Klaus Benndorf

List of Publications by Citations

76 papers	2,154 citations	26 h-index	45 g-index
83 ext. papers	2,445 ext. citations	6.9 avg, IF	4.22 L-index

#	Paper	IF	Citations
76	Slowed conduction and ventricular tachycardia after targeted disruption of the cardiac sodium channel gene Scn5a. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 6210-5	11.5	314
75	Abrupt rate accelerations or premature beats cause life-threatening arrhythmias in mice with long-QT3 syndrome. *Nature Medicine*, **2001**, 7, 1021-7	50.5	210
74	Relating ligand binding to activation gating in CNGA2 channels. *Nature*, **2007**, 446, 440-3	50.4	103
73	Coumarinylmethyl esters for ultrafast release of high concentrations of cyclic nucleotides upon one- and two-photon photolysis. *Angewandte Chemie - International Edition*, **2005**, 44, 7887-91	16.4	88
72	Expression pattern of neuronal and skeletal muscle voltage-gated Na+ channels in the developing mouse heart. *Journal of Physiology*, **2005**, 564, 683-96	3.9	81
71	Interdependence of receptor activation and ligand binding in HCN2 pacemaker channels. *Neuron*, **2010**, 67, 75-85	13.9	73
70	FRET between cardiac Na+ channel subunits measured with a confocal microscope and a streak camera. *Nature Biotechnology*, **2004**, 22, 220-4	44.5	72
69	Multi-dimensional fluorescence lifetime and FRET measurements. *Microscopy Research and Technique*, **2007**, 70, 442-51	2.8	61
68	Mouse heart Na+ channels: primary structure and function of two isoforms and alternatively spliced variants. *American Journal of Physiology - Heart and Circulatory Physiology*, **2002**, 282, H1007-17	5.2	60
67	Sodium current in single myocardial mouse cells. *Pflugers Archiv European Journal of Physiology*, **1985**, 404, 190-6	4.6	57
66	How subunits cooperate in cAMP-induced activation of homotetrameric HCN2 channels. *Nature Chemical Biology*, **2011**, 8, 162-9	11.7	56
65	Structure and function of splice variants of the cardiac voltage-gated sodium channel Na(v)1.5. *Journal of Molecular and Cellular Cardiology*, **2010**, 49, 16-24	5.8	56
64	BK channel blockers inhibit potassium-induced proliferation of human astrocytoma cells. *NeuroReport*, **2002**, 13, 403-7	1.7	49
63	Voltage-gated Na+ channel transcript patterns in the mammalian heart are species-dependent. *Progress in Biophysics and Molecular Biology*, **2008**, 98, 309-18	4.7	42
62	The human heart and rat brain IIA Na+ channels interact with different molecular regions of the beta1 subunit. *Journal of General Physiology*, **2002**, 120, 887-95	3.4	37
61	Interaction of PSD-95 with potassium channels visualized by fluorescence lifetime-based resonance energy transfer imaging. *Journal of Biomedical Optics*, **2004**, 9, 753-9	3.5	34
60	Activation of olfactory-type cyclic nucleotide-gated channels is highly cooperative. *Journal of Physiology*, **2005**, 569, 91-102	3.9	34

