

*Title of module*

Special Lecture in the Focal Point Programme  
"Molecular Medicine" VZ: 185800, 185801  
"Molekulare Regulation des Immunsystems"

*Credit points*

5

*Available in semester(s)*

2

*Hours per week*

2+1

*Compact course*



*Lecturer(s)*

A. Bufe, M. Peters and M. Raulf

*Teaching methods*

Lecture: 2 hours per week  
Seminar

*Evaluation of learning progress*

Active participation in lectures, presentation of a seminar talk, plenary discussion

*Mode of examination*

30-45 min end-of-term oral exam plus one 10-min seminar talk given by the student.

*Learning objectives*

After this special lecture the students shall understand how the mammalian immune system works. Particularly, the mechanisms of innate and adaptive immune responses that prevent/cure infectious disease will be explained. Moreover, the basic mechanisms of immunopathologic responses like allergic and autoimmune responses will be discussed. Methods to analyze and manipulate the immune response will be introduced.

*Soft skills*

Preparation and presentation of a seminar talk in small expert groups of three students. Discussion of immunological topics in front of the plenum.

## *Contents of module*

- Introduction into the components of the immune system
- Mechanisms of the innate immune response
- Presentation of antigen by antigen presenting cells
- Mechanisms of the adaptive immune response: T-lymphocytes
- Mechanisms of the adaptive immune response: B-lymphocytes and antibodies
  
- Activation and function of the complement system
- Introduction into immunological methods
- Immunopathology: Allergy and Autoimmunity
- Innate and adaptive immune response to infection, failures of host defense
- Immune responses to tumor cells