

The consortium and its partners

Heidelberg (Core Center)

- German Cancer Research Center (DKFZ) with the National Center for Tumor Diseases Heidelberg (NCT)
- Associated partner: Department of Translational Genomics, University of Cologne and Paul-Ehrlich Institute (PEI), Langen

Berlin

- Charité – University Hospital Berlin

Dresden

- Technical University Dresden (TUD)
- University Hospital Carl Gustav Carus
- Helmholtz-Zentrum Dresden-Rossendorf (HZDR)

Essen/Düsseldorf

- University of Duisburg-Essen
- University Hospital Essen
- Heinrich Heine University Düsseldorf
- University Hospital Düsseldorf

Frankfurt/Mainz

- Goethe University Frankfurt am Main
- Georg-Speyer-Haus (GSH), Frankfurt
- University Cancer Center (UCT), Frankfurt
- Nordwest Hospital Frankfurt
- University Medical Center of Johannes Gutenberg University Mainz

München

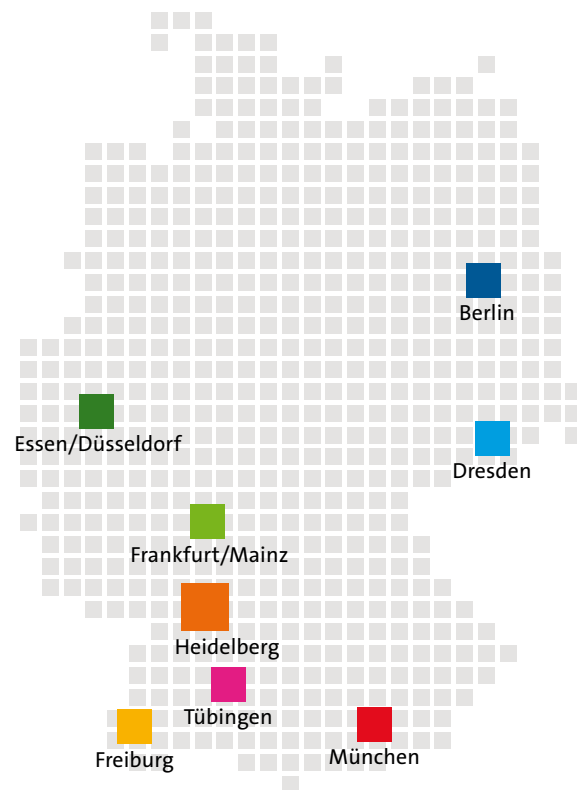
- Ludwig-Maximilians University München (LMU)
- University Hospital München (KUM)
- Technical University of München (TUM)
- University Hospital Klinikum rechts der Isar (MRI)

Freiburg

- Albert Ludwigs University Freiburg
- University Medical Center Freiburg

Tübingen

- Eberhard Karls University Tübingen
- University Hospital and the Medical Faculty of the University of Tübingen



The German Cancer Consortium (DKTK) was established as one of six German Centres for Health Research (DZG) in October 2012 and is a national consortium of specialist oncological institutions and university hospitals. The DKTK is financed by the Federal Ministry of Education and Research (BMBF) and the participating German states through an institutional funding model.

Published by:

German Cancer Consortium (DKTK),
represented by the German Cancer Research Center (DKFZ),
a foundation under public law
Im Neuenheimer Feld 280, 69120 Heidelberg, Germany
Editor: Dr Alexandra Moosmann, DKTK Press and Public Relations
Design: Sonja Hansen, Julia Müller
Printed by: Citydruck
Contact: Telephone +49 6221 42 1657
Fax +49 6221 42 1659
Email dktk@dkfz-heidelberg.de
www.dtkk.org

Translating Cancer Discoveries into Clinical Practice



Translation: From lab to patient

Cancer medicine has made huge advances on the path towards personalized treatment in recent years. Scientists can use modern methods to carry out molecular analyses of tumors so that early detection, diagnosis and treatment can be adapted to each individual cancer patient. But it is only through close collaboration with the hospitals that innovations in cancer research will reach patients.

