

SYLLABUS

Subject:	<i>Immunology</i>		
Study Programme:	<i>DM</i>	Study Period:	<i>SS</i>
Evaluation:	<i>Exam, 5 credits</i>	Subject Type:	
Content:	28/28	<i>Total 56</i>	

Department of Medical and Clinical Microbiology

<i>Week</i>	<i>Lectures</i>	<i>Practical Lessons</i>
1. 13.02.24	Introduction to Immunology - history of immunology, immune system, immune mechanisms, immune response RNDr. Marián Sabol, CSc.	Introduction to laboratory diagnostic methods of immunology. Safety in immunological laboratories.
2. 20.02.24	Cells of immune system RNDr. Marián Sabol, CSc.	Laboratory methods for identification, isolation, and cultivation of immune system cells. CD markers.
3. 27.02.24	Lymphoid organs, mucosal immune system RNDr. Marián Sabol, CSc.	Structure and function of lymphoid organs and mucosal immune system
4. 05.03.24	Humoral nonspecific immune mechanism – complement system. MVDr. Vladimír Hrabovský, PhD.	Complement system assays – haemolytic test, measurement of individual complement components (C3, C4). Methods for detection of lysozyme levels.
5. 12.03.24	Cellular nonspecific immune mechanism – phagocytosis RNDr. Katarína Čurová, PhD.	Evaluation of phagocytic index and phagocytic activity of polymorphonuclear leucocytes. Tests for intracellular killing.
6. 19.03.24	Main histocompatibility system, transplantation immunity RNDr. Marián Sabol, CSc.	Transplantation tests - detection of HLA antigens, DNA tests, MLC test, anti HLA antibodies, cross match test
7. 26.03.24	Antigens. Immunoglobulins – structure, genetics, classes RNDr. Marián Sabol, CSc.	Estimation of immunoglobulins concentrations by radial immunodiffusion Detection of immune complexes

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8. 02.04.24	Immunoglobulins – isotypes, allotypes, monoclonal antibodies RNDr. Marián Sabol, CSc.	Detection of immunoglobulins concentrations by ELISA, nephelometry, western blot
9. 09.04.24	Tolerance RNDr. Marián Sabol, CSc.	Mechanisms of tolerance. Detection of activation of immune cells.
10. 16.04.24	Cytokines, adhesive molecules RNDr. Marián Sabol, CSc.	Laboratory methods for measurement of cytokines. Th1 and Th2 profile in diseases. Detection of adhesive molecules.
11. 23.04.24	Tumour immunity RNDr. Marián Sabol, CSc.	Laboratory diagnosis of tumour antigens. Flow cytometry. Principles of anticancer immunotherapy.
12. 30.04.24	Autoimmunity, immunodeficiency RNDr. Marián Sabol, CSc.	Detection of autoantibodies and autoreactive T-cells. Laboratory diagnosis of autoimmune diseases associated with HLA system. Laboratory diagnosis of immunodeficiencies.
13. 07.5.24	Hypersensitivity reactions - I., II., III., IV. Type Credit test. Dr.h.c. prof. MUDr. Leonard Siegfried, CSc.	Laboratory diagnosis of hypersensitive reactions.
14. 14.05.24	Immunomodulation – immunostimulation, immunosuppression, immunotherapy RNDr. Marián Sabol, CSc.	Retake credit test

Conditions to be met for getting the credit.

1. 60 % of total points a student may obtain in the credit test.
2. 60 % of total number of points obtainable in three tests during semester.
3. Active participation in practical exercises (demonstration of knowledge related to topic of given practical exercise).
4. Presentation of a seminar work

Dr.h.c. prof. MUDr. Leonard Siegfried, CSc.
The head of Institute