

Information for the training courses at the Helmholtz Centre for Infection Research (HZI)
Braunschweig, Germany

1. Title of training:
“**Characterization of humoral and cellular immune responses following mucosal vaccination.**”

Lab course I: Mucosal vaccination strategies and immunomonitoring

Lab course II: Multifunctional T cells and intracellular cytokines

2. Type of training: on-site training
Each lab course will consist of a five-day hands-on **on-site training** for up to 6 participants (a minimum of 3 participants is necessary). This will take place in the labs of the research group Vaccinology at the Helmholtz Centre for Infection Research (HZI) in Braunschweig, Germany.
3. Target group
Scientists performing animal studies for developing vaccine related technologies or preclinical validation of vaccine candidates. At least a basic knowledge of the methods to be used is required. Furthermore, a willingness to work with mice is necessary as the participants will need to isolate organs from mouse cadavers.
4. Contents of the training
The HZI will provide knowledge on preclinical validation in conventional, genetically modified and humanized mice (e.g. mice humanized for the immune system or liver cells, such as uPA mice), including mucosal vaccination strategies and immunomonitoring (lab course I) and an in-depth analysis of different T cell subpopulations by multiparametric flow cytometric assays (lab course II).

Lab course I

Mucosal vaccination strategies and immunomonitoring

The course will cover different administration strategies (e.g. mucosal versus parenteral), the use of antigens (e.g. inactivated whole virus or subunit vaccines) and adjuvants. Furthermore, the participants will learn different methods for monitoring the cellular and/or humoral immune responses using samples (i.e. sera, spleen, etc.) derived from vaccinated animals (i.e. mice). In addition, they will learn different techniques and methods (e.g. proliferation assay, CFSE-staining, ELISA, ELISPOT, cytokine analysis by FACS).

Lab course II

Multifunctional T cells and intracellular cytokines

The course will focus on flow cytometric analysis of multiparametric assays (e.g. expression of intracellular cytokines, T cell subpopulations, activation/maturation, etc., 14 color FACS).

At the end of both trainings, the participants should know how to evaluate, analyze and interpret the monitored data.

5. Date of the training

Lab course I: 2015 (announcement via EURIPRED newsletter and website)

Lab course II: 2016 (announcement via EURIPRED newsletter and website)

Participants will be selected based on education level and basic knowledge of the methods to be used.

6. Link to the website

To learn more about the research group where the training will take place:

www.helmholtz-hzi.de/vaccinology

7. Costs of the training

In the frame of the EURIPRED project, the HZI will cover any costs occurring at the HZI for preparing and carrying out the course and necessary follow-up.

The participants will be responsible for travel and accommodation costs.