Universitätsklinikum Würzburg

Medizinische Klinik und Poliklinik I
Lehrstuhl Endokrinologie – Diabetologie
Leiter: Prof. Dr. M. Fassnacht
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European Reference Network
for rare or low prevalence complex diseases

Network Endocrine Conditions (Endo-ERN)
Adult Cancers (ERN EURACAN)

Ihre Nachricht vom:
Ihr Zeichen:

Bitte bei Antwort angeben:
Unser Zeichen:
MF/

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Würzburg, Nov 2021

EYES Research Observership Programme (R.O.P)

Translational research in the field of adrenal and pituitary tumors

Endocrine tumors are one of the main research topics of the Division of Endocrinology and Diabetes at the University Hospital of Würzburg since many years. Our basic/translational lab team that would host the Early Career Investigators is currently composed of 17 people encompassing 6 post-docs and senior researchers, 3 PhD students, and 8 technicians. Furthermore, this team is closely connected with our clinical research team.

Here, a list of some **research topics**, we are currently working on:

- improving the diagnostic power of plasma and urinary steroid profiling by LC-MS/MS for adrenal tumors
- establishment of prognostic and predictive marker in adrenocortical carcinoma (e.g. mutational profiling, ccfDNA, etc.)
- understanding the interaction of glucocorticoids and immune cells in adrenocortical carcinoma
- search for potential treatment targets in adrenocortical carcinoma (e.g. by exome and whole genome sequencing)
- defining the role of immune cell infiltration in pheochromocytoma
- establishment of theranostic concepts for adrenal tumors
- deciphering the molecular pathogenesis of Cushing's disease

Techniques

We routinely use a large array of techniques and approaches that the intern will be able to familiarize with. These include but are not limited to:

- cell culture (with a variety of adrenal cell lines, primary human adrenal cells and immune cells), both in 2D and 3 D models (e.g. spheroids)
- proliferation and cell viability assays

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medeins
MEDIZINISCHE KLINIK & POLIKLINIK I

- immunohistochemistry and immunofluorescence
- DNA, RNA- and protein extraction
- RT-qPCR
- RNAscope mRNA in situ hybridisation
- flow cytometry
- LC-MS/MS for steroid analyses (metabolit/precursor)-, metabolomics, plasma metanephrines, salivary cortisol/cortison, therapeutic drug monitoring
- immunoassay for steroid measurements
- combining lab data from tumor material with patient outcome data (e.g. Kaplan Meier curves, Cox regression analyses etc.)

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Selected publications

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