Michael Pusch

List of Publications by Year
in descending order

131 papers	9,689 citations	44069 48 h-index	38395 95 g-index
133 all docs	133 docs citations	133 times ranked	6097 citing authors

#	Article	IF	Citations
1	Mutation in the neuronal voltage-gated sodium channel SCN1A in familial hemiplegic migraine. Lancet, The, 2005, 366, 371-377.	13.7	760
2	Rates of diffusional exchange between small cells and a measuring patch pipette. Pflugers Archiv European Journal of Physiology, 1988, 411, 204-211.	2.8	666
3	A chloride channel widely expressed in epithelial and non-epithelial cells. Nature, 1992, 356, 57-60.	27.8	560
4	Chloride/proton antiporter activity of mammalian CLC proteins ClC-4 and ClC-5. Nature, 2005, 436, 420-423.	27.8	441
5	Mapping the site of block by tetrodotoxin and saxitoxin of sodium channel II. FEBS Letters, 1991, 293, 93-96.	2.8	434
6	Regions involved in the opening of CIC-2 chloride channel by voltage and cell volume. Nature, 1992, 360, 759-762.	27.8	410
7	Gating of the voltage-dependent chloride channel CIC-0 by the permeant anion. Nature, 1995, 373, 527-531.	27.8	355
8	CLC Chloride Channels and Transporters: Structure, Function, Physiology, and Disease. Physiological Reviews, 2018, 98, 1493-1590.	28.8	308
9	Two physically distinct pores in the dimeric CIC-0 chloride channel. Nature, 1996, 383, 340-343.	27.8	279
10	Molecular Determinants of KCNQ (K_v7) K⁺Channel Sensitivity to the Anticonvulsant Retigabine. Journal of Neuroscience, 2005, 25, 5051-5060.	3.6	235
11	Myotonia caused by mutations in the muscle chloride channel geneCLCN1. Human Mutation, 2002, 19, 423-434.	2.5	207
12	Mutations in dominant human myotonia congenita drastically alter the voltage dependence of the CIC-1 chloride channel. Neuron, 1995, 15, 1455-1463.	8.1	183
13	The Muscle Chloride Channel ClC-1 Has a Double-Barreled Appearance that Is Differentially Affected in Dominant and Recessive Myotonia. Journal of General Physiology, 1999, 113, 457-468.	1.9	182
14	Biophysical properties of acid-sensing ion channels (ASICs). Neuropharmacology, 2015, 94, 9-18.	4.1	170
15	Conservation of Chloride Channel Structure Revealed by an Inhibitor Binding Site in ClC-1. Neuron, 2003, 38, 47-59.	8.1	161
16	Surface Expression and Single Channel Properties of KCNQ2/KCNQ3, M-type K+ Channels Involved in Epilepsy. Journal of Biological Chemistry, 2000, 275, 13343-13348.	3.4	154
17	Functional and structural conservation of CBS domains from CLC chloride channels. Journal of Physiology, 2004, 557, 363-378.	2.9	131
18	Temperature Dependence of Fast and Slow Gating Relaxations of ClC-0 Chloride Channels. Journal of General Physiology, 1997, 109, 105-116.	1.9	122

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19	Identification of the Ca2+ Blocking Site of Acid-sensing Ion Channel (ASIC) 1. Journal of General Physiology, 2004, 124, 383-394.	1.9	122
20	Determinants of Anion-Proton Coupling in Mammalian Endosomal CLC Proteins. Journal of Biological Chemistry, 2008, 283, 4219-4227.	3.4	118
21	GlialCAM, a Protein Defective in a Leukodystrophy, Serves as a ClC-2 Clâ^' Channel Auxiliary Subunit. Neuron, 2012, 73, 951-961.	8.1	118
22	Conversion of the 2 Clâ^'/1 H+ antiporter ClC-5 in a NO3â^'/H+ antiporter by a single point mutation. EMBO Journal, 2009, 28, 175-182.	7.8	116
23	Chloride dependence of hyperpolarizationâ€activated chloride channel gates. Journal of Physiology, 1999, 515, 341-353.	2.9	110
24	Fast and Slow Gating Relaxations in the Muscle Chloride Channel Clc-1. Journal of General Physiology, 2000, 116, 433-444.	1.9	101
25	Divergent sodium channel defects in familial hemiplegic migraine. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9799-9804.	7.1	97
26	Activation and Inactivation of Homomeric KvLQT1 Potassium Channels. Biophysical Journal, 1998, 75, 785-792.	0.5	94
27	Investigation of LRRC8-Mediated Volume-Regulated Anion Currents in Xenopus Oocytes. Biophysical Journal, 2016, 111, 1429-1443.	0.5	94
28	The novel p.L1649Q mutation in theSCN1Aepilepsy gene is associated with familial hemiplegic migraine: genetic and functional studies. Human Mutation, 2007, 28, 522-522.	2.5	89
29	Pharmacological Activation of Normal and Arrhythmia-Associated Mutant KCNQ1 Potassium Channels. Circulation Research, 2003, 93, 941-947.	4.5	87
30	Localization and functional analyses of the MLC1 protein involved in megalencephalic leukoencephalopathy with subcortical cysts. Human Molecular Genetics, 2004, 13, 2581-2594.	2.9	86
31	Conformational Changes in the Pore of CLC-0. Journal of General Physiology, 2003, 122, 277-294.	1.9	82
32	Molecular and clinical heterogeneity in CLCN7-dependent osteopetrosis: report of 20 novel mutations. Human Mutation, 2010, 31, E1071-E1080.	2.5	77
33	Structural Basis of Slow Activation Gating in the Cardiac I_{Ks} Channel Complex. Cellular Physiology and Biochemistry, 2011, 27, 443-452.	1.6	70
34	Molecular determinants of differential pore blocking of kidney CLCâ€K chloride channels. EMBO Reports, 2004, 5, 584-589.	4.5	68
35	Gating Competence of Constitutively Open CLC-0 Mutants Revealed by the Interaction with a Small Organic Inhibitor. Journal of General Physiology, 2003, 122, 295-306.	1.9	67
36	Taurine and Skeletal Muscle Disorders. Neurochemical Research, 2004, 29, 135-142.	3.3	67

