



The Vall d'Hebron Research Institute (VHIR) is a public sector institution that promotes and develops the research, innovation and biosanitary teaching of the Vall d'Hebron University Hospital. Through the excellence of our research, we identify and apply new solutions to the health problems of society and we contribute to spread them around the world.



In April 2015, the **Vall d'Hebron Research Institute (VHIR)** obtained the recognition of the European Commission **HR Excellence**. This recognition proves that VHIR endorses the general principles of the **European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers (Charter & Code)**.

Thus, there are no restrictions of gender, national origin, race, religion, sexual orientation or age and **candidates with disabilities are strongly encouraged to apply.**

Postdoc – Biosensor development

Diagnostic Nanotools Research Group

Diagnostic Nanotools is a research group based at Vall d'Hebron Hospital (Barcelona, Spain). Our aim is to develop and validate biosensors, fast assays and novel detection strategies with diagnostic purposes (<http://www.vhir.org/gr/dina>; https://www.researchgate.net/profile/Eva_Baldrich).

WE ARE SEARCHING for a **PostDoctoral Researcher** to join a EuroNanoMed international project with partners in Spain, France, Latvia and Turkey. The candidate will participate in the **development of paper-based electrochemical biosensors for malaria point-of-care diagnosis.**

JOB DESCRIPTION

Education and qualifications required:

- Degree in Nanotechnology, Biotechnology, Chemistry, Electrochemistry, Biomedical Engineering or similar disciplines.
- PhD finished within last 5 years.
- Strong publication record in high impact journals.
- English competence (written and spoken).
- Technically skilled, organized, creative, with high autonomy level and multidisciplinary profile.
- Readiness to apply to postdoctoral fellowships in future.
- International stages will be positively considered.

Experience and knowledge required:

Candidates with proven experience in any of the following topics will be given priority in the selection process:

- Bioassays and biosensors using magnetic micro/nano-beads.
- Electrochemical immunosensors and/or aptasensors.
- Nanoparticle surface bioengineering and use as non-enzymatic tag.
- Paper-based diagnostic devices and paper microfluidics.
- Production of screen-printed and ink-jet printed electrodes.

Main responsibilities and duties:

Our Research Group has produced fast assays for malaria diagnosis using magnetic beads (<https://pubs.acs.org/doi/10.1021/acs.analchem.1c03242?goto=supporting-info>) and a first prototype of low-cost paper-based device for their partial automation (<https://pubmed.ncbi.nlm.nih.gov/31818756/>). The candidate will participate in the production of an upgraded analytical device and its validation in a clinical scenario. Depending on the profile and previous experience, the candidate may participate in the following tasks, being responsible of part of them:

- Optimization of single-step bioassays using magnetic beads (magneto-assays) for detection of malaria biomarkers.
- Implementation of customized synthetic aptamer receptors.
- Optimization of the electrochemical detection of customized non-enzymatic nanotags and assay implementation.
- Design and production of paper devices for sample pre-treatment and magneto-assay automation.
- Design and production of low-cost paper-based printed electrodes.
- Technology validation in a clinical scenario locally and in an African setting.

Labour conditions:

- Full-time contract (40 h/week, from Monday to Friday)
- Contract: temporary
- Gross salary of 23000-28000 €/year depending on the candidate previous experience.

What can we offer?

- Small multidisciplinary Team in a dynamic environment and a clinical setting.
- Challenging tasks and a wide range of responsibilities.
- Personal training opportunities.
- Flexible working hours and 23 + 9 working days/year on holidays and personal leave.
- Flexible Remuneration Program (including dining checks, health insurance, transportation).

How to apply:

Applicants should submit a full Curriculum Vitae, a motivation letter, and the contact data of two potential referees to the following email addresses **before February 13th 2022**: eva.baldrich@vhir.org and seleccio@vhir.org with the reference **DINA-MalariaPOC**.