## Thomas Jentsch

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### Curriculum vitae

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|---|---|
| since 2006 | Head, Department of Physiology and Pathology of Ion Transport, Leibniz-Institut für Molekulare Pharmakologie and Max Delbrück Center for Molecular Medicine (joint appointment) |
| since 2006 | Full Professor (W3), Charité - Universitätsmedizin Berlin |
| 1995 – 2006 | Director, Center for Molecular Neurobiology Hamburg (ZMNH), University Medical Center Hamburg-Eppendorf (UKE) |
| 1993 | Professor (C4), Molecular Neuropathology, ZMNH |
| 1991 | Habilitation in Cell Biochemistry, University Medical Center Hamburg |
| 1988 – 1993 | Research group leader, ZMNH |
| 1986 – 1988 | Postdoctoral fellow, (with Harvey F. Lodish) at the Whitehead Institute (Massachusetts Institute of Technology), Cambridge, Massachusetts |
| 1984 | M.D. (thesis on pHi-regulating processes; thesis adviser: Prof. Wiederholt), Institute for Clinical Physiology, Freie Universität Berlin (FU) |
| 1982 | PhD in Physics (thesis on field ionization (surface physics), thesis adviser: Prof. Block); Fritz-Haber-Institute (Max-Planck-Society), Berlin |
| 1981 – 1985 | Staff scientist (Prof. Wiederholt), Institut für Klinische Physiologie, FU Berlin |
| 1974 – 1980 | Study of Physics, FU Berlin |
| 1972 – 1978 | Study of Medicine, FU 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, sensorial biology
- Mouse models
- Intracellular trafficking, endosomal/lysosomal traffic, and function
- Kidney and bone physiology, transepithelial transport

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

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| 2006 | Hodgkin-Huxley-Katz Prize Lecture (London) |
| 2005 | Member, Hamburg Academy of Sciences |
| 2004 | Homer W. Smith Award of the American Society of Nephrology |
| since 2004 | Elected member, Deutsche Akademie der Naturforscher Leopoldina |
| 2004 | Adolf Fick Prize for Physiology/Biophysics |
| 2001 | Prix Louis-Jeantet de médecine |
| since 2001 | Elected member BBAW, EMBO, Academia Europaea |
| 2000 | Ernst Jung Preis für Medizin, Familie Hansen Preis, and Feldberg Prize |
| 1999 | Zülch Prize for research in neurology, Max Planck Society |
| 1998 | Franz Volhard Prize for research in nephrology |
| 1998 | Alfred Hauptmann Prize for research on epilepsy |
| 1995 | Leibniz Prize, German Research Foundation (DFG) |
| 1992 | Wilhelm-Vaillant-Prize for medical research |

## Selected publications


Billig, GM, Pal, B, Fidzinski, P and Jentsch, TJ. $Ca^{2+}$-activated $Cl^-$ currents are dispensable for olfaction. Nat Neurosci. 2011.

Weinert, S, Jabs, S, Supanchart, C, Schweizer, M, Gimber, N, Richter, M, Rademann, J, Stauber, T, Kornak, U and Jentsch, TJ. Lysosomal pathology and osteopetrosis upon loss of $H^+$-driven lysosomal $Cl^-$ accumulation. Science. 2010; 328, 1401-3.

Tzingounis, AV, Heidenreich, M, Kharkovets, T, Spitzmaul, G, Jensen, HS, Nicoll, RA and Jentsch, TJ. The KCNQ5 potassium channel mediates a component of the afterhyperpolarization current in mouse hippocampus. Proc Natl Acad Sci U S A. 2010; 107, 10232-7.

Novarino, G, Weinert, S, Rickheit, G and Jentsch, TJ, Endosomal chloride-proton exchange rather than chloride conductance is crucial for renal endocytosis. Science. 2010; 328, 1398-401.

Rickheit, G, Maier, H, Strenzke, N, Andreescu, CE, De Zeeuw, CI, Muenscher, A, Zdebik, AA and Jentsch, TJ. Endocochlear potential depends on $Cl^-$ channels: mechanism underlying deafness in Bartter syndrome IV. EMBO J. 2008; 27, 2907-17.

Poet, M, Kornak, U, Schweizer, M, Zdebik, AA, Scheel, O, Hoelter, S, Wurst, W, Schmitt, A, Fuhrmann, JC. Planells-Cases, R, Mole, SE, Hubner, CA and Jentsch, TJ, Lysosomal storage disease upon disruption of the neuronal chloride transport protein ClC-6. Proc Natl Acad Sci U S A. 2006; 103, 13854-9.

Lange, PF, Wartosch, L, Jentsch, TJ and Fuhrmann, JC. ClC-7 requires Ostm1 as a beta-subunit to support bone resorption and lysosomal function. Nature. 2006; 440, 220-3.

Kharkovets, T, Dedek, K, Maier, H, Schweizer, M, Khimich, D, Nouvian, R, Vardanyan, V, Leuwer, R, Moser, T and Jentsch, TJ. Mice with altered KCNQ4 $K^+$ channels implicate sensory outer hair cells in human progressive deafness. EMBO J. 2006; 25, 642-52.

Scheel, O, Zdebik, AA, Lourdel, S and Jentsch, TJ. Voltage-dependent electrogenic chloride/proton exchange by endosomal CLC proteins. Nature. 2005; 436, 424-7.

Kasper, D, Planells-Cases, R, Fuhrmann, JC, Scheel, O, Zeitz, O, Ruether, K, Schmitt, A, Poet, M, Steinfeld, R, Schweizer, M, Kornak, U and Jentsch, TJ. Loss of the chloride channel ClC-7 leads to lysosomal storage disease and neurodegeneration. EMBO J. 2005; 24, 1079-91.