

## 2 Days Workshop on Chemical Genomics, March 5 - 6, 2007

### Abstract for poster presentation

#### Title of the poster:

#### Phagocytosis assay based on living *Candida albicans* for the detection of effects of chemicals on macrophage function

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#### ABSTRACT

Phagocytosis is the first step of defence against infections from the innate immune system, as it is the process of internalization of pathogens by cells with phagocytic activity, such as macrophages, which is followed by pathogen killing and destruction. Thus, phagocytosis assays are used as assays for one function of the innate immune system. As fungal infections are of increasing relevance and phagocytic mechanisms are dependent on the pathogenic organism and its viability, we established a microtiter plate phagocytosis assay based on viable, fluorescence – labelled *Candida albicans*. The distinction between internalized yeast cells and cells attached to macrophages was done via quenching of FITC - fluorescence by trypan blue, and the remaining fluorescence was quantified and used as indicator of the phagocytosis efficiency. As a proof of principle we showed that compounds acting on the dynamics of the actin cytoskeleton of the macrophages reduced the phagocytosis efficiency in a concentration dependent manner.