Improving cellular cancer immunotherapy using chemotactic metabolite receptors

Fact Sheet

Project Information

**MetaboTract**

Grant agreement ID: 101106951

**DOI**

[10.3030/101106951](10.3030/101106951)

**Funded under**

Marie Skłodowska-Curie Actions (MSCA)

**Total cost**

€ 0,00

**EU contribution**

€ 189 687,36

**Start date**

1 September 2024

**End date**

31 August 2026

**Coordinated by**

LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN

Germany

Objective

Chimeric antigen receptor T cell (CAR T) cellular immunotherapy has revolutionized treatment for patients with hematological cancers, but largely failed to provide benefits for patients with solid tumors. Ineffective CAR T migration into solid tumors caused by the lack of recruitment signals, including chemokines, is a key gap for current cellular immunotherapies. The very common accumulation of metabolites in tumors provides a yet unrecognized opportunity to guide immune cells into tumors. Therefore, my overall research objective for this project is to generate and use novel chemotactic metabolite receptors (MetaboTract) to enhance the efficacy of CAR T and natural killer (NK) in solid tumors. This innovative approach is expected to impact the therapeutic options for cancer patients with poorly infiltrated tumors and enhance the EU’s competitiveness in the rapidly expanding market of cellular
Applying the gained knowledge on CAR NK cells could additionally reduce treatment costs and accelerate deployment of cellular therapies to patients. During the MSCA fellowship, I will learn vital new skills including cell migration assays, in vivo models for immunotherapies, project management, exploitation, and leadership in the renowned laboratory of Prof. Sebastian Kobold at the Ludwig-Maximilians-University (LMU) in Munich. The expertise of Prof. Kobold’s lab with chemokine receptor CAR T cells and in vivo models together with my complementary skills in cellular immunology, NK cells, imaging, and bioinformatics gives the project a high likelihood of success. The publication of the results, the gained knowledge and skills, and the demonstrated mobility will strengthen my scientific independence and help me achieve my career goal of becoming a research group leader in cellular cancer immunotherapy.

Keywords

- MetaboTract

Programme(s)

- HORIZON.1.2 - Marie Skłodowska-Curie Actions (MSCA)

Topic(s)

- HORIZON-MSCA-2022-PF-01-01 - MSCA Postdoctoral Fellowships 2022
HORIZON-TMA-MSCA-PF-EF - HORIZON TMA MSCA Postdoctoral Fellowships - European Fellowships

Coordinator

LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN

Net EU contribution

€ 189 687,36

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Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation  
Website  
Participation in EU R&I programmes  
HORIZON collaboration network

Other funding

€ 0,00

EC signature date 21 April 2023

Last update: 26 July 2023

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European Union, 2023