



BIOL2161 Immunology

[45h+15h exercises]

This course is taught in the 1st semester

Teacher(s): Jean-Paul Dehoux
Language: French
Level: Second cycle

Aims

The immunology course aims to give a fundamental formation carrying on the main mechanisms used in immune response. They cover the necessary knowledge to the immuno-pathological comprehension as well as their treatment. Besides, the main applications of immunology in the field of biotechnology are seen.

The course is divided in two modules adapted for students in veterinary and biology (A) and on the other side for agronomy students (B).

Main themes

Module A (30 hours) : biology students and veterinary students. The objective of this module is to describe the basic notions of immunology notions : immunology system organs, immunocompetent cells, immunoglobulin, complex molecules of histocompatibility major and T receptor, complement, tolerance, regulation to immune response, immunity in new bornes, mucus immunity. The resistance towards viruses, bacteria and parasites will be covered. Vaccines and vaccination notions, hyper sensibility and their treatment, immunity to transplants and different immunology tests.

Module B (15 hours) : Agronomy students.

The objective of this module is to give the essential notions of the immune system : natural immunity and acquired immunity, antigens, structure of antibodies and the classes of immunoglobulin, main interactions between humoural response and cellular response. Besides, the module shows the technological applications of fundamental immune knowledge : monoclonal antibodies, immunology techniques of detection and dosage, possible manipulations of immune system and vaccinology.

Practical work (15 hours)

The practical work realizes the main tests in immunology laboratories : isolation of mononuclear blood cells, the determination of different immuno-competent cells after coloration on blood frottis, immunodetections by enzymatic technique (ELISA) and realization of numerous hemato-immunologic tests (ABO group and rhesus)