iproteos
FROM PROTEASES TO PEPTIDE DRUGS

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Project title

Peptidomimetics and protein-protein interactions: leading to a new treatment for CNS diseases.

Company profile

Iproteos focuses its activity on the R&D of new therapeutic strategies based on regulation of protein-protein interactions though peptidomimetics. Specifically, at Iproteos we are specialized on diseases of the central nervous system (CNS). Our business model implies discovering, pre-clinical validation and licensing new peptidomimetic drugs. We follow a structure-based drug design approach, which is key in all stages of drug discovery. This allows optimizing the affinity of compounds for their target, as well as their ADME properties. Our methodology also includes an early-stage evaluation of the ADME properties and toxicity parameters of the compounds, providing a time- and cost-efficient selection of the strongest candidates during the initial steps of the drug discovery process.

Our team members hold vast experience in peptide chemistry, medicinal chemistry and the application of structure-based drug design to drug discovery. Our broad knowledge on permeability properties across biological barriers allows us to fine-tune our candidates to achieve transport to the CNS.

Project description

In the present proposal, we aim to design, synthesize and screen for peptidomimetics that may disrupt/modulate a key protein-protein interaction (PPI) between two proteins involved in CNS diseases. The designed peptidomimetics will be optimized to improve their ADME-Tox properties, in order to be able to start preclinical proof of concept experiments with cellular and animal models of the corresponding disease.

The final aim of the project is to identify lead candidates to obtain a new strategy of treatment for CNS disease. Specifically, we will search for new compounds that may modulate a new PPI interaction, with particular attention to potency, selectivity and ADME-Tox properties.

Partner profile

Iproteos is seeking for a partner to be able to perform at least one of the following tasks:

1) Synthesize & purify libraries of small peptidomimetic compounds (constituted by non-natural amino acids and some non-peptidic bonds).
2) SAR to optimize the ADME properties of the candidates, maintaining high activity and selectivity for its target.
3) Evaluate the ability of candidate compounds to cross biological barriers, with particular emphasis on the study of the permeability of compounds through the blood-brain barrier (BBB).
4) Evaluate toxicity in cellular or zefrafish models and cellular assays to evaluate the efficacy of compounds.

Contact us

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