SOCIÉTÉ CHIMIQUE DE GENÈVE

Infecting amoebae with mycobacteria to study conserved mechanisms of innate immunity

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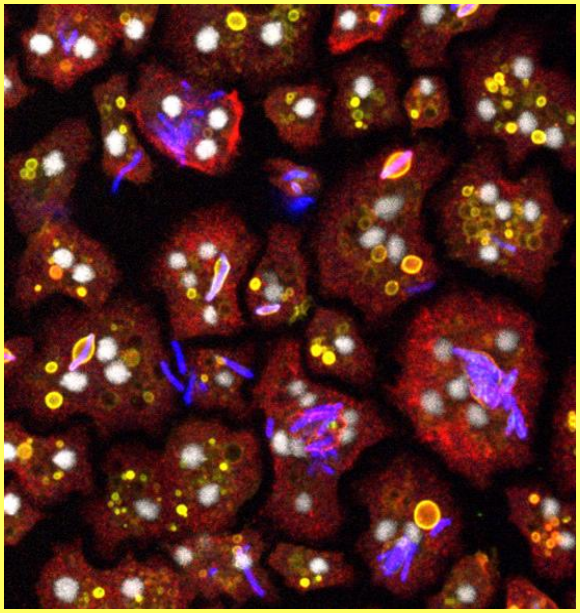
Phagocytosis is an ancestral eukaryotic process that allowed key innovations during evolution. Phagocytic protozoan such as amoebae internalise bacteria as a source of nutrients, while multicellular organisms use phagocytosis as a defence mechanism to kill microbes and, in higher organisms, initiate a sustained immune response. Therefore, mechanisms of recognition, signalling and killing are surprisingly conserved throughout evolution.

Intracellular bacterial pathogens such as *Mycobacterium tuberculosis* and *M. marinum*, evolved counter weapons to modify the bactericidal environment of the phagosome and proliferate inside phagocytes.



M. marinum causes a tuberculosis-like disease in fish and frogs and has emerged as an alternative model for tuberculosis research.

Dictyostelium is a social amoeba that feeds by phagocytosis and has a rudimentary cell-intrinsic immune system. It is an experimentally versatile model organism and is genetically and biochemically tractable.

We have firmly established *Dictyostelium* as a powerful host model to dissect the evolutionary conserved mechanisms of host-defence to intracellular mycobacteria.

Conférence présentée le

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Université de Genève – Bâtiment Sciences II
Auditoire A. Pictet – A100
30, quai Ernest-Ansermet, Genève

La conférence est publique

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