In the **group of Prof. Thomas Jentsch**; FMP / MDC **Berlin**) there are openings for

Postdocs in Cell Biology / Physiology

We are an international, highly interdisciplinary team with a strong interest in the role of ion transport processes in the physiology and pathology of various organs, including e.g. the brain, kidney, and endocrine or immune cells**.** Our research spans the whole spectrum from molecules to organism and disease.

In ERC- and DFG-funded projects, we investigate the structure-function, cell biology and physiology of anion channels, both in cell culture and in newly generated genetic mouse models, in highly innovative projects. These are focused mainly on the newly identified ASOR/TMEM206 and VRAC/LRRC8 anion channels. Intriguingly, VRAC channels not only transport chloride, but also organic molecules including neurotransmitters, messengers involved in innate immunity, and drugs. We are just beginning to unravel the roles of the 'novel' acid-activated ASOR/TMEM206 channel. We have recently discovered that it is important for the endosomal/lysosomal system like other anion channels we are studying. Our work on CLC anion transporters revealed unexpected roles of vesicular anion transport in endocytosis and lysosomal function, as evident from mouse and human pathologies resulting from their disruption.

We are looking for a postdoctoral researcher highly motivated to unravel novel roles of anion transport in cellular and organismal function. After our breakthroughs in molecularly identifying novel anion channels, we have developed many mouse models and other tools. These now put us into a unique position to discover new physiology and disease mechanisms in various different organs. The current postdoctoral project will focus on the role of vesicular anion transport on endolysosomal function. It will address crucial cell biological questions from a very novel angle.

The background of the candidate should be in natural sciences, including, but not limited to, biology, biochemistry, biophysics or medicine. A solid background in cell biology and physiology as well as hands-on experience in standard techniques of molecular cell biology or morphology are desirable. Candidates with experience in electrophysiology will also be considered. Although the project may focus on a particular organ, the ideal candidate will be broadly interested in several areas of cell biology (like endosomal/lysosomal function) and in physiology, such as neurobiology, nephrology, or immunology, as our research - depending on the transporter under study - impacts many different systems. Our lab is fully equipped for cell biology and morphology, as well as for electrophysiology. It is part of both the FMP and MDC, public research institutes with excellent facilities (e.g. advanced optical microscopy, EM, mass spec, screening unit, etc.).

The position is available immediately (August 2022) but may also be filled several months later. Initially, it is limited to 2 years with an option for extension.

Visit our webpage http://www.fmp-berlin.de/jentsch.html to know more about our lab. Please apply directly to jentsch@fmp-berlin.de

Some recent publications:

Voss F.K., Ullrich F., Münch J., Lazarow K., Lutter D., Mah N., Andrade-Navarro M.A., von Kries J.P., Stauber T., Jentsch T.J. (2014). Identification of LRRC8 heteromers as an essential component of the volume-regulated anion channel VRAC. ***Science*** 344, 634638.

Stuhlmann T., Planells-Cases R., Jentsch T.J. (2018). LRRC8/VRAC anion channels enhance β-cell glucose sensing and insulin secretion. ***Nature Communications*** 9, 1974

Ullrich F., Blin S., Lazarow K., Daubitz T., von Kries J.P., Jentsch T.J. (2019). Identification of TMEM206 proteins as pore of PAORAC/ASOR acid-sensitive chloride channels. ***eLife*** 8: e49187

Göppner C., Orozco I.J., Hoegg-Beiler M.B., Soria A.H., Hübner C.A., Fernandes-Rosa F.L., Boulkroun S., Zennaro M.C., Jentsch T.J. (2019). Pathogenesis of hypertension in a mouse model for *CLCN2*-related hyperaldosteronism. ***Nature Communications*** 10, 4678.

Zhou C.[§], Chen X.[§], Planells-Cases R.[§], Chu J., …. Qiu Z. *****, Jentsch T.J. *****, Xiao H.***** (2020).Transfer of cGAMP into bystander cells by LRRC8 volume-regulated anion channels augments STING-mediated interferon responses and anti-viral immunity. ***Immunity*** 52, 767-781.

Polovitskaya M.M.[§], Barbini C.[§], Martinelli D.[§], ….. Kutsche K., Tartaglia M.*, Jentsch T.J.* (2020). A recurrent gain-of-function mutation in *CLCN6*, encoding the ClC-6 Cl^-/H^+-exchanger, causes early-onset neurodegeneration. ***Am. J. Hum. Genet*** 107: 1062-1077.

Wang C.[#], Polovitskaya M.M.[#], Delgado B.D., Jentsch T.J.*, Long S.B*. (2022) Gating choreography and mechanism of the human proton-activated chloride channel ASOR. ***Science Advances*** 8: eabm3942

Zeziulia M., Blin S., Schmitt F.W., Lehmann M. Jentsch T.J. (2022) Proton-gated anion transport governs endocytic vacuole shrinkage. ***Nature Cell Biol*****,** 24: 885-895.