

Jens Christian Rekling
Associate Professor, Associate Professor
Motor Control

Motor Control

Postal address:

Blegdamsvej 3, 2200 København N.

Postal address:

Blegdamsvej 3

2200

København N.

Email: jrekling@sund.ku.dk

Mobile: +4531526540

Phone: +4531526540

Web address: <https://in.ku.dk/research/rekling-lab>, <http://in.ku.dk>,

<http://in.ku.dk/research/rekling-lab>



Short presentation

Graduated as a Medical Doctor in 1988, and finished a Medical Doctorate (dr.med. or DMSci) in Neuroscience in 1999, and currently holds a position as Associate Professor at the Department of Neuroscience and Pharmacology at the Faculty of Health Sciences, Copenhagen University.

Publications

Bile acids induce Ca^{2+} signaling and membrane permeabilizations in vagal nodose ganglion neurons

Mamedova, Esmira, Ártng, L. B. & Rekling, Jens Christian, 2022, In: *Biochemistry and Biophysics Reports*. 31, 8 p., 101288.

NPFF Decreases Activity of Human Arcuate NPY Neurons: A Study in Embryonic-Stem-Cell-Derived Model

Pedersen, Lola Julie Torz, Niss, K., Lundh, S., Rekling, Jens Christian, Quintana, C. D., Frazier, S. E. D., Mercer, A. J., Cornea, A., Bertelsen, C. V., Gerstenberg, M. K., Hansen, A. M. K., Guldbrandt, M., Lykkesfeldt, Jens, John, L. M., Villaescusa, J. C. & Petersen, N., 2022, In: *International Journal of Molecular Sciences*. 23, 6, 15 p., 3260.

Thyrotropin-releasing hormone induces Ca^{2+} increase in a subset of vagal nodose ganglion neurons

Mamedova, Esmira, Dmytriyeva, O. & Rekling, Jens Christian, 2022, In: *Neuropeptides*. 94, 9 p., 102261.

μ -Opioid Receptor Activation Reduces Glutamate Release in the PreBötzing Complex in Organotypic Slice Cultures

Jørgensen, A. B., Rasmussen, C. M. & Rekling, Jens Christian, 2022, In: *Journal of Neuroscience*. 42, 43, p. 8066-8077

Gabaergic inhibition of presynaptic Ca^{2+} transients in respiratory prebötzing neurons in organotypic slice cultures

Gomez Martinez, Carlos Daniel, Rasmussen, C. M. & Rekling, Jens Christian, 2021, In: *eNeuro*. 8, 4, ENEURO.0154-21.2021.

The role of PHOX2B-derived astrocytes in chemosensory control of breathing and sleep homeostasis

Czeisler, C. M., Silva, T. M., Fair, S. R., Liu, J., Tupal, S., Kaya, B., Cowgill, A., Mahajan, S., Silva, P. E., Wang, Y., Blissett, A. R., Goksel, M., Borniger, J. C., Zhang, N., Fernandes-Junior, S. A., Catacutan, F., Alves, M. J., Nelson, R. J., Sundaresan, V., Rekling, J. & 3 others, Takakura, A. C., Moreira, T. S. & Otero, J. J., 2019, In: *The Journal of Physiology*. 597, 8, p. 2225-2251 27 p.

Dendritic a-current in rhythmically active prebötzing complex neurons in organotypic cultures from Newborn mice

Phillips, W. S., Del Negro, C. A. & Rekling, Jens Christian, 2018, In: *Journal of Neuroscience*. 38, 12, p. 3039-3049 11 p.

Profiling of G protein-coupled receptors in vagal afferents reveals novel gut-to-brain sensing mechanisms

Egerod, Kristoffer Lihme, Petersen, N., Timshel, P. N., Rekling, Jens Christian, Wang, Y., Liu, Q., Schwartz, Thue W. & Gautron, L., 2018, In: *Molecular Metabolism*. 12, p. 62-75 14 p.

Electrical Coupling in the Generation of Vertebrate Motor Rhythms

Li, W. C. & Rekling, Jens Christian, 2017, *Network Functions and Plasticity: Perspectives from Studying Neuronal Electrical Coupling in Microcircuits*. Jing, J. (ed.). Academic Press, p. 243-264 12 p.

Organotypic slice cultures containing the preBötzinger complex generate respiratory-like rhythms

Phillips, W. S., Herly, Mikkel, Del Negro, C. A. & Rekling, Jens Christian, 1 Feb 2016, In: Journal of Neurophysiology. 115, 2, p. 1063-1070 8 p.

