UE High throughput Biology

ECTS
6 credits

Component
UFR Chimie-Biologie

- **Teaching language(s):** English
- **Open to exchange students:** Yes
- **Code d'export Apogée:** YAX9BI37

Presentation

Description

Course outline

The lectures present the basic methodology and some advanced techniques used for high throughput *in vitro* small molecule drug discovery. The principles and statistical methods used for assay optimization and validation will also be explained.

I. Molecular biology, Biochemistry and Protein expression

II. Proteomic analysis; Mass spectrometry

III. Lab-chips and Cell-chips

IV. Structural biology: Crystallogenesis and Crystallization; RMN

V. Combinatory chemistry

Format of exams: Oral exam (at the end of December) and Research project (at the beginning of January)

Course parts

UE High throughput Biology - CM	Lectures (CM)	30h
UE High throughput Biology - TD	Tutorials (TD)	10h

Recommended prerequisites

Background in biochemistry, molecular biology and cellular biology. Knowledge in physiology, immunology and microbiology will be appreciated. Students with laboratory and/or practical skills will better understand technological benefits of the use of high throughput technologies in the lab work.

Period : Semester 9

Skills

After completion of this course, students should:

1. Know the basic methodology and some advanced techniques used for high throughput in vitro small molecule drug discovery;
2. Comprehend approaches and statistical methods used for assay optimization and validation;
3. Be able to compare and contrast different methods used for the discovery of biomarkers and validation;
4. Have in-depth knowledge acquired through independent investigation of one key technology used for drug or biomarker discovery;
5. Be able to present this knowledge in oral and written form.

Useful info

Contacts

Program director

Adrien ANTKOWIAK

adrien.antkowiak@univ-grenoble-alpes.fr

Place

Grenoble

Campus

- Grenoble - University campus