

Organising institution

Università degli Studi di Padova
Dipartimento di Scienze del Farmaco - DSF
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Visiting Professor

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Course Title and Description

Plants as Green Factories for Pharmaceuticals: from Medicinal Botany to Large-scale Production

The proposed activity involves the inclusion in the Master degree course in Pharmaceutical Biotechnologies (PharmBiotech) of a short course on the use of plants as source of biomolecules of pharmaceutical interest and as bioreactors for large-scale production of important pharmaceutical proteins. The short course will last eight hours and will be online.

Since ancient times medicines were made from plants and nowadays active substances of many medicines still have a plant origin. Recently a new milestone that biotechnologies are approaching is the use of plants as bioreactors for the production of recombinant proteins. The use of plant engineering to produce biomolecules for human use is called Plant Molecular Farming. This field is more and more promising as plants have significant advantages compared to animals and microorganisms, both in economic terms and in the quality of products.

Besides the reduction of production costs, it is to be taken into consideration that plants do not host viruses dangerous for man and that their protein synthesis system is more similar to mammals than to microorganisms. Therefore the use of plants as bio-platforms for the production of antibodies and vaccines has an enormous potential and the Plant Molecular Farming is getting closer and closer to the traditional pharmaceutical and biotechnological industry

Through this Short Course, therefore, the students of PharmBiotech, will be able to acquire general knowledge on plants as sources for the extraction of pharmacologically relevant metabolites and bio-reactors. The analysis of the regulations needed to register an active substance of plant origin as medicine is of great interest as well.

Period

September 2021

Course Level

Master degree course in Pharmaceutical Biotechnologies