

Faculty of Medicine

**SBIM2111 Methodology of cell and molecular biology**

[22.5h] 3 credits

Teacher(s): Pierre Courtoy (coord.), Emile Van Schaftingen
Language: French
Level: Second cycle

Aims

To get a critical grasp on a few essential methodologies in cell and molecular biology, on which teachers have a special expertise. The course primarily aims at the understanding of basic principles and inherent limitations, so as to help students in selecting the most appropriate approach to address a specific question. This teaching further demands the quantitative analysis of the observations and the differentiation between warranted and unjustified conclusions from a particular experiment

Main themes

Methodologies currently discussed are (1) principles and methods of protein purification, including the calculation of a purification table; (2) principles, applications and safety rules in the use of radioactivity as a tool in biochemistry and cell biology; (3) principles and applications of cell culture; (4) the physical basis, methods, potentials and limitations of analytical subcellular fractionation ; and (5) morphological methods, with emphasis on molecular tracking in fixed and living cells

Content and teaching methods

protein purification; radioactivity as a tool in research; cell culture; subcellular fractionation; molecular tracking in fixed and living cells.

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

Prerequisite : cell biology and general biochemistry

Calendar : second quadrimester, each Thursday, from 14:00 to 15 :45 at ICP 75-1.

Individual support : printed notes

Examination : quantitative analysis of new data obtained with one or several of described methods and usually presented in English; testing of their understanding