59	Multiwavelength TCSPC lifetime imaging **2002**, 4620, 79		33
58	Protein arginine methyl transferases-3 and -5 increase cell surface expression of cardiac sodium channel. *FEBS Letters*, **2013**, 587, 3159-65	3.8	32
57	Family of prokaryote cyclic nucleotide-modulated ion channels. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 7855-60	11.5	31
56	FRET measurements by TCSPC laser scanning microscopy **2001**, 4431, 94		29
55	Gating by cyclic GMP and voltage in the alpha subunit of the cyclic GMP-gated channel from rod photoreceptors. *Journal of General Physiology*, **1999**, 114, 477-90	3.4	28
54	Assembly of the inner kinetochore proteins CENP-A and CENP-B in living human cells. *ChemBioChem*, **2008**, 9, 77-92	3.8	27
53	Dynamic responses of single cardiomyocytes to graded ischemia studied by oxygen clamp in on-chip picochambers. *Circulation Research*, **2006**, 99, 165-71	15.7	27
52	Stepwise activation of a class C GPCR begins with millisecond dimer rearrangement. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 10150-10155	11.5	26
51	Modulation of Nav1.5 channel function by an alternatively spliced sequence in the DII/DIII linker region. *Journal of Biological Chemistry*, **2006**, 281, 9498-506	5.4	26
50	Prolonged irradiation of enhanced cyan fluorescent protein or Cerulean can invalidate Forster resonance energy transfer measurements. *Journal of Biomedical Optics*, **2008**, 13, 031205	3.5	24
49	Combination of cardiac conduction disease and long QT syndrome caused by mutation T1620K in the cardiac sodium channel. *Cardiovascular Research*, **2008**, 77, 740-8	9.9	23
48	Ultraschnelle Freisetzung hoher Konzentrationen von cyclischen Nucleotiden aus Cumarinylmethylestern durch Ein- und Zweiphotonenphotolyse. *Angewandte Chemie*, **2005**, 117, 8099-8104	3.6	22
47	Low-Noise Recording **1995**, 129-145		22
46	Differential regulation by cyclic nucleotides of the CNGA4 and CNGB1b subunits in olfactory cyclic nucleotide-gated channels. *Science Signaling*, **2012**, 5, ra48	8.8	21
45	Visualization of SHP-1-target interaction. *Journal of Cell Science*, **2004**, 117, 5165-78	5.3	21
44	Hysteresis of ligand binding in CNGA2 ion channels. *Nature Communications*, **2013**, 4, 2866	17.4	20
43	High resolution TCSPC lifetime imaging **2003**,		19
42	Effects of Kv1.2 intracellular regions on activation of Kv2.1 channels. *Biophysical Journal*, **2004**, 87, 873-82	3.9	18

41	ATP-sensitive K+ channels in heart muscle cells first open and subsequently close at maintained anoxia. *FEBS Letters*, **1994**, 351, 365-9	3.8	18
40	Alternative splicing of the cardiac sodium channel creates multiple variants of mutant T1620K channels. *PLoS ONE*, **2011**, 6, e19188	3.7	16
39	Glycolytic oscillations in single ischemic cardiomyocytes at near anoxia. *Journal of General Physiology*, **2010**, 135, 307-19	3.4	16
38	Deciphering the function of the CNGB1b subunit in olfactory CNG channels. *Scientific Reports*, **2016**, 6, 29378	4.9	14
37	Conformational Flip of Nonactivated HCN2 Channel Subunits Evoked by Cyclic Nucleotides. *Biophysical Journal*, **2015**, 109, 2268-76	2.9	14
36	Serum deprivation and NGF induce and modulate voltage-gated Na(+) currents in human astrocytoma cell lines. *Glia*, **2001**, 34, 59-67	9	14
35	The intracellular domain of the beta 2 subunit modulates the gating of cardiac Na v 1.5 channels. *Biophysical Journal*, **2007**, 92, 3885-92	2.9	13
34	Probability fluxes and transition paths in a Markovian model describing complex subunit cooperativity in HCN2 channels. *PLoS Computational Biology*, **2012**, 8, e1002721	5	11
33	Effects of permeating ions and cGMP on gating and conductance of rod-type cyclic nucleotide-gated (CNGA1) channels. *Journal of Physiology*, **2004**, 560, 605-16	3.9	11
32	Amiloride derivatives are potent blockers of KATP channels. *Naunyn-Schmiedebergs Archives of Pharmacology*, **2001**, 364, 351-8	3.4	11
31	Molecular regions controlling the activity of CNG channels. *Journal of General Physiology*, **2001**, 118, 183-92	3.4	11
30	Quantifying the cooperative subunit action in a multimeric membrane receptor. *Scientific Reports*, **2016**, 6, 20974	4.9	10
29	Role of the S4-S5 linker in CNG channel activation. *Biophysical Journal*, **2010**, 99, 2488-96	2.9	10
28	Activation gating in HCN2 channels. *PLoS Computational Biology*, **2018**, 14, e1006045	5	9
27	Unraveling subunit cooperativity in homotetrameric HCN2 channels. *Biophysical Journal*, **2012**, 103, 1860-9	2.9	9
26	Characterization of N-terminally mutated cardiac Na(+) channels associated with long QT syndrome 3 and Brugada syndrome. *Frontiers in Physiology*, **2013**, 4, 153	4.6	9
25	Gating of cyclic nucleotide-gated (CNGA1) channels by cGMP jumps and depolarizing voltage steps. *Biophysical Journal*, **2006**, 90, 3146-54	2.9	9
24	Control of Cellular Activity **2005**, 155-251		8

