

# MSCA-PF: Expression of Interest

## 1. European Postdoctoral Fellowships

### Purpose

- Support excellent researchers of **any nationality** who want to conduct research in Europe or move within Europe.
- Enhance scientific excellence, mobility, and acquisition of new skills through advanced training.
- Improve talent and facilitate knowledge transfer across Europe.

### Mobility & Eligibility

- Supported fellows must be **postdoctoral researchers** at the date of the call deadline.
- At the call deadline, researchers must have a **maximum of 8 years** full-time equivalent experience in research, measured from the date of award of the doctoral degree.
- Researchers must comply with the **mobility rule**: they must not have lived or worked in the host country for more than 12 months in the last 36 months before the call deadline.
- Researchers can be of **any nationality**.

### Duration

- 12 to 24 months hosted in an EU Member State or Horizon Europe Associated Country.
- An **additional period of up to six months at the end of the project** can be awarded to researchers who will spend that period in a non-academic organisation established in an EU Member State or Horizon Europe Associated Country.

### Impact for Fellows

- Improved research and transferable skills.
- International, inter-sectorial and interdisciplinary experience
- Stronger employability inside and outside academia.
- Broader networks and enhanced communication skills.

## **Allowance**

There are two types of contributions:

- a) Contributions for the recruited researcher (per person-month)
- **Living allowance: 6350€** (minus all compulsory deductions under national legislation).
  - **Mobility allowance: 710€**. This allowance covers their additional, private mobility-related costs (e.g. travel and accommodation costs).
  - **Family allowance: 660€**. If the postdoctoral researcher has or acquires family obligations during the action duration
  - **Long-term leave allowance: 7060€ \* % covered by the beneficiary**. This allowance contributes to the personnel costs incurred by the beneficiary in case of the researcher's leave, including maternity, paternity, parental, sick or special leave, longer than 30 consecutive days.
  - **Special needs allowance: Requested unit \* (1/number of months)**. This allowance contributes to the additional costs for the acquisition of special needs items and services for researchers with disabilities
- b) Institutional unit contribution (per person-month)
- **Research, training and networking contribution: 1000€**. This should cover, for example, costs for training and networking activities that contribute directly to the researchers' career development.

A country correction coefficient (CCC) applies to the living allowance to ensure equal treatment and purchasing power parity for all researchers. For Spain, the CCC is **94.2%**.

For more information, you can access the full work programme [here](#).

## **2. Brief description of IRB CatSud**

The Institut de Recerca Biomèdica Catalunya sud (IRB CatSud) is an institution that integrates research in the field of biomedicine in the Camp de Tarragona and the Terres de l'Ebre. IRB CatSud is the instrument that the university hospitals of both health regions have been endowed with (Joan XXIII University Hospital of Tarragona, Verge de la Cinta Hospital of Tortosa, Sant Joan de Reus University Hospital, Institut Pere Mata University Hospital of Reus) and Rovira and Virgili University, in order to bring together and manage biomedical research and innovation in the territory.

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The research we lead aims to answer relevant questions related to the health of the population through the scientific method, the most advanced technology and the talent of the people who work in our teams. We listen to patients, we look for strategies to develop our projects, we seek financing to carry them out and, finally, we transfer the results achieved to society by promoting spin-offs or medical devices that we patent.

IRB CatSud and the research groups that belong to it have enormous international prestige. We are part of the CERCA institution (Institution of Research Centers of Catalonia Foundation (I-CERCA) of Catalonia).

For more information about our Institute, visit the following website:  
<https://www.iispv.cat/en/>

### 3. Short presentation about the group and research lines

#### Disease Biomarkers and Molecular Mechanisms (DIBIOMECC)

Our research group, DIBIOMECC, is dedicated to translational research in oncology, with a primary focus on unravelling the molecular mechanisms of urological cancers to address real clinical challenges. Our work is built upon a strong foundation in the study of the cytokine-receptor axis TWEAK/Fn14 in metabolic diseases, an expertise we have successfully translated to cancer biology since 2016, initially focusing on prostate cancer (PCa).

We have made significant contributions to the field, beginning with the discovery that serum levels of soluble TWEAK (sTWEAK), combined with PSA and insulin resistance indices, are independent predictors of PCa. Moving beyond blood, we identified sTWEAK in semen and developed a multi-biomarker panel that classifies PCa aggressiveness with 90.9% accuracy, surpassing traditional clinical markers (patent EP18382842.5). To enhance non-invasive diagnosis, we explored extracellular vesicles (EVs) in semen, identifying a panel of sTWEAK-regulated microRNAs that classify aggressive PCa with high precision (patent PCT/EP2019/082081). This panel is currently under validation through the DiPrAS-CaP algorithm and has recently demonstrated its utility in detecting disease reclassification in active surveillance patients.

Our research extends to the tumour microenvironment, specifically the role of periprostatic adipose tissue (PPAT). We have shown that PPAT fuels PCa progression by supplying fatty acids and through EV-mediated epigenetic modifications. Furthermore, we have characterized that the functional impact of PPAT-derived EVs varies with tumour grade.

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**IRB**<sup>R</sup>  
**CatSud**

Institut  
de Recerca  
Biomèdica  
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Based on this expertise, our current focus is on **serum extracellular vesicles as predictive biomarkers in metastatic hormone-sensitive prostate cancer (mHSPC)**. We are actively working on identifying molecular signatures from serum EVs that can stratify patients according to their response to treatment (ADT + novel antiandrogens), helping to guide therapy intensification or de-escalation.

