

Spatial Biology Lab @ Edinger Institute



At the end of 2022, a "Spatial Biology Lab" was established at the Edinger Institute (director: Prof. Karl H. Plate) with the support of the research networks of the LOEWE Center Frankfurt Cancer Institute (FCI, speaker: Prof. Florian Greten) and the German Consortium for Translational Cancer Research (DKTK, site speaker: Prof. Hubert Serve), the department of medicine of the Goethe University and the Uniscientia- and Margareta Hugelschaffner-foundations. In this instrument platform, innovative and pioneering technologies will be used to visualize relationships between spatial information and the expression of genes or the translation of proteins in tissue samples that were previously impossible to visualize. In particular, differences between tumor cells within an individual and the interplay of immune cells can be studied. Conventional methods lose this spatial information during sample preparation.

To analyze up to 40 proteins at the level of individual cells in a tissue sample, a **COMET™** system from *Lunaphore Technologies SA* is available that automatically stains samples and analyzes them using fluorescence microscopy.

Analysis of the transcriptome, the set of all RNA molecules, in spatially well-defined micrometer-sized regions of a tissue sample is enabled by a **GeoMx® Digital Spatial Profiler** from *NanoString Technologies*.

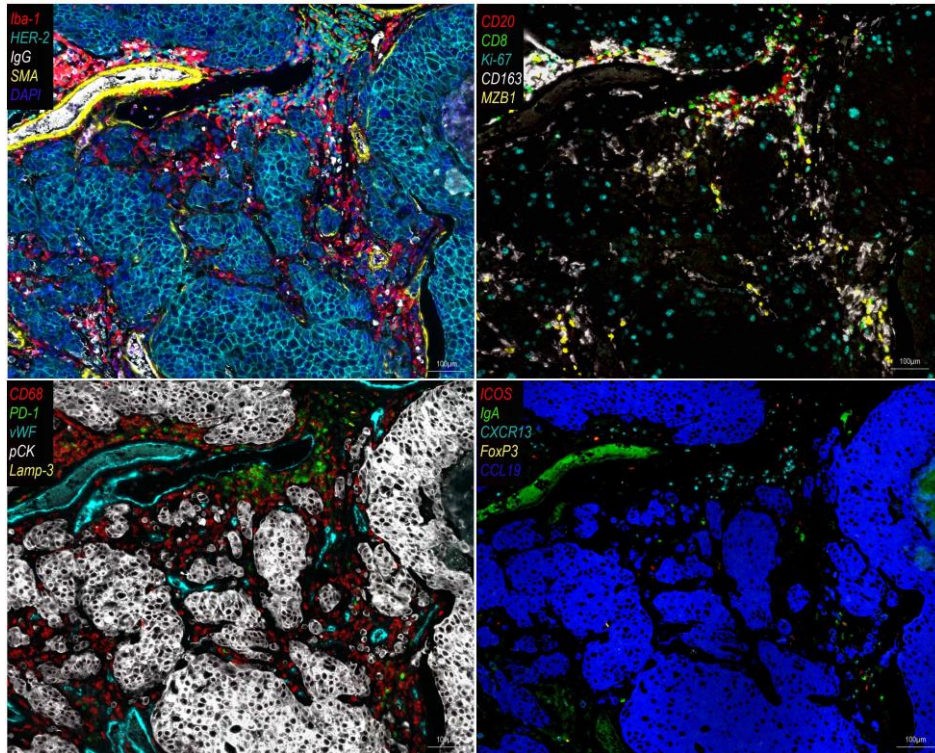
The instruments operated by the Edinger Institute can be used by researchers from the participating research associations. Furthermore, a comprehensive consulting service for the application and planning of investigations is offered.

The opening of the Spatial Biology Lab is another important building block for cutting-edge research at the Frankfurt location. This special analysis method for human and murine sample material enables a better understanding of complex processes in a variety of diseases.

If you are interested, the Spatial Biology Lab team will be happy to answer any further questions.

Dr. rer. nat. Jonathan Schupp (jonathan.schupp@kgu.de)

<https://fci.health/en/immunomonitoring/>



20-plex immunofluorescence stain of a brain metastasis from breast cancer.



Team of the Spatial Biology Lab (from left to right): Pinar Cakmak, Tatjana Starzetz, PD Dr. rer. nat. Yvonne Reiss, Prof. Dr. med. Karlheinz Plate, Dr. Jennifer Lun, Jadranka Macas, Dr. rer. nat. Jonathan Schupp.