The German Cancer Consortium (DKTK), an initiative involving the German Federal Ministry of Education and Research (BMBF), participating German states and the German Cancer Research Center (DKFZ), builds bridges between basic and clinical research. It brings together selected research institutions through interdisciplinary, clinically oriented research projects and the development of clinical data pools with IT structures that span multiple sites. Through specific initiatives experts are trained specially in clinically oriented cancer research.

Researchers and physicians are working together at more than 20 cutting-edge cancer research institutions in Germany on interdisciplinary projects to ensure that successful cancer research is translated into clinical practice.

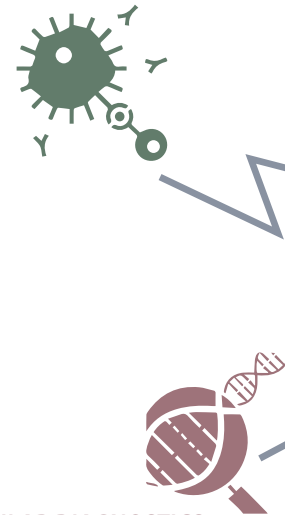


Photo: Britt Schilling/University Hospital Freiburg

Research: Understanding and fighting cancer

CANCER IMMUNOTHERAPY:

Tumor vaccines, antibodies and lab-activated immune cells are just a few ways to mobilize the body's own defenses against cancer cells. These and other approaches are being thoroughly tested in the research laboratories and in clinical trials.



MOLECULAR DIAGNOSTICS:

Biomarkers can be used to detect cancer at an early stage, predict relapses and assess more accurately whether a type of treatment will be successful. This also includes the further development of early detection and diagnosis methods, e.g. liquid biopsies, to provide reliable diagnoses without having to remove tissue.



MOLECULARLY TARGETED THERAPY:

Researchers working on this program identify molecular weak points, where cancer drugs can be targeted. Clinical trials then help develop these drugs further and bring them into clinical practice.



RADIATION ONCOLOGY AND IMAGING:

Optimizing radiotherapy so that it can be tailored to the needs of the individual patient is a clear research objective. Closely related to this is the further development of imaging technology for the non-invasive diagnosis and early detection of cancer.



EXPLOITATION OF ONCOGENIC MECHANISMS:

What are the molecular switches and genetic changes that trigger cancer? Using cutting-edge analysis methods, scientists are investigating the molecular causes of cancer and finding important indicators that influence response to treatment and the course of treatment.

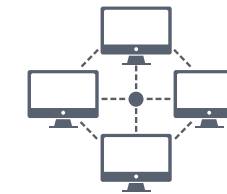


How does DKTK accelerate translation into clinical practice?



Diagnosis and treatment opportunities through shared platforms

In many cases, clinically oriented research at the DKTK relies on the development of new infrastructure and platforms. These include equipment for the production of immunotherapeutics, high-throughput technology for genome screening, and large bioinformatics data centers that can be accessed from all the consortium sites. The platform for genome sequencing and protein analysis, for instance, makes it possible to offer individual tumor genome sequencing for patients at all sites.



Data pools for connected cancer research

The DKTK's Clinical Communication Platform breaks down barriers between institutions through systematic data networking. Complying with the most stringent data protection standards, researchers at DKTK partner sites have access to biological samples and patient data, enabling them to plan clinical trials or study-related research projects in a more targeted manner. Another key focus is on the development of new quality assurance standards for sample material.



Training experts

Clinically oriented cancer research needs experts who are familiar with scientific methods and also have the necessary clinical experience. At the School of Oncology, talented young professionals learn how to combine research tasks with clinical requirements. In preclinical research in particular, career paths for scientists entail a great many risks. By creating university chairs and posts for young investigator group leaders, the consortium creates attractive prospects for experts with clinical experience.



Cooperation with the regulatory authorities

Before active substances and new methods can be tested on patients, they have to go through rigorous, comprehensive testing that can take years. These preclinical trials investigate the effectiveness and safety of the active substance in the laboratory under strictly controlled conditions. To ensure that all the requirements are met to carry out early clinical trials, researchers and physicians at the DKTK receive advice on their research projects from the Paul Ehrlich Institute (PEI), the German Federal Agency for vaccines and biomedicinal products.