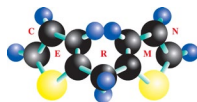




UNIVERSITÉ
CAEN
NORMANDIE



Doctoral Researcher in Medicinal Chemistry

Design, synthesis and evaluation of degradants incorporating azetidine and oxetane motifs for the selective degradation of Mcl-1 in ovarian cancer (DEGRAD-OVER).

Period: 36 months

Starting date: October 2025

Studies: M2 level

Missions:

Ovarian cancer is the 8th leading cause of cancer-related deaths among women worldwide, with a 5-year survival rate of less than 30% in advanced stages. Resistance to standard treatments, such as cisplatin and taxanes, is often caused by the overexpression of Mcl-1, a protein crucial for tumor cell survival. Although Mcl-1 inhibitors like S63845 have shown promising results, their development has been hindered by side effects, particularly cardiotoxicity. PROTACs, innovative molecules that selectively degrade target proteins, present a potential solution to overcome these challenges. However, issues like selectivity, bioavailability, and off-target effects remain. This project aims to develop next-generation degraders targeting Mcl-1 by improving their solubility and bioavailability while enhancing selectivity through specific E3 ligases. The molecules will be assessed for their efficacy and safety, with a focus on structural modifications and identifying E3 ligases present in ovarian cancer tissues, minimizing adverse effects.

With a Master's degree in pharmaceutical sciences, organic chemistry or engineering, the candidate must have good theoretical and practical skills in organic synthesis involving standard methods of heterocyclic chemistry, organometallic chemistry, peptide couplings, etc and the analytical characterisation of molecules. Additional skills in the field of medicinal chemistry (drug design), molecular modelling and biology are a plus. We are looking for candidates who are motivated, rigorous, dynamic, able to work in a team, interested in medicinal chemistry and with good written and oral communication skills in French and English.

Skills:

- organic chemistry
- analytical chemistry: NMR, MS, IR, HPLC
- professional English necessary to work in an international environment

Funding: regional funding.

Host institution:

This project will be conducted at **UR 4258 - CERMN · Centre d'études et de recherche sur le médicament de Normandie, Université de Caen Normandie**
Boulevard Becquerel · 14032 CAEN Cedex · France

Contact:

Applications must be sent to **Anne Sophie VOISIN-CHIRET** (anne-sophie.voisin@unicaen.fr) before 7/05/2025 and include a detailed CV, a covering letter, one or more references, including that of the M2 placement tutor, M1 and M2 grades and ranks.

Doctoral school of thesis supervisor: ED 508 EDNC Ecole Doctorale Normande de Chimie.