The Vall d'Hebron Research Institute (VHIR) is a public sector institution that promotes and develops the research, innovationand 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.

HR EXCELLENCE IN RESEARCH

In April 2015, the **Vall d'Hebron Research Institute (VHIR)** obtained the recognition of the European Commission in **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)**.

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Postdoctoral Researcher Position

Clinical Neuroimmunology Group

The Clinical Neuroimmunology Group is part of the Centre d'Esclerosi Múltiple de Catalunya (Cemcat), a reference center for multiple sclerosis (MS) at national and international levels. The Cemcat has a multidisciplinary team with more than 70 highly experienced professionals fully dedicated to clinical care, physical and cognitive rehabilitation, teaching, and research on MS (more information on the group can be found at https://www.cem-cat.org/).

The Clinical Neuroimmunology Group searches for a candidate to apply to the "Ayudas Juan de la Cierva" funded by the Ministerio de Ciencia e Innovación.

The postdoctoral researcher will work on a project entitled "New human induced pluripotent stem cell-based in vitro and in vivo models to study astrocyte pathology and neuroprotective strategies in multiple sclerosis patients", that is currently funded by the Instituto de Salud Carlos III.

Summary of the project:

Multiple sclerosis (MS) has traditionally been considered an autoimmune inflammatory neurological disorder in which the primary event is an aberrant immune response against central nervous system (CNS) autoantigens in predisposed individuals. This leads to infiltration of peripheral blood cells into the CNS and results in inflammatory demyelination and eventually axonal damage. While this probably holds true, in the present proposal we will test the hypothesis that MS patients may have a primary defect in astrocytes that renders these cells dysfunctional and more reactive to the autoimmune attack, making white matter lesions less prone to remyelinate. To this aim, we will generate human induced pluripotent stem cells from patients with primary progressive MS and relapsing-remitting MS in order to investigate human astrocyte pathology in an inflammatory environment in vitro and in vivo, through the development of two new models created by: (i) exposing astrocytes in vitro to cerebrospinal fluid obtained from MS patients with high inflammatory radiological phenotypes; (ii) transplanting human glial progenitor cells into the developing mouse CNS and inducing experimental autoimmune encephalomyelitis. The proteomic signature of astroglial secretome will be examined in vitro, under basal and inflammatory conditions. The genomic signature of MS human astrocytes during EAE progression will be examined in vivo by spatial transcriptomics, to identify differentially expressed genes whose expression may be modulated by small-molecule compounds with the potential to become future neuroprotective therapies for patients with MS.

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It is important to remark that the Clinical Neuroimmunology Group cares a lot about teaching, and high-quality training of postdoctoral researchers is one of the top group's priorities.

JOB DESCRIPTION

Education and qualifications:

Required:

- Have a PhD degree in the field of biomedical research, and additional post-doctoral training in neurobiology and/or neuroimmunology.
- Good publication track record (first authorship in scientific publications).
- Effective written and oral communication skills in English and Spanish.
- Ability to conduct independent research

Experience and knowledge:

Required:

- Experience in cell cultures of induced pluripotent stem cells.
- Extensive knowledge and proven experience in neurobiology and immunology, preferably autoimmune diseases such as multiple sclerosis.
- Accredited certificate of Animal Research Experimentation…

Main responsibilities and duties:

- To assist in the development of new humanized preclinical models based on induced pluripotent stem cells to study primary functional defects in cells of the central nervous system of patients with multiple sclerosis.
- Collaboration with other researchers in all tasks necessary to achieve the working team objectives.
- Supervise staff or students as needed.

Labour conditions:

- Full-time position (40h/week).
- Period: January 2023 – December 2025 (2 years).
- Gross annual salary: 25.350€.

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- Program: Ayudas Juan de la Cierva (Ministerio de Ciencia e Innovación)

What can we offer?

- Incorporation to Vall d'Hebron Research Institute (VHIR), a public sector institution that promotes and develops the biomedical research, innovation and teaching at Vall d'Hebron University Hospital (HUVH), the biggest hospital of Barcelona and the largest of Catalan Institute of Health (ICS).
- A scientific environment of excellence, highly dynamic, where high-end biomedical projects are continuously developed.
- Continuous learning and a wide range of responsibilities within a stimulating work environment.
- Personal training opportunities.
- Flexible working hours.
- 23 days of holidays + 9 personal days.
- Flexible Remuneration Program (including dining checks, health insurance, transportation and more).

How to apply:

Applicants should submit a full Curriculum Vitae and a cover letter to the following email addresses: manuel.comabella@vhir.org and seleccio@vhir.org Deadline: February 2nd , 2022.