LBRMC2202

2015-2016

Cell culture technology

3.0 credits	30.0 h	1q

Teacher(s) :	Hols Pascal ; Boutry Marc (coordinator) ; Schneider Yves-Jacques ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	Icampus
Prerequisites :	General microbiology and general biochemistry Biological and microbial engineering
Main themes :	The different types of microbial, animal and plant cell cultures will be presented. The importance of the culture medium composition and of the culture parameters will be described. Problems related to scaling-up will be highlighted. Several examples of biomedical and industrial applications will be illustrated.
Aims :	a. Contribution de l'activité au référentiel AA (AA du programme) Cohérence des AA cours en regard de ceux du programme 1.2 2.2 3.1 6.1, 6.2, 6.4 b. Formulation spécifique pour cette activité des AA du programme By the end of this course, the student should be able: - To explain the methods used for growing microbial, animal and plant cells - To explain the major applications of cell cultures - To understand and set out examples of cell cultures in the microbial, animal and plant fields as described in English scientific journals *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods :	Assessment will be based on the presentation of a paper from the English scientific literature illustrating an application of cell culture in the microbial, animal or plant field. Emphasis will put on the following aspects: ability to analyze and synthesize the data, didactic quality of the presentation and the PowerPoint support, capacity to address questions from the audience
Teaching methods :	The theoretical part will be presented by the teacher using the blackboard and PowerPoint files. Students will illustrate applications of cell cultures by presenting a paper from the scientific literature
Content :	Microbial cells: culture methods, influence of the medium composition and physico-chemical parameters, combining of metabolic engineering and culture parameters, examples of production of metabolites Animal cells (mammals and insects): general properties, adhesive and non-adhesive cells, culture medium composition, serum-free medium, physical parameters, examples of protein production, hybridoma and monoclonal antibody production Plant cells: cell, tissue and organ culture, culture medium composition, bioreactor design, example of production of pharmacological metabolites and proteins.
Other infos :	.
Faculty or entity in charge:	AGRO

Programmes / formations proposant cette unité d'enseignement (UE)

Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Biochemistry and Molecular and Cell Biology	BBMC2M	3	-	
Master [60] in Biology	BIOL2M1	3	-	
Master [120] in Biomedical Engineering	GBIO2M	3	-	
Master [120] in Chemistry and Bioindustries	BIRC2M	3	-	
Master [120] in Agricultural Bioengineering	BIRA2M	3	-	