

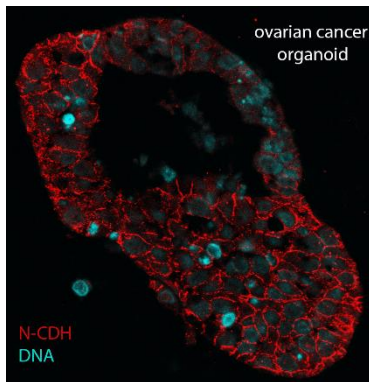
MSc thesis Position in Adult Stem Cells Biology

Drug Response in Patient-Derived Ovarian Cancer Organoids

The Kessler Lab at the Department of Gynecology and Obstetrics (LMU University Hospital) is looking for a highly motivated and skilled master`s student to join our state-of-the-art study of patient-specific drug response in ovarian cancer organoid model.

High-Grade Serous Ovarian Cancer (HGSOC) is the most lethal gynecological malignancy, due to the late detection and therapy resistance driven high recurrence rate. Previously we have identified the shift in paracrine signalling niche conditions which is required to support in vitro growth of primary cancer organoids (Hoffmann et al., EMBO journal 2020). In contrast to healthy epithelial tissue of the fallopian tube epithelium, presumptive tissue of origin of HGSOC (Kessler et al., Nature Communications 2015 and 2019), altered requirements for exogenous WNT and BMP signalling suggest the existence of functional interplay between cancer-driving genes and regulators of stemness and differentiation.

Project goals



To characterise the cellular architecture of the HGSOC organoids, and identify putative regulators of the drug response we will perform single-cell RNA sequencing analysis, followed by the functional downstream analysis of the candidate genes of PDOs lines exposed to treatment with standard therapeutic agents. As a member of our interdisciplinary research team, you will get the opportunity to obtain training and gain experience in comprehensive cell culture and molecular biology techniques required for work with organoids (cultivation, clonal expansion, imaging, CRISPR/ Cas9 editing etc). You will also help in data analysis, expand theoretical background in adult stem cell biology and deepen understanding of cellular mechanisms of cancer growth.

Start

As soon as possible, winter semester (2021/2022).

Interested students of Biology, Biochemistry, or related subjects should send an application including motivation letter, CV, and transcript of records by mail to Dr. Mirjana Kessler (Mirjana.Kessler@med.uni-muenchen.de)

