



## Job Opening Doctoral Candidate 7 InnoCAR-T

**Title:** Development of gene-edited CAR-T to resist immunosuppression

**Keywords:** CAR-T, DBLCL patients, spatial transcriptomics, screening

**Duration:** 36 months

**Host institute:** FCRB, Barcelona, Spain

Duration: 24 months

**Secondment institute:** UMCG, Groningen, Netherlands

Duration: 9 months

Scinus, Bilthoven, Netherlands

Duration: 3 months

**APPLICATION DEADLINE:** 28/02/2023

**Intended start date:** April 2023

### PhD-student position (3 years):

The aim of this project is to develop next-generation CAR-T cells that are modified by CRISPR/Cas9-mediated knock-out of key immunoregulatory genes that limit anti-tumour CAR-T activity in DBLCL. For selection of candidate target genes to take forward, multicolor flow cytometry of patient material pre and post-treatment will be performed. Key target genes will be explored in *in vitro* assays using mixed culture models of cell lines and primary patient-derived malignant blasts and assays that determine activation, proliferation and cytotoxicity. The project is aimed at delivering a series of next-generation genome-engineered CAR-T cells with enhanced anti-tumour activity, with a single lead cell product that could be rapidly transitioned to clinical evaluation.

The PhD candidate will be working as part of an international consortium on their search for an immunotherapeutic approach to cancer treatment and will start their 3 year research project at the Fundació Clínic per a la Recerca Biomèdica (FCRB) / Spain at the Immunogenetics of the autoinflammatory response group of Dr. Manel Juan. FCRB manages and promotes the research activities of Hospital Clínic de Barcelona, which is the leading academic university hospital on Point-of-Care CAR-T cell implementation. The candidate will work with unique patient-material and innovative omics technology to unravel mechanisms of resistance to CAR-T therapy. The candidate will further work at UMCG / The Netherlands, towards implementation of knock-out technology in the ATMP facility and at SCE / The Netherlands to optimize manufacturing process development. This research project will end with a PhD thesis defense at IDIBABS.

This project is part of a collaborative training network of 10 closely related projects (<https://www.innocar-t.eu/>) in which PhD students will benefit from networking opportunities. This includes a multidisciplinary training program with network-wide training events that will be provided to the candidates. Herewith, the PhD project will provide the candidate a unique opportunity to obtain knowledge/expertise on important facets of both academia and industry.

### Key Responsibilities:

- Multi-color flow cytometry and phenotyping
- Gene editing



- Bioinformatics
- Preclinical validation studies
- Management, presentation and publication of research data

**Requirements:**

- Candidate is in the first four years of his/her research career and does not have a doctoral degree
- Residence duration in Spain does not exceed 12 months in total within the last 3 years
- MSc in biotechnology, biology, biochemistry, biotechnology, or related
- Experienced in molecular and cellular techniques
- Experience in human primary cells culture
- Experience in flow cytometry techniques
- Good time management and communication skills. Ability to communicate fluently and effectively in English
- Excellent team player who enjoys working in a fast-evolving research environment

**Contact:**

To apply, please send the following documents:

- CV (Name\_Surname\_CV.pdf)
- Cover letter (Name\_Surname\_CL.pdf)
- 2 letters of recommendation (Name\_Surname\_LR.pdf)

to the email address [mjuan@clinic.cat](mailto:mjuan@clinic.cat) with "PhD\_InnoCAR-T" in the email title.