UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Instrument-based Techniques

2021-1-I0302D005-I0302D021M

Aims

To describe PCR and molecular tests based on it (also sample preparation)

Contents

To provide the fundamentals of the main principles of instrumental techniques employed in Clinical Molecular Biology laboratory.

Detailed program

Techniques for the lymphocyte separation from whole blood. DNA and RNA extraction, purification, quantification and storage: theory and practical aspects. Restriction enzymes: theory and diagnostic applications. Retro transcription reaction. Polymerase chain reaction (PCR): parameters for the amplification (denaturation, hybridization, extension) master mix. Amplification products identification (agarose-gel electrophoresis and hybridization techniques). Genetic mutation identification: indirect (Southern Blot, DGGE, SSCP, PTT, CCM) and direct methods (RFLP, ASA, ASO). PCR product sequencing. Viral nucleic acid assays (HCV, HBV, HIV).

Prerequisites

Biomedical Sciences

Teaching form

Exercises

Textbook and teaching resource

Teacher will provide teaching material.

Semester

secondo semestre primo anno

Assessment method

In itinere test, consisting of 20 written multiple choice test: if the student has not reached the required level, he/she will have to take an oral exam consisting in the discussion of some written questions.

Office hours

By appointment required by mail