Fast neuronal labeling in live tissue using a biocytin conjugated fluorescent probe

Harsløf, Mads, Müller, C. F., Rohrberg, J. & Rekling, Jens Christian, 30 Sep 2015, In: Journal of Neuroscience Methods. 253, p. 101-9 9 p.

Mechanisms contributing to cluster formation in the inferior olivary nucleus in brainstem slices from postnatal mice

Kølvraa, M., Müller, F. C., Jahnsen, Henrik & Rekling, Jens Christian, 1 Jan 2014, In: The Journal of Physiology. 592, 1, p. 33-47 15 p.

Spontaneous calcium waves in granule cells in cerebellar slice cultures

Apuschkin, M., Ougaard, M. & Rekling, Jens Christian, 11 Oct 2013, In: Neuroscience Letters. 553, p. 78-83 6 p.

The Histone Demethylase Jarid1b Ensures Faithful Mouse Development by Protecting Developmental Genes from Aberrant H3K4me3

Albert, M., Schmitz, S. U., Kooistra, S. M., Malatesta, M., Morales Torres, C., Rekling, Jens Christian, Johansen, Jens Vilstrup, Abarategui, I. & Helin, K., Apr 2013, In: P L o S Genetics. 9, 4, p. 1-15 16 p., e1003461.

Spontaneous cluster activity in the inferior olivary nucleus in brainstem slices from postnatal mice

Rekling, Jens Christian, Jensen, Kristian HR & Jahnsen, Henrik, Apr 2012, In: Journal of Physiology. 590, p. 1547-1562 16 p.

Regulation of the Bcas1 and Baiap3 transcripts in the subthalamic nucleus in mice recovering from MPTP toxicity

Lauridsen, J. B., Johansen, J. L., Rekling, Jens Christian, Thirstrup, K., Moerk, A. & Sager, T. N., 1 Jul 2011, In: Neuroscience Research. 70, 3, p. 269-76 8 p.

Population calcium imaging of spontaneous respiratory and novel motor activity in the facial nucleus and ventral brainstem in newborn mice

Persson, K. & Rekling, Jens Christian, 13 May 2011, In: Journal of Physiology. 589, 10, p. 2543-58 16 p.

Dendritic calcium activity precedes inspiratory bursts in preBotzinger complex neurons

Del Negro, C. A., Hayes, J. A. & Rekling, Jens Christian, 19 Jan 2011, In: Journal of Neuroscience. 31, 3, p. 1017-22 6 p.

Development of a no-wash assay for mitochondrial membrane potential using the styryl dye DASPEI

Jensen, Kristian HR & Rekling, Jens Christian, 1 Oct 2010, In: Journal of Biomolecular Screening. 15, 9, p. 1071-81 11 p.

Hypoglossal motoneurons in newborn mice receive respiratory drive from both sides of the medulla

Tarras-Wahlberg, S. & Rekling, Jens Christian, 2009, In: Neuroscience. 161, 1, p. 259-68 9 p.

Neurons in the preBötzinger complex and VRG are located in proximity to arterioles in newborn mice

Falk, S. & Rekling, Jens Christian, 2008, In: Neuroscience Letters.

The Edinger-Westphal nucleus of the juvenile rat contains transient- and repetitive-firing neurons

Laursen, M. & Rekling, Jens Christian, 11 Aug 2006, In: Neuroscience. 141, 1, p. 191-200 10 p.

The edinger-westphal nucleus of the juvenile rat contains transient- and repetitive firing neurons

Laursen, M. & Rekling, Jens Christian, 2006, In: Neuroscience. 141, p. 191-200

NK-3 receptor activation depolarizes and induces an after-depolarization in pyramidal neurons in gerbil cingulate cortex

Rekling, Jens Christian, 2004, In: Brain Research Bulletin. 63, 2, p. 85-90 5 p.

Neuroprotective effects of anticonvulsants in rat hippocampal slice cultures exposed to oxygen/glucose deprivation
Rekling, Jens Christian, 2003, In: Neuroscience Letters. 335, 3, p. 167-70 3 p.

Electrical coupling and excitatory synaptic transmission between rhythmogenic respiratory neurons in the preBötzinger complex
Rekling, Jens Christian, Shao, X. M. & Feldman, J. L., 1 Dec 2000, In: Journal of Neuroscience. 20, 23, p. 20-23 4 p., RC113.

