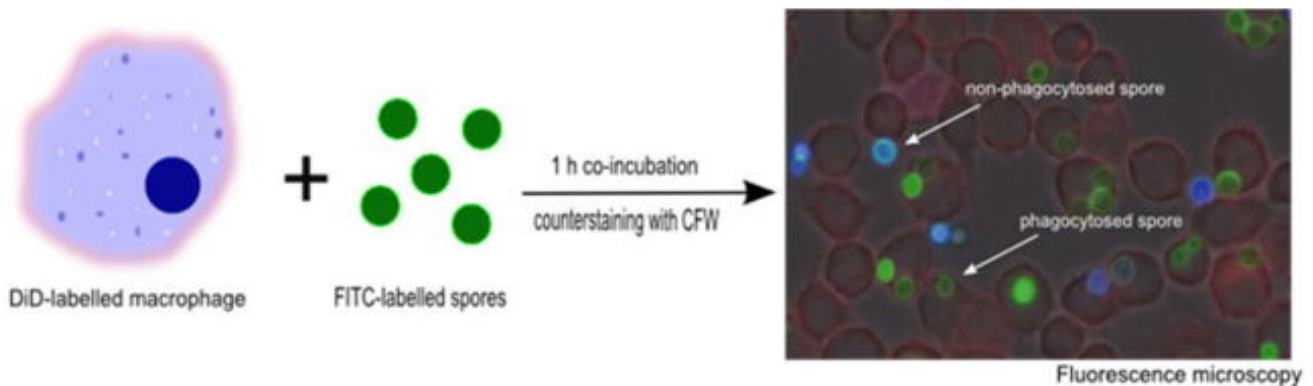


## Intracellular survival of *Lichtheimia* spp.



### \_ Intracellular survival of *Lichtheimia* spp.

Main risk factors are immunocompromised conditions such as neutropenic patients, diabetes mellitus complication, ketoacidosis or Farmer's lung disease, a hypersensitivity pneumonitis in immunocompetent patients. The main route of the infection is via the respiratory tract where alveolar macrophages (AM) act as the immune system's first line of defense. To date, little is known about the interaction of *Lichtheimia* species with the human immune system. Various methods were used to study the details of this encounter. First, the phagocytic efficiency of murine alveolar macrophages (MH-S) is measured in co-incubations of MH-S and fungal spores for the determination of the phagocytic index (PI). The spores are prepared in various conditions such as resting, pre-swollen, and opsonized to mimic *in vivo* situation. Quantification of complement activator products and factor H via Fluorescence-Activated Cell Sorting (FACS) is performed. The morphological examination of surfaces on two strains will be carried out via Scanning and Transmission Electron Microscopy (SEM and TEM) to determine structural differences on the spore surfaces. We are currently investigating various factors (e.g. iron starvation, phagolysosome acidification) that could possibly contribute to the lack of germination within the macrophages. This project is carried out in collaboration with the departments [Infection Biology](#), [Microbial Pathogenicity Mechanisms](#) and [Molecular and Applied Microbiology](#) as well as the research group [Applied Systems Biology](#) and the associated group [Infections in Hematology/Oncology](#).