Our research is supported by continuous competitive funding from national agencies (ISCIII, AECC, Spanish Urology Association) and international sources. Our team is multidisciplinary, comprising uro-oncologists, pathologists, molecular biologists, and biostatisticians, working cohesively to translate molecular findings into clinical applications.

**Relevant Publications:**

- Alves-Santiago M et al. J Urol. 2026;215(1):30-43. IF:6.8 (D1)
- Arreaza-Gil V et al. Mol Med. 2026 DOI: 10.1186/s10020-026-01422-7 (IF:6.4 Q1)
- Sanchez-Martin S et al. J Transl Med. 2024;22(1):661. (IF:6.2 Q1)
- Altuna-Coy A et al. BMC Med. 2022;20(1):255. (IF:11.8 Q1)

**Competitive active projects** (selected):

- 2026-2027: Molecular signature from serum EVs to predict treatment response in metastatic hormone-sensitive PCa (Spanish Urology Association). IP: X. Ruiz-Plazas.
- 2024-2027: Genetic signature for PCa based on tumour PPAT vesicles (AECC, PRYES246650RODR). IP: M. Rodríguez-Chacón.
- 2021-2023: Exo-oncomicroRNAs regulated by TWEAK in PCa (ISCIII, PI20/00418). IP: M. Rodríguez-Chacón.

**Patents:**

- Biomarkers of prostate cancer aggressiveness (EP18382842.5; PCT/EP2019/082081)
- Improved method for prostate cancer prognosis in active surveillance patients (EP 243824596)

Group Recognition: Consolidated group recognized by AGAUR (2017 SGR 36; 2021 SGR 00870).

More information: <https://www.iispv.cat/en/grup/dibiomec/>

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## Candidate profile

The ideal candidate will hold a PhD in Biomedicine, Biochemistry, Molecular Biology, or a related field, with a strong background in cancer research. We are seeking a highly motivated and creative postdoctoral researcher to join our team and lead a pioneering project in **metastatic hormone-sensitive prostate cancer (mHSPC)**, building directly on the group's extensive expertise in extracellular vesicles (EVs) and tumour microenvironment.

The candidate will be responsible for executing a research plan to identify **serum EV-based molecular signatures that predict treatment response in mHSPC patients**. This will involve:

- Isolating and characterizing serum EVs from patient cohorts (responders vs. non-responders) using techniques such as NTA, TEM, and Western blot.
- Performing transcriptomic (RNA-seq) and proteomic (LC-MS/MS) profiling of EVs, in collaboration with external platforms.
- Analysing multi-omics data to identify differentially expressed miRNAs, mRNAs, and proteins associated with treatment response.
- Developing and validating predictive biomarker panels using bioinformatics and statistical modelling (ROC, Kaplan-Meier, Cox regression).
- Conducting functional validation in vitro using prostate cancer cell lines and osteoblasts to assess the biological role of candidate EV-derived molecules.
- Working closely with clinical team members to correlate molecular findings with longitudinal clinical data from our biobank.
- Contributing to data analysis, manuscript preparation, patent applications, and the development of new funding proposals.

The candidate should have a proven track record of publications in peer-reviewed journals and demonstrate excellent communication and teamwork skills. **Experience with extracellular vesicle isolation and characterization is highly desirable**. Fluency in English is required.

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Biomèdica  
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## Supervisor profile

The principal supervisor for this position will be **Dr. Xavier Ruiz-Plazas**, a uro-oncologist at the Hospital Universitario Joan XXIII de Tarragona and co-IP of the DIBIOMECC group. Dr. Ruiz-Plazas is the Principal Investigator of the current project on serum EVs in mHSPC (funded by the Spanish Urology Association). His clinical expertise in prostate cancer management, patient recruitment, and sample collection ensures that the research addresses a genuine clinical need. He has extensive experience in translational projects and will directly supervise the clinical correlation and validation aspects of the fellowship.

The co-supervisor will be **Dr. Matilde Rodríguez-Chacón**, the leader of the DIBIOMECC group. Dr. Rodríguez-Chacón is a seasoned researcher with extensive experience in molecular biology, extracellular vesicles, and cancer research. She has been the Principal Investigator of numerous competitive national and international projects (ISCIII, AECC) and has successfully supervised multiple doctoral theses and postdoctoral researchers. Her expertise in EV biology, the TWEAK/Fn14 pathway, and the tumour microenvironment provides a solid foundation for guiding the molecular and functional components of the project.

Together, Dr. Ruiz-Plazas and Dr. Rodríguez-Chacón form a complementary supervisory team with a long history of successful collaboration, providing the candidate with comprehensive training in both the clinical and molecular aspects of oncological research.

### Supervision track record (PhD theses directed):

- Antonio Altuna-Coy (2022): \*Study of the cellular and metabolic effect of the TWEAK/Fn14 axis in the microenvironment of prostate cancer.\*
- Silvia Sanchez-Martin (2024): *Role of periprostatic adipose tissue in the prostate cancer microenvironment.*
- Marta Alves-Santiago (2026): \*Use of non-invasive biomarker panel composed of sTWEAK / exomiR-221-3p, exomiR-222-3p in semen in patients with clinically suspected prostate cancer biopsy.\*
- Xana Bernal-Escoté (in progress): *Immunohistochemical approach to the molecular subtype in muscle-invasive urothelial carcinoma of the bladder and prognostic impact.*

If you are interested in this opportunity, send your expression of interest to [upi@irbcatsud.cat](mailto:upi@irbcatsud.cat), indicating the [MSCA-PF + research group](#) in the subject.