

## Draft Fact sheet Ukraine PROLIGAR

Centre: **Universidad CEU San Pablo**

Group: **Drug Design and Synthesis**

PROLIGAR <https://www.uspceu.com/en/research/research-groups/id/proligar>

School of Pharmacy

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### Description:

Universidad CEU San Pablo is a non-profit educational institution, which was created by the Catholic Association of Propagandists and which has been focused on the human, academic and professional training of its students for more than 80 years with the aim of providing them with the competencies necessary to hold relevant positions, both nationally and internationally.

### Functions:

The working plan foreseen for the post-doctoral researcher coming from Ukraine would fall within the framework of the projects currently underway within the group. Precisely, in the Project pending resolution entitled *Development of protein degraders (PROTACs and LYTACs) directed to the tumour cells. PET and fluorescent markers for enzymes involved in cancer and osteoarthritis (PROLYGAR)*.

In this Project, the researcher would contribute to the design by computational methods of different types of ligands, their synthesis in the laboratory and finally, he/she would conduct biological assays to determine its pharmacological activity. The project would include the following steps:

- Rational design of new ligands using the Molecular Modelling techniques based on the 3D structure of target proteins. Docking experiments together with molecular dynamics simulations will help to assess the affinity and stability of the final complexes and decide on the synthesis of the most promising agents.
- Computational Prediction and/or determination of the physio-chemical properties of the designed ligands i to propose the most likely successful candidates.
- Synthesis of the most promising ligands designed in the computational study. The synthesis will imply the structural modification of known inhibitors of therapeutic targets and the establishment of the structure-activity relationship.
- Assessment of biophysical ligand/target interactions and of their biological activity: a) Evaluation of the inhibitory activity against HDACs, MMPs and CK2. b) The development of cytotoxicity, proliferation and proapoptotic activity assays. c) Fluorescent probes studies. d) study of the degradative capacity of PROTACs. e) study of the release capacity of folate-conjugated compounds.
- This project is expected to promote the recognised research groups' research productivity and training capacity in European calls, as well as to start new lines of research within the group.

**Subject: POTENTIAL TEACHING IN THE SUBJECTS OF PHARMACEUTICAL CHEMISTRY 1 and 2**

- Practical lessons of pharmaceutical chemistry 1 and 2.

**Reception of CVs:** 30 working days since the publication on the University's website of expressions of interest from the recognised research groups.

**Location:**

Montepríncipe Campus

Madrid

**Country:**

Spain

Requirements: PhD researchers, of Ukrainian nationality, and that are attached to research universities or centres based in Ukraine.

**Required education:**

- Bachelor's Degree in Pharmacy, Chemistry
- Doctorate in Pharmacy, Chemistry

**Work experience:**

- Teaching experience in the area of Pharmaceutical Chemistry/Medicinal Chemistry
- Research experience in the area of Medicinal Chemistry

**Languages:**

- C1 English
- Spanish is an asset

**Competences and skills:**

- Teamwork
- Laboratory practice

**The following is offered:**

- Postdoctoral research contract at Universidad San Pablo-CEU, in accordance with Spanish legislation and, in particular, the contractual modalities foreseen in Spanish Act 14/2011, of 1 June, on Science, Technology and Innovation and in the XIII state-wide collective agreement for the university education and research centres. **The contracts shall last for a maximum of three years.**

- Aid for travel and installation expenses in Madrid: an additional grant of 1.500 euros provided by the University to the beneficiary as soon as the contract has been signed as a postdoctoral researcher and that is aimed at supporting the beneficiary for expenses incurred as a result of the beneficiary's travel and installation in Spain.
- b. To obtain the University and the research group's collaboration and support necessary to develop the research work involved in their incorporation programme normally.
- c. To benefit from the intellectual and industrial property rights that correspond and come from the research activity, in accordance with the, both internal to the University and public, current legislation and regulations.
- d. To use the services offered by the University and to participate in in all its activities in accordance with internal regulations.
- e. To apply for external call for grants for research actions.

Part-time teaching at Montepríncipe Campus

First semester of the academic year 22/23

Working hours:

Full-time