Institut de Chimie Moléculaire de l'Université de Bourgogne
UMR 6302 CNRS, Université de Bourgogne
UFR Sciences et Techniques - Faculté des Sciences Mirande
9, avenue Alain Savary
21000 DIJON, FRANCE

Research engineer position (radiochemistry) - ICMUB - Dijon

Our research group at ICMUB lab. (UMR CNRS 6302, Dijon, http://www.icmub.com/), recognized as one of the leading French academic players in the field of "Chemistry for Molecular Imaging", is offering a one-year research engineer position in radiochemistry (renewable).

Preferred starting date: September 2024

Scientific context:
Metastatic Colorectal Cancer (mCRC) and metastatic Gastric Cancer (mGC) are among the most aggressive cancers. Despite ongoing efforts in therapeutic research, patients still face a dim prognosis (5 years survival < 10%). Targeted radionuclide therapy (TRT), consisting of a radionuclide coupled to a vector that binds to a desired biological target with high specificity, could offer a promising approach to treat advanced digestive cancers. In the “COMETE” project (moleCular radiOtherapy for METastatic Colorectal and gastric cancErs), we propose to develop theranostic biomolecules allowing:

i) PET imaging of mCRC or mGC using positron emitting radioisotopes (^{64}Cu, ^{68}Ga) for the diagnosis, stratification and monitoring of patients response
ii) Targeted radionuclide therapy with β^- (^{177}Lu) or α (^{225}Ac) emitters.

Principal duties/responsibilities:
The radiochemist will work on the development of radiolabeling methods to obtain therapeutic and diagnostic radioconjugates.
More specifically, his/her tasks will include :

- optimization of radiolabeling conditions to obtain desired specific activities and radiochemical purity with each of the following radioisotopes: Indium-111 (SPECT), Copper-64 and/or Gallium-68 (PET), Lutetium-177 and Actinium-225 (therapy).
- optimization of quality controls (radio-iTLC and/or radio-HPLC) and purification methods if necessary.

- standardization of the different protocols implemented.
- development of in vitro assays involving radioactivity (binding assay, cytotoxic assay…)
- redaction of experimental protocols, technical reports as well as regular progress reports
- attending meetings with the different partners and redacting minutes

Research environment:
This ambitious program, funded by the European Regional Development Fund (FEDER), is supported by our lab, the Centre de Lutte contre le cancer Georges François Leclerc (CGFL), and Oncodesign Precision Medicine, a biopharmaceutical company specializing in precision medicine to treat resistant and metastatic cancers. This multidisciplinary consortium will provide a highly collaborative work environment.
The candidate will be recruited by the Université de Bourgogne and his/her research will be conducted at the preclinical imaging and radiotherapy platform IMATHERA (CGFL, two sites close to the lab). Both sites are equipped with hot cells, analytical instruments (radio-HPLC, radio-TLC imaging scanner, gamma-counter…). Cell culture and in vitro assays can also be performed on-site.
The candidate will work under the direct supervision of the ICMUB radiochemist.

Candidate profile:
Minimum Qualifications: Ph.D. in organic chemistry with hands-on experience in radiochemistry.
The candidate should have a strong background in coordination chemistry, radiochemistry and analytical techniques (HPLC, SEC, iTLC). We are looking for an independent and motivated individual able to cooperate in a highly dynamic environment as strong interactions with chemists, biologists, radiobiologist as well as radiopharmacists will be required on a daily basis. Additionally, the candidate should have a proactive attitude towards problem solving, good written and oral communication skills and be willing to prepare manuscripts.

Preferred Qualifications: Hands-on experience in radiolabeling of biomolecules with metals is an asset.

Contacts:
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Application documents: detailed CV (+ 2-3 references), a brief summary of research works and a detailed covering letter.