

## Thomas Jentsch

Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP)  
Max Delbrück Center for Molecular Medicine (MDC)  
Robert-Rössle-Str. 10  
D-13125 Berlin

Phone: +49 (0)30 94062961  
Email: jentsch(at)fmp-berlin.de



### Curriculum vitae

Since 2009	Deputy director, FMP, Berlin
Since 2006	Head, Department of Physiology and Pathology of Ion Transport, FMP/MDC, Berlin
Since 2006	Full professor (W3), Charité, Berlin
2001 – 2003	Director, Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg
1995 – 1998	Director, Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg
1993 – 2006	Full professor (C4), Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg
1991	Venia legendi (Habilitation) in Cell Biochemistry, Universität Hamburg
1988 – 1993	Research group leader, Center for Molecular Neurobiology Hamburg (ZMNH), Hamburg
1986 – 1988	Postdoctoral fellow, Whitehead Institute for Biomedical Research, Cambridge, US
1984	MD (Dr. med.), Freie Universität Berlin
1982	PhD in Physics, Fritz-Haber-Institute, Max Planck Society (MPG), Berlin
1981 – 1985	Staff scientist, Department for Clinical Physiology, Freie Universität Berlin
1972 – 1980	Studies in Medicine and studies in Physics, Freie Universität Berlin

### Research fields

Our group is active in the field of physiology and pathology of ion transport with the major areas:

- Cellular and molecular mechanisms of neurodegeneration, epilepsy, sensory biology
- Cell biology and (patho) physiology of cell volume regulation and related signaling in the CNS
- Mouse models
- Intracellular trafficking, endosomal/lysosomal traffic, and function
- Kidney physiology, transepithelial transport

### Activities in the scientific community, honors, awards

present	Member, advisory boards/committees: Université Côte d'Azur; Institut de l'Audition, F; CECS, CL; MPIEM, Göttingen; Fondation Louis-Jeantet, CH
2018	'Society Needs Science' Prize (Stifterverband, Leibniz Society)
2017, 2012	European Research Council (ERC), Advanced Grants
2012	Hans Ussing Award Lecture, American Physiological Society, US
2006	Hodgkin-Huxley-Katz Prize Lecture, Physiological Society, UK
Since 2005	Member, Hamburg Academy of Sciences
Since 2004	Member, Leopoldina – German National Academy of Sciences
2004	Homer W. Smith Award, American Society of Nephrology, US
2004	Adolf Fick Prize for Physiology/Biophysics
Since 2001	Member, Berlin-Brandenburg Academy of Sciences and Humanities (BBAW), European Molecular Biology Organization (EMBO), and Academia Europaea
2001	Prix Louis-Jeantet de médecine, Fondation Louis-Jeantet, CH
2000	Ernst Jung Prize for Medicine, Familie Hansen Prize, and Feldberg Prize
1999	Zülch Prize for research in neurology, Max Planck Society (MPG)
1998	Franz Volhard Prize for research in nephrology
1998	Alfred Hauptmann Award, Swiss Federation of Clinical Neuro-Societies, CH
1995	Gottfried Wilhelm Leibniz Prize, German Research Foundation (DFG)
1992	Wilhelm Vaillant Prize for medical research

## Selected publications

- Fernandes-Rosa FL, Daniil G, Orozco IJ, Goppner C, El Zein R, Jain V, Boulkroun S, Jeunemaitre X, Amar L, Lefebvre H, Schwarzmayr T, Strom TM, Jentsch TJ, Zennaro MC. A gain-of-function mutation in the CLCN2 chloride channel gene causes primary aldosteronism. *Nat Genet* 2018; 50: 355-361
- Stuhlmann T, Planells-Cases R, Jentsch TJ. LRRC8/VRAC anion channels enhance beta-cell glucose sensing and insulin secretion. *Nat Commun* 2018; 9: 1974
- Godde K, Gschwend O, Puchkov D, Pfeffer CK, Carleton A, Jentsch TJ. Disruption of Kcc2-dependent inhibition of olfactory bulb output neurons suggests its importance in odour discrimination. *Nat Commun* 2016; 7:12043
- Planells-Cases R, Lutter D, Guyader C, Gerhards NM, Ullrich F, Elger DA, Kucukosmanoglu A, Xu G, Voss FK, Reincke SM, Stauber T, Blomen VA, Vis DJ, Wessels LF, Brummelkamp TR, Borst P, Rottenberg S, Jentsch TJ. Subunit composition of VRAC channels determines substrate specificity and cellular resistance to Pt-based anti-cancer drugs. *Embo J* 2015; 34:2993-3008
- Voss FK, Ullrich F, Munch J, Lazarow K, Lutter D, Mah N, Andrade-Navarro MA, von Kries JP, Stauber T, Jentsch TJ. Identification of LRRC8 heteromers as an essential component of the volume-regulated anion channel VRAC. *Science* 2014; 344:634-638
- Billig GM, Pal B, Fidzinski P, Jentsch TJ. Ca<sup>2+</sup>-activated Cl<sup>-</sup> currents are dispensable for olfaction. *Nat Neurosci* 2011; 14:763-769
- Weinert S, Jabs S, Supanchart C, Schweizer M, Gimber N, Richter M, Rademann J, Stauber T, Kornak U, Jentsch TJ. Lysosomal pathology and osteopetrosis upon loss of H<sup>+</sup>-driven lysosomal Cl<sup>-</sup> accumulation. *Science* 2010; 328:1401-1403
- Novarino G, Weinert S, Rickheit G, Jentsch TJ. Endosomal chloride-proton exchange rather than chloride conductance is crucial for renal endocytosis. *Science* 2010; 328:1398-1401
- Lange PF, Wartosch L, Jentsch TJ, Fuhrmann JC. ClC-7 requires Ostm1 as a beta-subunit to support bone resorption and lysosomal function. *Nature* 2006; 440:220-223
- Scheel O, Zdebik AA, Lourdel S, Jentsch TJ. Voltage-dependent electrogenic chloride/proton exchange by endosomal CLC proteins. *Nature* 2005; 436:424-427