Research Project

Anti-Alzheimer disease's drugs: bioactivity and permeability assays

Alzheimer's disease is a fast growing disease with a high socioeconomic impact in industrial countries making it urgent to find a drug capable of blocking or delaying the disease progression. The inhibition of beta-secretase is a known therapeutic target against Alzheimer's, but unfortunately current known inhibitors only achieve a clinically non-relevant concentration inside the central nervous system, due to blood-brain barrier hindrance.

In a way to transpose the blood-brain barrier new inhibitors are being designed and synthesised in collaboration with other partners.

The aim of this research project is to develop in vitro assays to test the new compounds concerning their activity and permeability. The results obtained will help re-designing new compounds.

A student enrolling in this project will acquire expertise in in vitro screening techniques to select drug candidates, including biochemical and permeability assays. The student will learn how to perform enzymatic assays and to determine drug inhibition constants. Concerning permeability assays the student will learn cell manipulation techniques, a prerequisite to use a permeability cell model.

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Area: Biopharmacy and Pharmacokinetics

Location: ITQB/IBET
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