PhD student (w / m / d) in the field of cancer research - Role of the bone microenvironment for the growth control of tumors

The working group of Prof. Dr. Franziska Jundt investigates the role of mechanical stimulation on the tumor microenvironment in bone in the second most frequent hematopoietic neoplasia, multiple myeloma. For this, a mechanical load on the tibia of mice was applied in a murine model for multiple myeloma. Molecular RNAseq analyzes were performed in the cortical bone of the tibia. We are interested in the signaling pathways that mediate the tumor-biological effects of the bone microenvironment.

Homepage of the working group
http://www.ccc.uni-wuerzburg.de/krebsforschung/molecular-targets-and-biomarkers/ag-jundt/

Selected publications:
Ziouti, F., Ebert, R., Rummler M., Krug, M., Müller-Deubert, S., Lüdemann, M., Jakob, F., Willie, B. M., Jundt, F. (2019). NOTCH Signaling Is Activated Through Mechanical Strain In Human Bone Marrow-Derived Mesenchymal Stromal Cells. Stem Cells Int., 5150634.

Zilkowski, I., Ziouti, F., Schulze, A., Hauck, S., Schmidt, S., Mainz, L., Sauer, M., Albrecht, K., Jundt, F. *, Groll, J. * (2019). Nanogels Enable Efficient miRNA Delivery and Target Gene Downregulation in Transfection-Resistant Multiple Myeloma Cells. Biomacromolecules 20, 916-926. * equally supported

Wong, D., Winter, O., Hartig, C., Siebels, S., Szyska, M., Tiburzy, B., Meng, L., Kulkarni, U., Ensign, A., Bommert, K., Bargou, R., Berek, C., Chu, VT, Bogen, B., Jundt, F., Manz, RA. (2014). Eosinophils and Megakaryocytes Support the Early Growth of Murine MOPC315 Myeloma Cells in Their Bone Marrow Niches. PLoS One9, e109018.

Schwarzer, R., Nickel, N., Godau, J., Willie, BM, Duda, GN, Schwarzer, R., Cirovic, B., Leutz, A., Manz, R., Bogen, B., Dörken, B., Jundt, F. (2014). Notch pathway inhibition controls myeloma bone disease in the murine MOPC315.BM model. Blood Cancer J.4, e217.

Tasks:
In this doctoral thesis the bioinformatic analysis of the signaling pathways in cortical bone in this tumor model should be carried out. The validation of potential candidate genes in the signaling pathways takes place via RNA and protein analysis of murine tissue. He will perform comparative Gene Set Enrichment analyzes on human datasets.

Qualifications
The prerequisite is a degree in medicine biology, biochemistry, veterinary medicine or related scientific disciplines. There is a great deal of interest in the bioinformatic analysis of large datasets. Practical experience in dealing with cell culture and animal studies are desirable.

Expertise
- Knowledge in the bioinformatic analysis of large data sets
- Interest in the independent handling of scientific questions
- very good German and English skills

We offer
- competent and close support
- international cooperation
- established wide range of scientific methods
- Carrying out animal experiments

Contact for applications
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