



Criblage

ECTS
2 crédits

Composante
Faculté des
Sciences

En bref

- **Date de début des cours:** 1 sept. 2021
- **Langue(s) d'enseignement:** Anglais
- **Méthode d'enseignement:** En présence
- **Organisation de l'enseignement:** Formation initiale
- **Ouvert aux étudiants en échange:** Non

3) Applications, case studies, critical analyses.

Volumes horaires* :

CM : 15 H

TD : 5 H

Objectifs

Be able to choose the biological screening and testing techniques suitable for the evaluation and optimisation of bioactive molecules.

Understand from a molecular point of view the technologies associated with diagnostic and screening tools and be able to design new chemical tools for this purpose.

Présentation

Description

Understanding of screening techniques for bioactive molecules, and more generally in vitro tests used to measure a biological event in the perspective of drug discovery or diagnosis.

1) Pharmacological and biophysical fundamentals describing a biological event, target of biological tests:

2) Biological tests for the development of medicines or diagnostics

Pré-requis nécessaires

Notions de base de biologie et de biochimie

Contrôle des connaissances

Examen écrit terminal de 2h :

* Documents autorisés : oui

* Calculatrice non graphique autorisée : oui

* Internet autorisé : oui (mais sans communication interpersonnelle possible)





Syllabus

Cours : Inductive pedagogy (problems based on real cases of development of active molecules. Inverted classroom. Votes and quizzes during sessions, case studies. Support(s) available on ENT (Moodle): Course documents, reference publications, examination records.

1) Fundamentals (3H)

- receptors, enzymes
- binding, basics of receptors pharmacology
- biological activity measurement

2) Principle of Bioassays for drug development and diagnosis (6H)

- high throughput vs high content
- Biological model : biomolecules isolated, cell-based assays, animal models including transgenic models
- luminescence (fluorescence, FRET, radioluminescence, SPA), radioactivity, UV
- viability, proliferation and adhesion assays (for medical devices).

3) Systems and devices :

- robots HTS and library management
- enzyme based reagents and assays
- surface interaction measurement (QCM/SPR)
- lateral flow and chromatographic assays

3) Applications, cases study and critical evalaution.

TD (5 H) : Individual work, presentation of techniques and publications to be prepared before and presented during the session.

Case studies based on drug development, diagnosis tools and medical devices.

Informations complémentaires

Contact(s) administratif(s) :

Secrétariat Master Chimie

<https://master-chimie.edu.umontpellier.fr/>

Infos pratiques

Contacts

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Lieu(x)

➤ Montpellier - Triolet

