




# Predoctoral student

# SJD

Sant Joan de Déu  
Fundació de Recerca

 **Location:** Esplugues de Llobregat (Spain)

 **Working day:** Full time

 **Sector:** Healthcare

 **Vacancies:** 1

 **Discipline:** R&D

 **Work modality:** Hybrid

## Fundació per a la Recerca Sant Joan de Déu

The Fundació Privada per a la Recerca Sant Joan de Déu is an entity created in 2002 to cover the research activity that is carried out, both in the biomedical and social sphere, at the Maternal and Infantile Hospital of Esplugues, in the Parc Sanitari de Sant Boi de Llobregat and in other centers of the Hospital Order San Juan de Dios - Province of Aragon San Rafael.

Our research has qualified and prestigious professionals, and we constantly want to incorporate into our teams the best scientific profiles. Working with us is working in a multidisciplinary hospitality environment, integrated within the assistance and aimed at providing a response to the needs of the people we assist.

### Commitment with "HR Excellence in Research"

Research Foundation Sant Joan de Déu endorses the Requirements and Principles of the European Charter for Researchers, the Code of Conduct for the Recruitment of Researchers, and Open, Transparent, Merit-based recruitment promoted by the European Commission and follows Equal Opportunities policies. On September 2018, Research Foundation Sant Joan de Déu was awarded with the "HR Excellence in Research" logo. This recognition reflects the commitment of the Institute to the continuous improvement of its human resources policies in line with the Charter & Code. The Institution works to ensure fair and transparent recruitment and appraisal procedures.

### Equality at Research Foundation Sant Joan de Déu

All our Job offers and fellowships encourage applications based on diversity.

We have different mechanisms in place to ensure equal opportunities during the selection process, including ensuring a gender balance in all committees involved in the recruitment process.

Research Foundation Sant Joan de Déu is aware of the importance of encouraging diversity and increasing the participation of women in Science in order to enhance innovation, and the creativity and excellence of our research efforts.

Persons with disabilities are strongly encouraged to apply. No restrictions of citizenship or gender apply to our positions.

### Data Protection

The protection of your personal data is very important to us. By submitting an application, you grant Reserach Foundation Sant Joan de Déu permission to use the provided data for the recruiting process. (see *Data Protection Policy in the job application*) **Allegations and appeals**

Candidates can present allegations to the way in which they have been evaluated and present the corresponding appeals writing to [rrhh@fsjd.org](mailto:rrhh@fsjd.org). All the allegations received will be answered.

## Job description

Drug resistance is one of the major challenges in paediatric cancer. Treating paediatric high-risk neuroblastoma, which is the most common extracranial solid tumour in children under one-year-old, is difficult as it frequently develops therapy resistance, leading to treatment failure, tumour relapse, and higher mortality rates. Unfortunately, there are currently limited therapeutic options available for resistant high-risk neuroblastoma. Therefore, there is a need to develop more targeted treatment strategies to overcome therapy resistance. The process of therapy resistance is not entirely understood, but it is believed to be driven by multiple molecular mechanisms, including genetic alterations and epigenetic changes.

We are seeking a highly motivated and talented pre-doctoral candidate to develop a thesis project in the field of molecular biology of neuroblastoma. The candidate will be part of a research project that has received competitive funding from the Instituto de Salud Carlos III. The project aims to investigate the molecular mechanisms underlying therapy resistance to develop more effective treatment strategies and improve outcomes for neuroblastoma patients. The project includes using a range of molecular biology techniques and multi-omic approaches, including cell cultures and cell lines, animal models, and tissue samples from neuroblastoma patients.

The successful candidate will be responsible for tasks intrinsic to a Ph.D. thesis, including literature review and critical analysis, hypothesis formulation, experimental design and implementation, data analysis, interpretation, and manuscript preparation for publication in peer-reviewed journals.

The experiments will encompass functional in vitro studies in cultured cells, molecular techniques such as real-time qPCR, immunoblot, and immunofluorescence, as well as in vivo studies using rodent models to evaluate the effectiveness of new treatments.

Additionally, the candidate will use patient tissue samples to validate the research findings.

Throughout the thesis development, the candidate will also employ various multi-omic approaches to comprehensively characterize molecular alterations in drug-resistant patients. Furthermore, the candidate will collaborate closely with an interdisciplinary team of clinicians and researchers.

#### **Other tasks:**

- Biological sample extraction, collection and processing.
- Participation in the animal experimentation procedures.
- Contribution to the publication of research results in national and international journals.
- Presentation of research results at national and international conferences.
- Data analysis and visualization.
- Comply with the 4Rs (reduction, reuse, recycling and recovery) and ethics involving patient samples and animals in research.

#### **Requirements**

- An official master's degree is mandatory for enrollment in the PhD program in a discipline with a strong background in molecular and cellular biology, such as Biology, Biochemistry, Genetics, Biomedicine, Biotechnology or related disciplines, with a grade point average of 8/10 or higher (preferred but not mandatory).
- Willingness to work with mouse models.
- Fluency in English and writing skills.
- Prior experience in laboratory techniques for molecular biology is highly valued.
- Good professional work attitude, with strong time management skills, working independently in a safe, organized, and project-based manner.
- Resolute person

Other desirable qualities:

- Accredited certificate of Animal Research Experimentation (Desired).
- Programming skills are a plus.
- Familiarity with lab software such as GraphPad, Microsoft Office, R, python, and Fiji.
- Strong teamwork with lab and clinical colleagues and interpersonal skills, high motivation, and commitment.
- Good adaptive and communicative skills with colleagues and supervisors.
- Publications or congress attendance will be valued.

#### **We offer**

- We offer a 1-year contract that, depending on performance and funding, may be extended into a full Ph.D (additional 3 years).
- Development a Thesis project working in a dynamic and interdisciplinary group.
- Full-time (37,5 h/week).
- Possibility to attend specialised courses and workshops • Participate in an innovative project with update technology.
- Be part of an expert, young, dynamic, innovative and enthusiastic team focused on the improvement of the diagnosis, treatment and quality of life of paediatric cancer patients.
- Enjoy a professional work environment.
- All people receive consideration for our vacant position, without distinction of gender, age, race, religion, identity, sexual orientation, origin, disability or any other characteristic.

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