Schedule

Overview

Experiments to be performed during the course

Unless stated otherwise, the experiments are performed as hands-on training.

Experiment 1: *Galleria mellonella* as alternative infection model

Exp. 1-1: Introduction of Exp. 1 (theory)

Exp. 1-2: infection of *Galleria mellonella* larvae

Exp. 1-3 daily: screening of pathogenicity

Experiment 2: *Caenorhabditis elegans* as alternative infection model

Exp. 2-1: Introduction of Exp. 2 (theory)

Exp. 2-2: infection of *Caenorhabditis elegans* worms

Exp. 2-3 daily: screening of pathogenicity

Experiment 3: Embryonated eggs as alternative non-mammalian infection model

Exp. 3-1: introduction of Exp. 3 (theory)

Exp. 3-2: infection of embryonated chicken eggs with different fungal species

Exp. 3-3 daily: screening of embryonic viability by candling

Experiment 4: Zebrafish facility at the FLI – guided tour (no hands-on training)

Experiment 5: Amoeba as natural phagocytes - Interaction with *A. fumigatus*

Exp. 5-1: introduction, amoeba as models for infection and pathogenicity

Exp. 5-2: methods for amoeba handling and cultivation

Exp. 5-3: fungal cells as food sources for amoeba

Exp. 5-4: phagocytic uptake and processing of conidia from *A. fumigatus*

Experiment 6: Interaction of *C. albicans* with primary immune cells

Exp. 6-1: introduction (theory);

Different isolation methods for immune cells from human blood

Exp. 6-2: Isolation of PBMCs from human blood

Exp. 6-3: PBMC stimulation and inhibition of specific pathways in immune cells

Exp. 6-4: Macrophage lysis by *Candida albicans*

Exp. 6-5: ELISA

Experiment 7: Epithelial cells as infection model

Exp. 7-1: introduction (theory)

Exp. 7-2: infection of monolayers (oral and intestinal)

Exp. 7-3: determination of adhesion, preparation of invasion assays (induced endocytosis and active penetration)

Exp. 7-4: determination of damage

Exp. 7-5: quantification of invasion