

3.00 credits

22.5 h

Q2

Teacher(s)	Frédéric Raphaël ;Lambert Didier ;Muccioli Giulio (coordinator) ;
Language :	French > English-friendly
Place of the course	Bruxelles Woluwe
Main themes	The teacher(s) will discuss first the different techniques allowing the discovery of novel therapeutic targets (lipidomic ' proteomic ' deorphanization), second the methods allowing the identification of hits for a given molecular target (high-throughput screening ; computer assisted de novo drug design); finally the strategies allowing to optimize a hit ('hit to lead') will be discussed (structures-activity relationships ; docking;)
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>At the end of the activity the student will be able to</p> <ul style="list-style-type: none"> • Interpret, based on what was discussed in class, the results presented in a scientific paper dealing with the development of a novel drug • Suggest a strategy allowing to identify novel therapeutic targets • Suggest a strategy allowing to identify novel lead compounds for a given target (enzyme, receptor, ') • Suggest a strategy allowing to optimize the activity of a drug towards its target
Evaluation methods	Oral presentation of a work prepared by the student followed by questions from the teachers
Teaching methods	<p>Students will be asked to propose a research "topic" to the teachers. After "validation" of the topic, students will have the opportunity to work on their topic with the support of the teachers.</p> <p>Scientific journals such as Nat. Rev. Drug Discov, J. Med. Chem, Cell Chem. Biol. are excellent sources of inspiration (among others).</p> <p>As an example, some elements to initiate the reflection could be</p> <ul style="list-style-type: none"> • Choice of the target <ul style="list-style-type: none"> • What would be its interest in a pathological situation? • What is already known about this target? • What else can be done/developed on this target and why? • Description of the target (to help understand the rest of your project) • Type of target ? (GPCR, enzyme, nuclear receptor, channel receptor, ...) • Structure or 3D model available? • Pharmacological tools available? (e.g. radioligand, labelled substrate, ...) • How would you do it ? <ul style="list-style-type: none"> • Hit identification (Screening? Use of a 3D model? ...) • Hit to lead (pharmaco test ? use of 3D models ?...) • In vivo validation?
Content	<ul style="list-style-type: none"> • This course aims to allow students interested in drug design and medicinal chemistry to go further in their knowledge by proposing a "role play". <p>The objective will be to propose a "research project" (in the form of a powerpoint presentation) illustrating one or more aspects of medicinal chemistry/drug discovery.</p> <p>This is an excellent complement to more general courses such as WFARM1302 and WFARM2118.</p>
Faculty or entity in charge	FARM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Pharmacy	FARM2M	3		