Basement and entrance hall level

Core Facilities

Biobank

Birgit Hausknecht, Phone: +49 9131 85-39616, basement

The biobank offers freezer capacity and infrastructure for sample storage and data management for clinical and experimental studies conducted by the Universitätsklinikum Erlangen.

Immune monitoring

Dr. Simon Völkl, Phone: +49 9131 85-43168, entrance hall level

We offer comprehensive state-of-the-art immuno-phenotyping services to assess immune responses in clinical or translational studies using a LSRFortessa flow cytometer (5 laser, 20 detectors). In addition, we assist investigators with their experimental design, protocol development, and data analyses.

Associated unit

Molecular profiling of colorectal cancer, Dept. of Surgery,
Prof. Dr. Roland S. Croner, Phone: +49 9131 85-39554

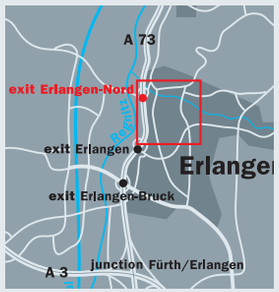
Research Groups at the Translational Research Center (TRC)

Schwabachanlage 12
91054 Erlangen

Directions

By car

From the A 73 exit "Erlangen-Nord", follow the signs saying "Parkhaus Uni-Kliniken". Please use the multi-storey car park "Parkhaus Uni-Kliniken" at Schwabachanlage 14 (vehicle access via Palmsanlage).



By train

Hauptbahnhof Erlangen (reachable by ICE train) is located approximately 1.000 metres from the Translational Research Center (TRC). Take the 288 bus to the stop "Maximiliansplatz" and walk to the "Internistisches Zentrum" (Ulmenweg 18) and then go straight ahead to the Translational Research Center (TRC).

Translational Research Center (TRC)

Schwabachanlage 12
91054 Erlangen
Phone: +49 9131 85-0

Contact and further information:

Prof. Dr. Dr. Michael Stürzl
michael.stuerzl@uk-erlangen.de
Phone: +49 9131 85-39522

PD Dr. Christina Warnecke
christina.warnecke@uk-erlangen.de
Phone: +49 9131 85-39562

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FAU FRIEDRICH-ALEXANDER UNIVERSITÄT ERLANGEN-NÜRNBERG
MEDIZINISCHE FAKULTÄT

Universitätsklinikum Erlangen

Basement

Medicine 1
Gastroenterology, Pneumology and Endocrinology

Calcium sensing receptor and calcium metabolism
Dr. Bernhard Mayr, Phone: +49 9131 85-39604

The Division of Endocrinology and Diabetes headed by Professor Dr. Christof Schöfl studies the regulation of calcium metabolism by the calcium sensing receptor (CaSR). Inactivating and activating mutations of this receptor lead to diseases in patients. We investigate the mechanisms that lead to these diseases and develop novel therapeutic strategies.

Therapeutic targets in inflammatory bowel diseases
Dr. Imke Atreya, Phone: +49 9131 85-39605

We are interested in the complex pathogenesis of inflammatory bowel diseases. Focusing on intestinal epithelial cells and lamina propria T lymphocytes, we investigate those signaling pathways, which critically impact on colitis development and might therefore represent promising targets for new therapeutic strategies.

Nephropathology
Experimental Renal and Cardiovascular Research

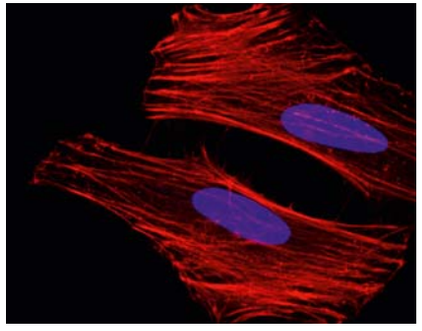
From development to regeneration
Prof. Dr. Felix B. Engel, Phone: +49 9131 85-43635

Our group utilizes the model systems zebrafish, mouse, and rat to identify new regulators of heart and kidney development focusing on receptors, secreted molecules, and cell cycle modulators. Our aim is to utilize this knowledge to develop novel therapies for heart and kidney diseases including tissue engineering approaches.

Nuclear Medicine

Molecular imaging and radiochemistry
Prof. Dr. Olaf Prante, Phone: +49 9131 85-39621

We develop radioligands for positron emission tomography (PET), such as 18F-labeled glycoconjugates for imaging angiogenesis and subtype selective radioligands for imaging neuropeptide receptor expression in *vivo* by small-animal PET. We optimize the automated syntheses of new diagnostic and therapeutic tracers for first-in-man studies.



