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Junior Clinician Scientist
nTTP-GCT-Cohort 2026

Department of Hematology, Hemostaseology,
Oncology and Stem Cell Transplantation
HANNOVER MEDICAL SCHOOL

Fields of Research:

- Clinical application of approved and experimental CAR-T cells for haematological and oncological malignancies, as well as autoimmune diseases
- Post-transplant lymphoproliferative disorders
- Clinical training in hematology and oncology
- Gene editing using CRISPR/Cas9
- Immunotherapy for haematological malignancies

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Translational Scientist
nTTP-GCT-Cohort 2026

Institute of Transfusion Medicine and Transplant
Engineering
HANNOVER MEDICAL SCHOOL

Fields of Research:

- Translational research on novel CAR-T designs
- Development, functional evaluation and manufacturing of CAR-Ts
- CAR-Ts targeting solid tumors
- TCR-like CAR-Ts targeting virus-associated malignancies
- CAR-Ts to overcome transplant rejection following solid organ transplantation (SOT)

Contact:

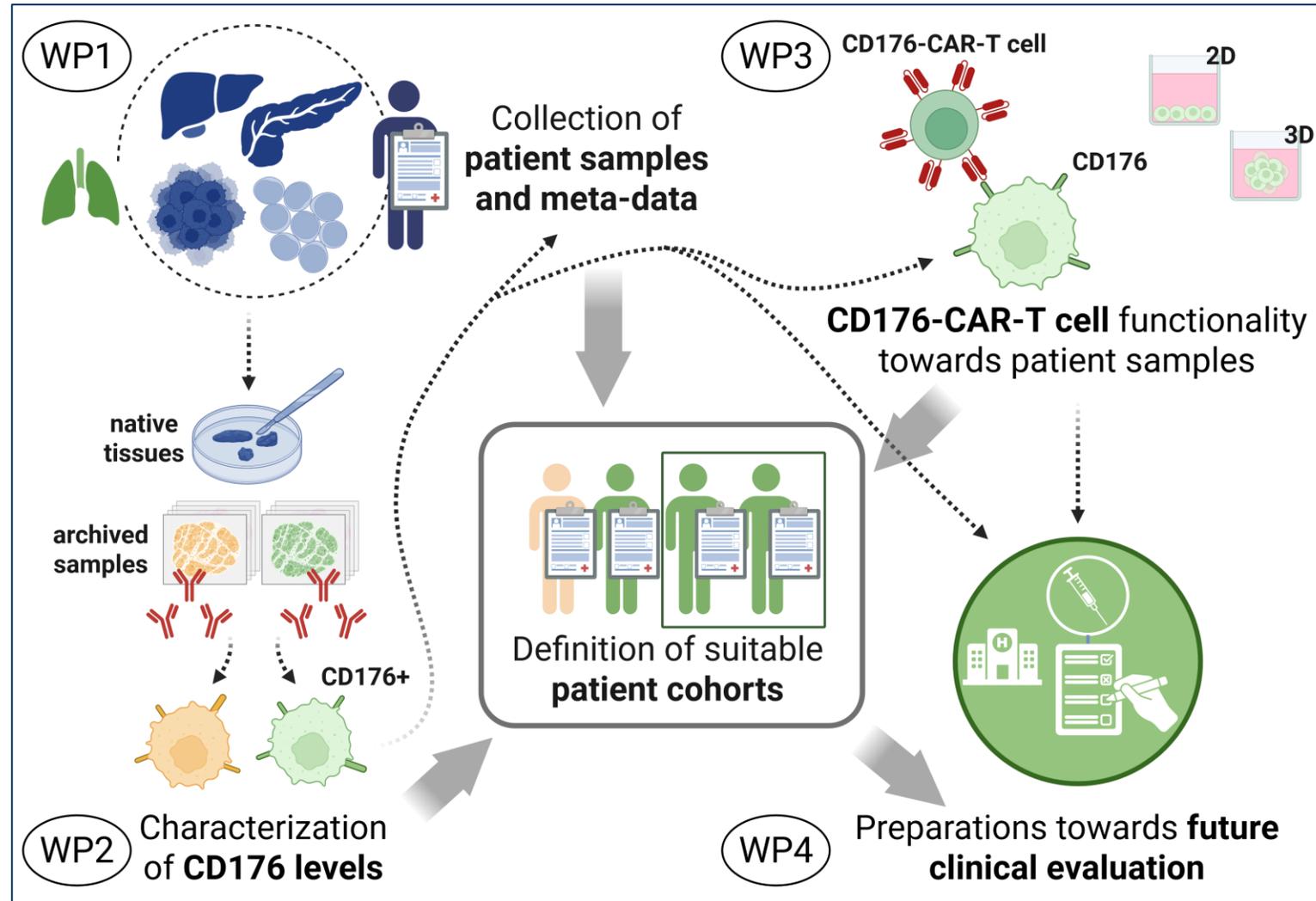
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Project Description:

CD176 is a cancer-specific O-glycan. With an estimated presence on about 90% of various carcinoma and haematologic malignancies, it is regarded as a pan-tumor antigen. In healthy tissues, CD176 is virtually absent on the surface of healthy human adult cells due to its masking by prolonged carbohydrate chains or sialylation. Thus, CD176 is a promising target for chimeric antigen receptor T cell (CAR-T) therapy for the treatment of a variety of hematological and solid cancer entities.

We previously developed CD176-CAR-Ts and proved anti-tumor activity *in vitro* towards lung, pancreas carcinoma, and chronic myeloid leukemia (CML) cell lines. To boost anti-tumor efficacy, we moreover developed 4th-generation CD176-specific CAR-Ts, which are additionally equipped with an inducible cassette to release IL-12 (CD176-iIL12-CAR-Ts) or IL-18 (CD176-iIL18-CAR-Ts) upon target cell recognition to enhance T-cell function and remodulate the immunosuppressive tumor microenvironment (TME) of solid tumors. We could prove their ability to effectively eradicate tumor cells in advanced pre-clinical models for Non-Small Cell Lung Cancer (NSCLC).

The aim of this project is to define suitable patient cohorts, which could benefit from CD176-CAR-T therapy. This definition will be based on the detection of CD176 on primary tumor samples from patients with different hematological or solid cancers, and correlation with different history of previous treatment. The functionality CD176-CAR-Ts towards various cancer entities beyond NSCLC will be investigated using the same primary patient samples in 2D and realistic 3D spheroid models. Based on these promising findings, we plan to design a clinical trial at MHH to investigate the safety and efficacy of CD176-CAR-Ts in multiple cancer entities.



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