

Corso di Laurea Magistrale in
Biotecnologie Farmaceutiche
A.A. 2013 – 2014

PROGRAMMA Teaching Staff LLP/ERASMUS

Short Course 2013-2014

BIOLOGY AND CHARACTERIZATION OF RECEPTORS TARGETED BY DRUGS IN CLINICAL USE

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The main topic of the lectures will be surface receptors, especially G protein coupled receptors (GPCRs) and receptor tyrosine kinases (RTKs). The subjects covered will be the following:

Lecture 1 (*March 18, 2014, 14:00-15:30*)

The first lecture will give an overview about different receptor classes and give some examples of receptors as drug targets. It will also give a summary about the biological processes involved from transcription and translation to the final localization of the receptors at the cell surface.

The second part of this lecture will cover the function of the receptors and give some insights in the activation mechanism and the signalling cascades which follow receptor activation.

Lecture 2 (*March 19, 2014, 14:00-15:30*)

This lecture will focus on genetic polymorphisms and point mutations and their relevance for drug development. General mechanisms of pharmacogenetics and pharmacodynamics will be introduced and the effects polymorphisms have on responses to drugs and adverse effects. It will also highlight the advantages and limitations of personalized medicine.

Lecture 3 (*March 20, 2014, 10:30-12:00*)

This lecture will give an overview about different methods applied for ligand-receptor interactions and the strategies for assay development. Some assays will be introduced in detail to give an idea about the processes involved and problems which can occur will be discussed as well.

It will also give some insights into different expression systems used for the generation of recombinant receptors used for the pharmacological assays.

Here the connection to pharmaceutical applications and questions will be made. This lecture will also shortly cover the different strategies of drug development and give some examples of indications drugs can be used for.

Venue: Aula 3, Dipartimento di Scienze del Farmaco, via Marzolo 5, PD

Final test: multiple choice test

Info and registration: barbara.gatto@unipd.it