1st Floor

Surgery
Molecular and Experimental Surgery

Inflammation-associated blood vessel activation
Prof. Dr. Dr. Michael Stürzl, Phone: +49 9131 85-39522

We are interested in new molecules regulating angiogenesis and maturation of blood vessels in tumorigenesis and inflammation. The large GTPase guanylate binding protein 1 (GBP-1) has been identified as a key mediator of the angiostatic activity of IFN-γ. We develop novel approaches for therapeutic targeting of GBP-1 in order to modulate vessel growth in diseases.

Stroma cell cultures as functional probes of the tumor microenvironment
PD Dr. Elisabeth Naschberger, Phone: +49 9131 85-39524

We isolate tumor endothelial cells of colorectal carcinomas with different tumor microenvironments. Based on intratumoral imprinting effects we exploit these cells as functional bioprobes of the intratumoral microenvironment. A new regulatory molecule of blood vessel homeostasis has already been isolated using this approach.

Dermatology
Molecular Dermatology

Function of plasma extracellular vesicles (pEV) in disease
Dr. Andreas Baur, Phone: +49 9131 85-32783

Plasma Extracellular Vesicles (pEV) are elevated in a number of diseases for reasons that are not clear yet. We have developed novel methods to isolate and measure pEV-derived biomarkers. Currently we are analyzing this information for correlations with the disease status in melanoma, HIV infection and neurodegenerative disorders.

Medicine 5
Hematology and Oncology

Translational tumor- and transplantation Immunology
PD Dr. Dimitrios Mougiakakos, Phone: +49 9131 85-43172

We study alterations of the immune system due to cancer. A better knowledge regarding the tumor-associated strategies contributing to immunosuppression will support the development of novel therapeutic strategies. Furthermore, we aim to “learn” from tumors how they weaken immune responses in order to translate these findings into potential experimental approaches for the treatment of rejection reactions following stem cell transplantation.

Monocytic differentiation and endothelial transmigration in malignant diseases
Dr. Yazid Resheq, Phone: +49 9131 85-39542

Our group addresses the impact of reactive oxygen species which are typically produced in large quantities by malignant cells on the differentiation of monocytic cells and their interaction with endothelial cells. Additionally, we work on establishing flow-based adhesion assays as new tool to analyse immune-cell-transmigration across peritumoural endothelium.

2nd Floor

Medicine 4
Nephrology and Hypertension

Hypoxia and inflammation in kidney diseases
PD Dr. Christina Warnecke, Phone: +49 9131 85-39562

Dr. Björn Buchholz, Dr. Felix Knauf, Dr. Dr. Johannes Schödel, PD Dr. Alexander Weideman, Prof. Dr. Carsten Willam

Hypoxia, insufficient oxygen supply, is an important pathomechanism in kidney and cardiovascular diseases. The hypoxia-inducible transcription factor HIF mediates the cellular and systemic adaptation to hypoxia, but may also contribute to disease progression.

Our aim is to better define the role of HIF in various pathophysiological settings and in particular the benefits and risks of pharmacological HIF activation. This includes studies of acute kidney injury (AG Carsten Willam), the impact of HIF on renal inflammation (AG Alexander Weidemann), on nephrogenesis and renal cyst formation (AG Björn Buchholz). Furthermore, we are interested in the interaction of HIF and mTOR in tumors (AG Michael Wiesener), in regulatory mRNAs, transcriptional and epigenetic mechanisms of the hypoxia response (AG Johannes Schödel) and in the pathophysiological role of novel HIF target genes, e.g. in atherosclerosis (AG Christina Warnecke). Additional projects focus on the genetics and disease mechanisms of hereditary forms of chronic kidney disease (AG Michael Wiesener) and on the role of the inflammasome in kidney disease (AG Felix Knauf).

Medicine 2
Cardiology and Angiology

Immunomodulation and its role in atherogenesis
Dr. Barbara Dietel, Phone: +49 9131 85-45375

Our research focuses on the investigation of immuno-modulatory strategies and their impact on proatherogenic processes in *vitro* and on atherosclerosis progression in *vivo*. In addition, the analysis of human atherosclerotic lesions and corresponding blood samples serves to detect mechanisms involved in plaque destabilization.

Impact of genetic variations in VEGFR2 on proatherogenic mechanisms
Dr. Katharina Urschel, Phone: +49 9131 85-45136

We analyze the role of different single nucleotid polymorphisms in vascular endothelial growth factor receptor 2 (VEGFR2), a key player in hemodynamic signaling in endothelial cells, to identify new risk factors for the development and progression of atherosclerosis.