



UNIVERSITÀ DEGLI STUDI DI TORINO

ID

VP26_DIP_STF

Visiting Professor Program Academic year 2019/2020

DEPARTMENT OF DRUG SCIENCE AND TECHNOLOGY

TEACHING COMMITMENT: 16 hours

COURSE TITLE

PHARMACOLOGICAL AND TOXICOLOGICAL BIOTECHNOLOGIES

TEACHING PERIOD

2nd term

SCIENTIFIC AREA

Pharmacology

LANGUAGE USED TO TEACH

English

COURSE SUMMARY

The course aims to address specific questions in relation to pharmacokinetic and pharmacodynamic evaluations of drugs obtained by biotechnology processing. The main perspective and criticisms on the therapeutic use and safety of biotechnology-derived drugs will be discussed. Pre-clinical models for safety and efficacy evaluation of biotechnology-derived pharmaceuticals will be described, focusing mainly on the development of bio-sensors, multiarrays for drug-screening. The basic principles of the main imaging modalities (PET/SPECT/CT, MRI, Optical Imaging, US, Photoacoustic Imaging) useful to characterize the drug biodistribution and for monitoring their therapeutic effect, will be introduced. Definitions and requirements for interchangeability regarding biosimilars will be discussed, in keeping with their importance for the economic sustainability of the National Health Service, focusing mainly on the procedures of “comparability exercise” and “switching” between reference drug and biosimilar.

LEARNING OBJECTIVES

- the criteria of pharmacodynamic and pharmacokinetic evaluation of biotechnological drugs

- pre-clinical and clinical validation procedures for biotechnological, biosimilar and radiopharmaceuticals for molecular imaging
- the risk / benefit issues related to the use of biotechnological and biosimilar medicines
- techniques to evaluate and analyze in vivo the signal transduction pathways and the intracellular traffic

VISITING PROFESSOR PROFILE

The Visiting Professor must be a Professor with documented experience in the field of Pharmacology and Drug Discovery. He/she needs to show records in teaching at undergraduate and postgraduate level; supervise postgraduate students, mainly within the Master Degree in Pharmacy and/or Industrial Pharmacy. The documented teaching activities have to deal with the topics of Pharmacology, Clinical Pharmacy and Biopharmaceutical Sciences.

He/she must have got a proven track record in undertaking management and leadership duties in academic administration, mainly within the School of Pharmacy

CONTACT PERSON AT THE DEPARTMENT

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