



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Laboratorio di Biochimica

1920-3-E1301Q077-E1301Q084M

Aims

This module aims at providing students with skills for the basic biochemical techniques: protein purification, qualitative and quantitative characterization, enzymatic activity assays.

- Knowledge and understanding.

At the end of the course, the student should be able to apply the knowledge acquired in the field of biochemistry, with particular emphasis on enzyme purification and functional characterization.

- Applying knowledge and understanding

At the end of the course the student will be able to apply the knowledge acquired in the field of biochemistry

- Making judgment

The student should be able to process what he has learned, how to propose the methods used and when they should be applied.

- Communication skills

At the end of the course the student will be able to express himself appropriately in the description of the topics addressed with language properties and exposure safety.

- Learning skills

At the end of the course the student will be able to reproduce the techniques adopted in similar contexts.

Contents

Protein purification and characterization: quantitative protein determination, estimation of purity and molecular weight, enzymatic activity assay.

Detailed program

This module includes 5 practical classes:

1. Preparation of the crude extract;
2. Enzyme purification by affinity chromatography and protein quantification by colorimetric assay;
3. SDS-PAGE electrophoresis and enzymatic activity evaluation;
4. Western blot;
5. Experimental determination of enzymatic parameters K_M and V_{max} .

Prerequisites

General notions of biochemistry are needed.

Teaching form

Lab experimental activities in equipped labs.

Textbook and teaching resource

Slides and experimental protocols will be provided to students at the beginning of the teaching activity, and uploaded on the moodle teaching Platform.

Semester

First semester

Assessment method

Written test focussed on all teaching modules: the exam will be aimed at the evaluation of acquired competences in all disciplines involved. The ability to elaborate and integrate the experimental work with the theoretical basis of the experiments, and the development of interdisciplinary links will be evaluated.

The assessment will be organised in six sections, with open questions and multiple choice tests. In order to pass the exam it is necessary that the student has an evaluation greater than or equal to 18 in all the disciplines. In the event that the student does not achieve sufficiency even in one discipline, the test must be re-supported in full. The duration of the assessment will be 2 hours.

Office hours

The teachers will receive by appointment requested by e-mail.
