

Master Thesis (f/m/d)

Research Area:

Understanding the molecular underpinnings of cellular plasticity in organogenesis, regeneration, and cancer initiation and dissemination. Generation of novel in vitro culture systems (e.g. organoids) from GI cancer patients to determine prognosis, treatment response and resistance mechanisms.

What we offer:

An exciting project at the interface of cell biology and medicine in an international research consortium, teamed up in the SFB 1312. The overarching goal of this collaborative research consortium is to gain a holistic mechanistic understanding of Pancreatic ductal adenocarcinoma, to explain why it resists conventional and targeted therapies and thereby pave the way to novel effective treatments for this devastating disease. CAFs are a major component of the stroma in PDAC and secrete growth factors, inflammatory ligands, and extracellular matrix (ECM) proteins that promote tumor proliferation, therapy resistance, and immune exclusion. This project will focus on the immune cell – CAF interaction in PDAC.

In addition, we are providing a comprehensive scientific training in a superb environment with state-of-the-art facilities, the laboratory work will be supplemented by seminars. This project is part of a collaboration between AG Reichert and AG Schmidt-Supprian.

Our spectrum of methods we can offer:

- Cell culture
- Working with primary human and murine cell lines (organoids)
- Drug screens
- Co-Culture systems
- Manipulation of human und murine cell lines (CRISPR Cas9, etc.)
- Broad spectrum of molecular biology (ELISA, Western Blot, PCR, Cloning of Plasmids)
- Flow cytometry
- Orthotopic Implantation (mouse models)
- Imaging (MRT, PET)

Your Profile:

We are looking for a highly motivated master student who is interested in applying biochemical and cell culture methods to identify drivers of the immunosuppressive tumor microenvironment in PDAC and to development specific therapies. We are particularly searching for candidates that have a strong background in protein biochemistry and tumor biology (experience in (confocal) fluorescence microscopy and/or working in cell culture would be advantageous). Please note that this particular project will be a minimum of 6 months, applications for shorter internships (minimum duration: 2 months) will be considered on a case-by case basis.

Contact:

For further details and to apply, please contact Dr. Karin Feldmann (karin.feldmann@tum.de; AG Reichert | Klinik und Poliklinik für Innere Medizin II, Klinikum rechts der Isar, TUM) or Vanessa Gölling (vanessa.goelling@tum.de, AG Schmidt-Supprian | Institute for Experimental Hematology, School of Medicine, TUM).