

Bioseparation

Introducing

Description

Bioseparation : Precipitation: definition, review of precipitation processes, type of precipitation. Centrifugation and ultracentrifugation: introduction principle theory of sedimentation, and centrifugation, centrifuge equipment and operations. Membrane separation: principles and theory, membrane type and module, membrane fouling. Electrophoresis: principle and theory, electrophoresis equipment, gel electrophoresis, SDS-PAGE, isoelectric focusing, 2-D electrophoresis, capillary electrophoresis.

Objectives

Bioseparation: At the end of this module, Students should understand and be able to explain

- the mechanisms exploited by the separative techniques commonly used in biochemistry and biotechnology, particularly in the case of biocatalysts
- the properties of biological molecules exploited in the application of separative techniques
- Precipitation (proteins, nucleic acids),
- centrifugation and ultracentrifugation,
- membrane separation (MF, UF, NF, dialysis, electrodialysis)
- electrophoresis

Necessary prerequisites

I1ANETCH Chemistry
I2BECH10 Organic Chemistry
I2BEBS10 Structural Biochemistry
I2BEAN20 Analytical Methods
I2BEGR20 Reaction Engineering

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse