



Job Opening Doctoral Candidate 2 (DC2) InnoCAR-T

Title: Rapid and stable GMP-grade manufacturing of gene-editing nucleases

Keywords: CAR-T, gene-editing, knock-out, GMP-ready

Duration: 36 months

Host institute: UMCG, Groningen, The Netherlands Duration: 25 months

Secondment institutes: Integra Therapeutics, Barcelona, Spain Duration: 4 months

FCRB, Barcelona, Spain Duration: 7 months

APPLICATION DEADLINE: 30/02/2023

Intended start date: April 2023

PhD-student position (3 years):

This PhD student position offers an exciting and innovative research project with the objective of overcoming challenges in production and delivery of Cas9 (or other genome editing nucleases) in ATMP manufacturing. Hereto, UMCG will establish a simplified single-step production process followed by purification of a highly stable Cas9/RNP complexes that can be stored and used for subsequent clinical studies. It is expected that a single-step production process will be validated experimentally in small scale batches, followed by implementation of a large-scale bioreactor production and purification process. The Cas9 RNP will be tested for activity in preclinical settings and will be evaluated for stability.

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 University Medical Center Groningen (UMCG) / Netherlands, one of the leading academic centers of the Netherlands. At the UMCG, the production process will be set-up and implemented into GMP setting. The candidate will continue in Barcelona / Spain at the biotech company Integra Therapeutics. Integra is a leading company in gene editing technology and the candidate will exploit this expertise for further formulation of GMP-ready Cas9. The candidate will further continue at FCRB to preclinically validate the gene-editing technology for PoC CAR-T cell manufacturing. With this project, the candidate will acquire experience in both academic and industrial research. This research project will end with a PhD thesis defense at the University of Groningen.

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:

- Preparation of Cas9 and other gene editing nucleases
- RNP development
- Cell culturing including primary patient-derived cell culturing



- Preclinical CAR-T production
- 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 the Netherlands does not exceed 12 months in total within the last 3 years
- MSc in biology, immunology, biochemistry, biotechnology, or related
- 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 e.bremer@umcg.nl with "PhD_InnoCAR-T" in the email title.