



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Applied Immunology

2021-1-F0802Q055

Aims

1. Knowledge and understanding:

The classes will be focused on the molecular changes that alter the protective functions of the immune system. In particular: autoimmunity, immunometabolism, inflammatory bowel diseases, transplant rejection, and immunosurveillance of tumors will be analyzed. Particular relevance will be also given to new immunotherapeutic approaches against infections. Original papers will be analyzed.

2. Ability to apply knowledge and understanding:

Original article discussion led by students will allow the evaluation of the comprehension of the arguments discussed during the course

3. Making judgements

Question and answers as well as a final evaluation of the paper discussed will allow each student to judge the data exposed.

4. Communication skills

The presentation of the papers as well as the questions made during the lessons will allow the evaluation of the communicative skills of the students.

5. Learning skills

Learning skills will be evaluated during the lessons based on the presentations of the papers and the questions as well as the final written exam.

Contents

Chapter 1: hypersensitivity reactions

Chapter 2: autoimmunity

Chapter 3: immunodeficiency

Chapter 4: transplant rejection

Chapter 5: tumor immunology

Chapter 6: immunometabolism

Detailed program

Chapter 1: hypersensitivity reactions

Classification, etiology, pathogenesis, vaccines.

Chapter 2: autoimmunity

Etiology, the example of the molecular mimicry. Classification of the different pathologies. Mouse models.

Chapter 3: immunodeficiency

T and B cell-based immunodeficiency. Innate immune pathologies. AIDS.

Chapter 4: transplant rejection

Molecular bases and effector mechanisms of autoreactivity.

Chapter 5: tumor immunology

Immune control of tumorigenesis. Immunotherapies.

Chapter 6: immunometabolism

Immunometabolism of adaptive and innate cells. Tumor immunometabolism.

Prerequisites

The knowledge of the basic mechanisms of functioning of the immune system is required.

Teaching form

Monographies and original paper discussion.

Textbook and teaching resource

PPT slides, original papers. Textbook: ImmunoBiology, The immune system in health and disease- Janeway, Traves.

Semester

Second semester

Assessment method

Students will prepare a review and discuss with the Lecturer the content of the review.

Office hours

Appointment by email to set up a date for the meeting.
