



Job Opening Doctoral Candidate 1 (DC1) InnoCAR-T

Title. Scalable and integrated manufacturing of lentiviral particles

Keywords: Bioreactors, Lentivirus production, Point-of-Care, Bioprocessing

Duration: 36 months

Host institute: Scinus Cell Expansion, Bilthoven, The Netherlands Duration: 24 months

Secondment institute: UMCG, Groningen, The Netherlands Duration: 12 months

APPLICATION DEADLINE: 24/2/2023

Intended start date: March 2023

PhD-student position (3 years):

This PhD student position offers an exciting and innovative research project aimed at developing a new lentiviral (LV) production pipeline making use of Scinus's bioreactor technology for HEK293 culture. Production of LVs will be optimized by using advanced process development methodology, integrating novel bioprocessing control into the system to leverage bioanalytics and innovative transfection capacities such as opto/photoporation. Together, this will establish a highly flexible, reliable and GMP-ready workflow for high-throughput production of LVs for point-of-care (PoC) production of the chimeric antigen receptor (CAR) concepts being developed in the InnoCAR-T project.

The PhD candidate will be working as part of an international consortium on their search for new technology for PoC CAR-T production and will start their 3-year research project at Scinus Cell Expansion (SCE) in Bilthoven. SCE is an R&D-oriented company with a drive to provide innovative alternatives to conventional cell culture processes. At SCE the process development towards a new production platform for LVs will be the core of the activities. This is done by identifying critical process parameters (CPPs) for high-quality LV production, making use of advanced bioreactor systems, design-of-experiments methodology and process analytics technology. After 24 months, the candidate will continue at the UMCG, one of the leading academic university hospitals in the Netherlands. Here, the candidate will work towards translating the research efforts to clinical practice, by implementing the production technology in a Point-of-Care ATMP facility. With this project, the candidate will acquire unique experience in both industrial and academic 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 lentiviral particles through culture of HEK293 cells



- Use of multiple culture systems (from simple culture flasks to advanced bioreactors)
- Design and implementation of design-of-experiments (DoE) methodology
- Data processing and bioanalytics for the identification of CPPs
- Transfection, including novel concepts such as opto/photoporation
- Ensure project results can be translated to clinical use with adherence to GMP-guidelines
- Management, presentation and publication of research data

Requirements:

- Candidate is in the first four years of his/her/their 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, biochemistry, biotechnology, engineering or related
- Affinity with both biological processes and technological innovation
- 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 careers@scinus.com with "PhD_InnoCAR-T" in the email title.