

Faculty of Medicine



SBIM1202 Molecular Biology

[36h] 3 credits

Teacher(s): Etienne De Plaen, Frédéric Lemaigre, Thomas Michiels, Jean-Noël Octave (coord.)
Language: French
Level: First cycle

Aims

The students should know the fundamentals of molecular genetics in eucaryotes and procaryotes, and become familiarized with the principles of nucleic acid and protein analysis and of genetic engineering; The content of the course constitutes a prerequisite for other courses like microbiology, biochemistry or immunology.

Main themes

In eucaryotes and procaryotes: Structure of DNA, organization of the genome, DNA replication, flow of genetic information (from DNA to protein).

Content and teaching methods

For the theoretical part: In eucaryotes and procaryotes: Structure of DNA, genome organisation, DNA replication, organisation of genes, synthesis and control of synthesis of mRNA, tRNA, rRNA, protein synthesis (translation; post-translational modifications; protein sorting).

Practical part: Analysis of plasmidic DNA, electrophoretic separation of DNA fragments, screening of recombinant bacteria, restriction enzyme analysis of DNA, polymerase chain reaction.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Assessment: By written exam. The students will be examined on their knowledge of the subject, and on their capacity to use the knowledge to solve problems.

Support: Book: Biochimie Génétique. Biologie Moléculaire. J. Etienne et E. Clauser, Editions Masson;

Laboratory exercise book provided by lecturers.