

Personalized Tumor Therapy

Leveraging the potential of liquid biopsy for precision oncology

Fraunhofer ITEM in Regensburg has expert knowledge in the detection, isolation and comprehensive analysis of rare cell populations and minute amounts of sample. We are committed to driving research on early metastatic disease, to establishing appropriate diagnostics and to advancing prevention and therapy optimization for patients with systemic cancer.

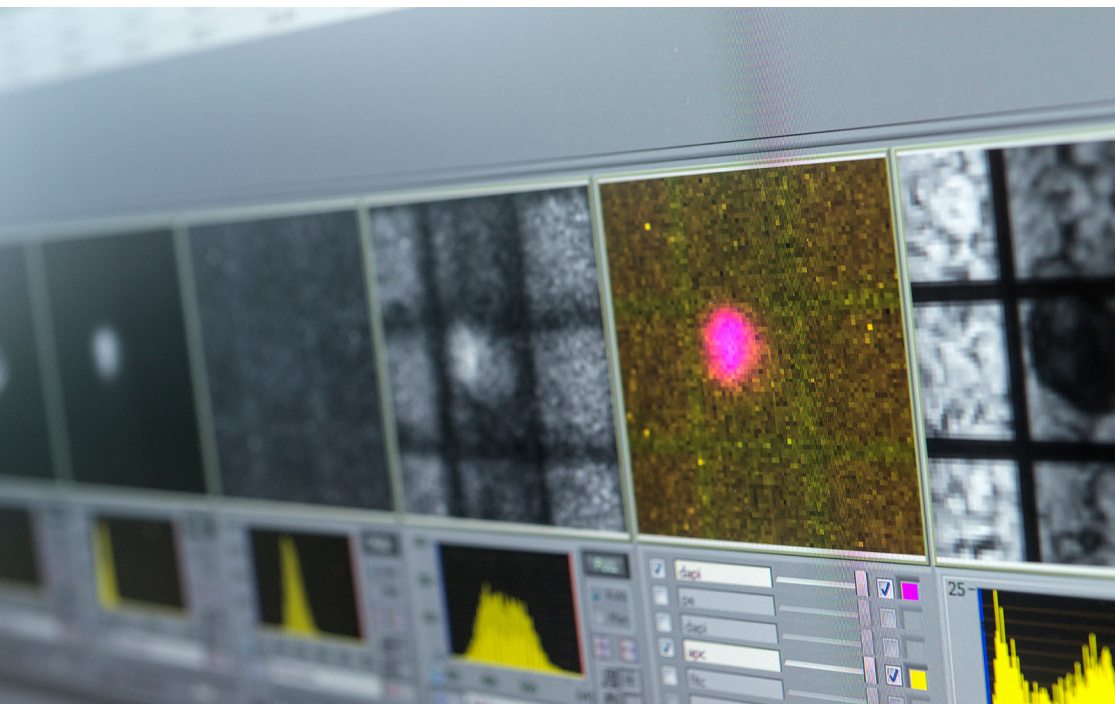
With our special expertise we are dedicated to supporting our clients in the fields of liquid biopsy, single-cell analysis, preclinical models and immuno-oncology. Utilizing cutting-edge methods in a multiOMICS approach down to a single cell, we generate molecular and functional data for your projects. In addition, our in-house GDPR-compliant data management and comprehensive bioinformatics enable custom-fit analysis of the generated data to provide further insights assisting the development of your applications and products.

Key topic

We are committed to providing customized solutions for detection and analysis of rare cell populations (e.g. circulating tumor cells, CTCs for short) and cell-free, tumor-derived analytes (e.g. circulating tumor DNA, microvesicles). Embedded in a strong network of clinical partners, we aim to establish technology platforms that can be utilized for translational research within clinical trials and diagnostic applications.



*Fraunhofer ITEM in
Regensburg is DIN ISO
9001:2015 certified.*



Semi-automated DEPAArray™ technology enables molecular analyses.

Our services and expertise

- Clinical sample handling and tissue disaggregation
- Marker-dependent and marker-independent enrichment of rare cell populations and isolation of single cells from liquid biopsies and different types of tissue
- In-vitro and in-vivo expansion of primary tumor cells (e.g. CTCs), establishment of preclinical models
- Single-cell molecular analysis ((epi-)genome, exome, panels, transcriptome, miRNA, targeted proteome)
- Automation and high-throughput molecular and functional analysis
- Biomarker discovery and development of diagnostic tests
- In-vitro and in-vivo drug testing
- High-throughput screening of substance, RNAi and CRISPR/Cas9 libraries to identify active agents and targets in established cell lines and innovative preclinical models
- Customized bioinformatic data analysis, evaluation and consultancy
- Multiparametric analysis and mathematical modeling
- Design and initiation of translational clinical trials

Your benefits

- Profound expertise in the handling of minute amounts of sample from tissue and liquid biopsies (down to single cells)
- Full access to a broad range of cutting-edge methods, state-of-the-art technologies (including complete HTPS infrastructure) and validated test systems
- Constant supply of clinical samples from patients with different tumor entities (longitudinal patient sampling and clinical follow-up possible)
- Direct access to clinical sample biobank generated from circulating tumor cells and disseminated cancer cells of patients with different tumor entities
- Inherent partnership with accredited systemic cancer progression lab (SCP-Lab) allows validated CTC diagnostics
- Established legal infrastructure ensures smooth access to patient material and GDPR-compliant handling of patient-derived clinical data
- Close embedding into local, regional and national clinical networks forming a perfect environment for translational research and clinical trials
- As a non-university research institution, we are eligible to be your partner in applying for public funding

About us

The Fraunhofer Institute for Toxicology and Experimental Medicine ITEM is one of 76 institutions of the Fraunhofer-Gesellschaft, Europe's leading organization for applied research. Protecting man from health hazards in our industrialized world and contributing to the development of novel therapeutic approaches are the aims Fraunhofer ITEM is pursuing with its contract research, with a focus on airway and cardiovascular research. The Regensburg-based division is dedicated to personalized tumor therapy including development of diagnostic tests to enable early detection of disseminated cancer cells and prediction of the response to therapy of metastatic progenitor cells.

Contacts

Dr. Christopher Jakobs
BD Manager
Phone +49 941 298480-22
christopher.jakobs@item.fraunhofer.de

Prof. Dr. Christoph Klein
Division Director
Phone +49 941 298480-55
christoph.andreas.klein@item.fraunhofer.de

Fraunhofer ITEM

Personalized Tumor Therapy
Biopark 1, Am Biopark 9
93053 Regensburg, Germany



www.item.fraunhofer.de