UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Therapeutic Drug Monitoring

2627-3-I0302D035-I0302D041M

Aims

Explain the basic principles of therapeutic drug monitoring, monitoring of toxic substances and drugs and related methods

Contents

The primary goal of the course is to provide tools for the understanding of the laboratory techniques to approach the field of Therapeutic drug monitoring

Detailed program

General principles of therapeutic drug monitoring: definition and rational basis of the Therapeutic Drug Monitoring (TDM); main analytical methods of drug monitoring (Particular parts of mass spectrometry: ESI and APCI ionization processes; Orbitrap and linear trap mass analysers; tandem mass spectrometry and its different modality of use). Rationalization of the TDM of the most frequently monitored drugs, toxins and drugs.
TDM of main cancer therapeutics (focus on leukemia). Metabolites as markers in TDM. Next generation sequencing techniques to identify eligibility to new therapies.
Concept of Advanced Therapy Medicinal products (ATMPs9 starting from the molecular basis that characterize the gene therapy up to their use in clinical applications. Monitoring by Flow Cytometry.

Prerequisites

Teaching form

Lectures. Additionally, the course will include an interactive lesson in the laboratory.

Textbook and teaching resource

The Teachers will provide educational materials

Semester

First semester

Assessment method

Written test: multiple choice test and open questions

Oral Test: discussion of written test

Office hours

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Sustainable Development Goals

GOOD HEALTH AND WELL-BEING