## Subject: Immunology

### Study Programme: DM

### Study Period: SS

### Evaluation: Exam, 5 credits

### Subject Type: -

### Content: 28/28

**Total 56**

Department of Medical and Clinical Microbiology

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<tr>
<th>Week</th>
<th>Lectures</th>
<th>Practical Lessons</th>
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| 1. | **Introduction to Immunology - history of immunology, immune system, immune mechanisms, immune response**  
| 2. | **Cells of immune system**  
RNDr. Marián Sabol, CSc. | Laboratory methods for identification, isolation and cultivation of immune system cells. CD markers. |
| 3. | **Lymphoid organs, mucosal immune system**  
RNDr. Marián Sabol, CSc. | Structure and function of lymphoid organs and mucosal immune system |
| 4. | **Humoral nonspecific immune mechanism – complement system**  
| 5. | **Cellular nonspecific immune mechanism – phagocytosis**  
| 6. | **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. | **Antigens. Immunoglobulines – structure, genetics, classes**  
RNDr. Marián Sabol, CSc. | Estimation of immunoglobulines concentrations by radial immunodiffusion  
Detection of immune complexes |
| 8. | **Immunoglobulines – izotypes, alotypes, monoclonal antibodies**  
RNDr. Marián Sabol, CSc. | Detection of immunoglobulines concentrations by ELISA, nephelometry, western blott |
| 9. | **Tolerance**  
| 10. | **Cytokines, adhesive molecules**  
| 11. | **Tumor immunity**  
**Credit test**  
| 12. | **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. | **Hypersensitivity reactions - I., II., III., IV. type**  
RNDr. Marián Sabol, CSc. | Laboratory diagnosis of hypersensitive reactions. |
| 14. | **Immunomodulation – immunostimulation, immunorepression, immunotherapy**  
RNDr. Marián Sabol, CSc. | Retake credit test |

Dr. h.c. prof. MUDr. Leonard Siegfried, CSc.  
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