Synaptic control of motoneuronal excitability

Rekling, Jens Christian, Funk, G. D., Bayliss, D., Dong, X. & Feldman, J. L., Apr 2000, In: Physiological Reviews. 80, 2, p. 767-852

Electrical coupling and excitatory synaptic transmission between rhythmogenic respiratory neurons in the preBötzinger complex

Rekling, Jens Christian, Shao, X. M. & Feldman, J. L., 2000, In: Journal of Neuroscience. 20, 23, p. RC113

Synaptic control of motoneuronal excitability

Rekling, Jens Christian, Funk, G. D., Bayliss, D. A., Dong, X. W. & Feldman, J. L., 2000, In: Physiological Reviews. 80, 2, p. 767-852 85 p.

Modulation of respiratory frequency by peptidergic input to rhythmogenic neurons in the preBötzinger complex

Gray, P. A., Rekling, Jens Christian, Bocchiaro, C. M. & Feldman, J. L., 1999, In: Science. 286, 5444, p. 1566-8 2 p.

Brainstem neurons projecting to the rostral ventral respiratory group (VRG) in the medulla oblongata of the rat revealed by co-application of NMDA and biocytin

Zheng, Y., Riche, D., Rekling, Jens Christian, Foutz, A. S. & Denavit-Saubié, M., 1998, In: Brain Research. 782, 1-2, p. 113-25 12 p.

PreBötzinger complex and pacemaker neurons: hypothesized site and kernel for respiratory rhythm generation

Rekling, Jens Christian & Feldman, J. L., 1998, In: Annual Review of Physiology. 60, p. 385-405 20 p.

Bidirectional electrical coupling between inspiratory motoneurons in the newborn mouse nucleus ambiguus

Rekling, Jens Christian & Feldman, J. L., 1997, In: Journal of Neurophysiology. 78, 6, p. 3508-10 2 p.

Calcium-dependent plateau potentials in rostral ambiguous neurons in the newborn mouse brain stem in vitro

Rekling, Jens Christian & Feldman, J. L., 1997, In: Journal of Neurophysiology. 78, 5, p. 2483-92 9 p.

Electroresponsive properties and membrane potential trajectories of three types of inspiratory neurons in the newborn mouse brain stem in vitro

Rekling, Jens Christian, Champagnat, J. & Denavit-Saubié, M., 1996, In: Journal of Neurophysiology. 75, 2, p. 795-810 15 p.

Thyrotropin-releasing hormone (TRH) depolarizes a subset of inspiratory neurons in the newborn mouse brain stem in vitro

Rekling, Jens Christian, Champagnat, J. & Denavit-Saubié, M., 1996, In: Journal of Neurophysiology. 75, 2, p. 811-9 8 p.

Effects of the pyrethroid insecticide, deltamethrin, on respiratory modulated hypoglossal motoneurons in a brain stem slice from newborn mice

Rekling, Jens Christian & Theophilidis, G., 1995, In: Neuroscience Letters. 198, 3, p. 189-92 3 p.

Effects of met-enkephalin on GABAergic spontaneous miniature IPSPs in organotypic slice cultures of the rat hippocampus

Rekling, Jens Christian, 1993, In: Journal of Neuroscience. 13, 5, p. 1954-64 10 p.

Interaction between thyrotropin-releasing hormone (TRH) and NMDA-receptor-mediated responses in hypoglossal motoneurons

Rekling, Jens Christian, 1992, In: Brain Research. 578, 1-2, p. 289-96 7 p.

Excitatory effects of thyrotropin-releasing hormone (TRH) in hypoglossal motoneurons

Rekling, Jens Christian, 1990, In: Brain Research. 510, 1, p. 175-9 4 p.

The effect of two lipophilic gamma-aminobutyric acid uptake blockers in CA1 of the rat hippocampal slice

Rekling, Jens Christian, Jahnsen, Henrik & Mosfeldt Laursen, A., 1990, In: British Journal of Pharmacology. 99, 1, p. 103-6 3 p.

Electrophysiological properties of hypoglossal motoneurons of guinea-pigs studied in vitro

Mosfeldt Laursen, A. & Rekling, Jens Christian, 1989, In: Neuroscience. 30, 3, p. 619-37 18 p.

Evidence for a persistent sodium conductance in neurons from the nucleus prepositus hypoglossi

Rekling, Jens Christian & Laursen, A. M., 1989, In: Brain Research. 500, 1-2, p. 276-86 10 p.

Activities

Aftagerpanelet for den Lægevidenskabelige Bachelor- og Kandidatuddannelse (External organisation)

Rekling, Jens Christian (Member)

2015

Graduate Programme in Neuroscience (External organisation)

Rekling, Jens Christian (Chair)

2014

Det Sundhedsvidenskabelige Fakultet, Københavns Universitet (External organisation)

Rekling, Jens Christian (Member)

26 Nov 2009 → ...

Københavns Universitet (External organisation)

Rekling, Jens Christian (Member)

2 Feb 2008 → ...