
IPBS Call for Post-doctoral fellows

The IPBS (Institute of Pharmacology and Structural Biology) is seeking motivated postdoctoral researchers to apply for various postdoctoral fundings (Marie Skłodowska-Curie, EMBO, FRM, etc.) and join our laboratory to carry out their research project.

Research topic

Obesity and effect on Lipid-Mediated Tumor–Adipocyte Dialogue in Breast Cancer

Obesity is associated with more aggressive forms of breast cancer (BC), regardless of menopausal status. This is particularly evident in luminal BC, the most common subtype, suggesting that host-related factors in obese women promote the development of more aggressive tumors.

Our team was among the first to demonstrate that mammary adipocytes located at the tumor invasive front undergo a reduction in size and lipid content (Dirat et al., *Cancer Research*, 2011). Using coculture models, we showed that mature adipocytes (obtained from in vitro–differentiated preadipocytes) can supply lipids to tumor cells and induce metabolic remodeling that enhances their aggressiveness (Wang et al., *JCI Insight*, 2017).

In obesity, mammary adipocytes exhibit hypertrophy; however, this does not induce a fibro-inflammatory response (Fallone et al., *International Journal of Obesity*, 2025). Together, these findings suggest that lipid transfer may be a key event underlying the increased aggressiveness of BC in obesity.

Our preliminary results support this hypothesis both **in vivo** (analysis of human tumor biopsies) and **in vitro** (cocultures of cancer cells with primary adipocytes derived from lean and obese patients). The aim of this project is to:

- Trace the fate of transferred lipids and explore associated metabolic reprogramming,
- Identify the key molecular mediators of lipid exchange between adipocytes and tumor cells
- Determine the impact of these processes on tumor progression.

Keywords: Cancer – Tumor Microenvironment – Breast Cancer- Cell Metabolism – Lipids – Adipocytes - Obesity

Experience/Skills required:

- Candidates must hold a PhD or having it before the application deadline
- At least one first author accepted paper is mandatory
- Strong expertise in mammalian cell culture, including establishing coculture systems, is highly valued.
- Candidates should be comfortable with functional cell assays (e.g., proliferation, migration/invasion) and molecular techniques such as gene expression analysis or gene silencing.
- Background in cell metabolism, ideally including functional metabolic assays
- Proficiency in immunofluorescence microscopy is a plus.



Research environment

Host Institution: [Centre National de la Recherche Scientifique](#)

Laboratory: [Institute of Pharmacology and Structural Biology \(Toulouse, France\)](#)

Supervisors: Pr. Catherine Muller (Team leader)

Team: [Microenvironment, Cancer and Adipocytes](#)

Why join IPBS ?

Located in **Toulouse, France**, IPBS is a leading research institute affiliated with CNRS and the University of Toulouse.

We offer :

- **A cutting-edge research environment** with access to state-of-the-art facilities in molecular biology, structural biology, imaging, and omics technologies
- **An international, collaborative scientific community**, committed to equality, diversity and inclusivity
- **A multidisciplinary campus at the University of Toulouse**, offering education in science, health, engineering, and technology, representing one of France's major research cluster
- **A supportive career development**, including mentoring, networking, and fellowship guidance
- **Collaborative opportunities** across research centers in Toulouse and within European networks
- **A dynamic, affordable city offering rich culture and high quality of life.** Ideally located between the Mediterranean, the Atlantic, and the Pyrenees' Mountain, Toulouse has long been a key crossroads in Europe. As the capital of the Occitanie region, France's leader in research and innovation, Toulouse hosts over 15,000 academic researchers, 7,500 PhD students, and dedicates 3.5% of its GDP to R&D.

Targeted fundings

- [EMBO Postdoctoral Fellowship](#) – Deadline : **23 January 2026**
- [AToUT Postdoctoral Fellowship Programme](#) – Deadline : **28 February 2026**
- [Marie Skłodowska-Curie Postdoctoral Fellowship](#) – Deadline : **September 2026**
- [FRM – Post-doctorate in France](#) – Deadline : **Expected in May 2026**
- [HFSP Long-Term Fellowship](#) – Deadline : **7 May 2026 (Letter of intent) and 25 September 2026 (Submission of Full Proposal)**
- [EMBO Postdoctoral Fellowship](#) – Deadline : **July 2026 (2 calls per year)**
- And other potential fundings depending on your topic and the eligibility

Most fundings provide living allowance, mobility allowance, family allowance (if applicable, research costs, travel and relocation support). However, each funding opportunity has specific eligibility requirements.



Application Process

1) Send a detailed CV, a cover letter outlining your research interests and motivation for joining the group, and the contact information of at least 2 professional references (potential supporters and mentors) to:

- Catherine Muller: catherine.muller@ipbs.fr
- IPBS Recruitment: recruit@ipbs.fr

Email subject line: IPBS_PF Application: Catherine Muller_ [Candidate Name]

2) Internal deadline: 15 January 2025

Don't hesitate to apply now as applications will be reviewed on a rolling basis.

3) Expected Starting date: From September 2026 to September 2027 depending on the funding