23	Na(+) current through KATP channels: consequences for Na(+) and K(+) fluxes during early myocardial ischemia. *American Journal of Physiology - Heart and Circulatory Physiology*, **2004**, 286, H283-95	5.2	8
22	All four subunits of HCN2 channels contribute to the activation gating in an additive but intricate manner. *Journal of General Physiology*, **2018**, 150, 1261-1271	3.4	7
21	Thermodynamics of activation gating in olfactory-type cyclic nucleotide-gated (CNGA2) channels. *Biophysical Journal*, **2008**, 95, 2750-8	2.9	6
20	Hydrophobic alkyl chains substituted to the 8-position of cyclic nucleotides enhance activation of CNG and HCN channels by an intricate enthalpy - entropy compensation. *Scientific Reports*, **2018**, 8, 14960	4.9	6
19	Novel Fluorescent Cyclic Nucleotide Derivatives to Study CNG and HCN Channel Function. *Biophysical Journal*, **2019**, 116, 2411-2422	2.9	5
18	New strategies to measure intracellular sodium concentrations **2010**,		4
17	Dibenzylamine--a novel blocker of the voltage-dependent K+ current in myocardial mouse cells. *Naunyn-Schmiedebergs Archives of Pharmacology*, **2001**, 364, 9-13	3.4	4
16	Chemical synthesis and biological activity of novel brominated 7-deazaadenosine-3′,5′-cyclic monophosphate derivatives. *Bioorganic and Medicinal Chemistry*, **2019**, 27, 1704-1713	3.4	3
15	Visualization of the dynamics of PSD-95 and Kir2.1 interaction by fluorescence lifetime-based resonance energy transfer imaging **2015**, 27, 70-82		3
14	K(ATP) channel current increases in postinfarction remodeled cardiomyocytes. *Pflugers Archiv European Journal of Physiology*, **2006**, 452, 428-34	4.6	3
13	Relating ligand binding to activation gating in P2X2 receptors using a novel fluorescent ATP derivative. *Journal of Neurochemistry*, **2020**, 154, 251-262	6	3
12	Unravelling the intricate cooperativity of subunit gating in P2X2 ion channels. *Scientific Reports*, **2020**, 10, 21751	4.9	3
11	Fluorophore-Labeled Cyclic Nucleotides as Potent Agonists of Cyclic Nucleotide-Regulated Ion Channels. *ChemBioChem*, **2020**, 21, 2311-2320	3.8	2
10	Dissecting activation steps in P2X7 receptors. *Biochemical and Biophysical Research Communications* , **2021**, 569, 112-117	3.4	2
9	Avoiding the formation of vesicles by patch excision from Xenopus oocytes. *Journal of Neuroscience Methods*, **2014**, 225, 29-31	3	1
8	Multi-dimensional fluorescence lifetime measurements **2008**,		1
7	Spectrally resolved fluorescence lifetime and FRET measurements **2005**, 5700, 188		1
6	Allosteric signaling in C-linker and cyclic nucleotide-binding domain of HCN2 channels. *Biophysical Journal*, **2021**, 120, 950-963	2.9	1

5	Thermodynamic profile of mutual subunit control in a heteromeric receptor. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	1
4	Enlightening activation gating in P2X receptors.. *Purinergic Signalling*, **2022**, 1	3.8	1
3	Molecular Mechanisms of Voltage-Gated Na+ Channel Dysfunction in LQT3 Syndrome **2011**, 409-429		
2	Chapter 9 Spectrally Resolved Fluorescence Lifetime Imaging Microscopy: SLIM/mwFLIM **2009**, 211-244		
1	Functional and structural characterization of interactions between opposite subunits in HCN pacemaker channels.. *Communications Biology*, **2022**, 5, 430	6.7	