Title of module	Modular Advanced Practical and Seminar in the Focal Point Programme "Molecular Medicine" VZ: 185780, 183781 **„Interaction of Dendritic Cells with T-Lymphocytes"**

Credit points	4	***Available in semester(s)***	1
Hours per week	5.25	***Compact course***	☒

Lecturer(s)	M.Peters and A.Bufe
Teaching methods	Two weeks advanced laboratory course with an integrated seminar, one of four lab courses to be completed in the first term
Evaluation of learning progress	Active participation in the laboratory tasks and seminar, feedback during the experiment
Mode of examination	Assessment of active and successful participation in the practical (50%) and a written project report (50%)
Learning objectives	The students will learn how dendritic cells interact with T-lymphocytes. The essential factors for activation of T-lymphocytes by dendritic cells will be studied in vitro e.g. the importance of antigen presentation on MHC class II molecules and the activation with danger signals resulting in expression of costimulatory molecules and cytokines. This interaction will be studied in a cell culture system applying in vitro generated bone marrow derived dendritic cells and T-helper-cells isolated from transgenic mice that express a T cell receptor specific for the model allergen ovalbumin with high frequency.
Soft skills	Documentation of workflow and results Critical discussion of results Presentation of scientific publications

Contents of module	- Generation of Dendritic Cells in vitro - Purification of T-helper cells from whole spleen cells by magnetic sorting - Flow cytometry - Cell culture - ELISA