forestier C, et al (2017). Unveiling and Characterizing Early Bilateral Interactions between Biofilm and the Mouse Innate Immune System. *Front Microbiol.* 8:2309. doi: 10.3389/fmicb.2017.02309.