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37	Structure of the human ClC-1 chloride channel. PLoS Biology, 2019, 17, e3000218.	5.6	66
38	Molecular switch for CLC-K Cl ^{â^'} channel block/activation: Optimal pharmacophoric requirements towards high-affinity ligands. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1369-1373.	7.1	64
39	Pharmacological Characterization of Chloride Channels Belonging to the ClC Family by the Use of Chiral Clofibric Acid Derivatives. Molecular Pharmacology, 2000, 58, 498-507.	2.3	62
40	Washout phenomena in dialyzed mast cells allow discrimination of different steps in stimulus-secretion coupling. Bioscience Reports, 1987, 7, 313-321.	2.4	59
41	CLC Chloride Channels in Caenorhabditis elegans. Journal of Biological Chemistry, 1999, 274, 34238-34244.	3.4	55
42	Activation and Inhibition of Kidney CLC-K Chloride Channels by Fenamates. Molecular Pharmacology, 2006, 69, 165-173.	2.3	55
43	Tight coupling of rubidium conductance and inactivation in human KCNQ1 potassium channels. Journal of Physiology, 2003, 552, 369-378.	2.9	55
44	Inward Rectification in ClC-0 Chloride Channels Caused by Mutations in Several Protein Regions. Journal of General Physiology, 1997, 110, 165-171.	1.9	54
45	Proton Sensing of CLC-0 Mutant E166D. Journal of General Physiology, 2006, 127, 51-66.	1.9	54
46	Gating and Flickery Block Differentially Affected by Rubidium in Homomeric KCNQ1 and Heteromeric KCNQ1/KCNE1 Potassium Channels. Biophysical Journal, 2000, 78, 211-226.	0.5	52
47	Molecular Requisites for Drug Binding to Muscle CLC-1 and Renal CLC-K Channel Revealed by the Use of Phenoxy-Alkyl Derivatives of 2-(p-Chlorophenoxy)Propionic Acid. Molecular Pharmacology, 2002, 62, 265-271.	2.3	51
48	The human two-pore channel 1 is modulated by cytosolic and luminal calcium. Scientific Reports, 2017, 7, 43900.	3.3	50
49	Investigations of Pharmacologic Properties of the Renal CLC-K1 Chloride Channel Co-expressed with Barttin by the Use of 2-(p-Chlorophenoxy)Propionic Acid Derivatives and Other Structurally Unrelated Chloride Channels Blockers. Journal of the American Society of Nephrology: JASN, 2004, 15, 13-20.	6.1	48
50	Strong modulation by RFamide neuropeptides of the ASIC1b/3 heteromer in competition with extracellular calcium. Neuropharmacology, 2006, 50, 964-974.	4.1	48
51	Subunitâ€dependent oxidative stress sensitivity of LRRC8 volumeâ€regulated anion channels. Journal of Physiology, 2017, 595, 6719-6733.	2.9	46
52	Drastic reduction of the slow gate of human muscle chloride channel (ClCâ€1) by mutation C277S. Journal of Physiology, 2001, 534, 745-752.	2.9	45
53	Structural Insights into Chloride and Proton-Mediated Gating of CLC Chloride Channelsâ€. Biochemistry, 2004, 43, 1135-1144.	2.5	45
54	Intracellular regulation of human ClCâ€5 by adenine nucleotides. EMBO Reports, 2009, 10, 1111-1116.	4.5	45

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55	Mechanism of proton/substrate coupling in the heptahelical lysosomal transporter cystinosin. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E210-7.	7.1	40
56	A regulatory calcium-binding site at the subunit interface of CLC-K kidney chloride channels. Journal of General Physiology, 2010, 136, 311-323.	1.9	37
57	Interaction of hydrophobic anions with the rat skeletal muscle chloride channel ClCâ€1: effects on permeation and gating. Journal of Physiology, 2001, 530, 379-393.	2.9	36
58	Mechanism of Block of Single Protopores of the Torpedo Chloride Channel Clc-0 by 2-(p-Chlorophenoxybutyric) Acid (Cpb). Journal of General Physiology, 2001, 118, 45-62.	1.9	36
59	Mechanisms of block of muscle type CLC chloride channels (Review). Molecular Membrane Biology, 2002, 19, 285-292.	2.0	36
60	Intracellular Proton Regulation of ClC-0. Journal of General Physiology, 2008, 132, 185-198.	1.9	36
61	Ca2+-activated Chloride Channels Go Molecular. Journal of General Physiology, 2004, 123, 323-325.	1.9	34
62	The Arabidopsis central vacuole as an expression system for intracellular transporters: functional characterization of the Cl^{â^'}/H⁺ exchanger CLCâ€7. Journal of Physiology, 2012, 590, 3421-3430.	2.9	34
63	Channel or transporter? The CLC saga continues. Experimental Physiology, 2006, 91, 149-152.	2.0	33
64	On the Mechanism of Gating Charge Movement of ClC-5, a Human Clâ^'/H+ Antiporter. Biophysical Journal, 2012, 102, 2060-2069.	0.5	32
65	GlialCAM, a CLC-2 Cl - Channel Subunit, Activates the Slow Gate of CLC Chloride Channels. Biophysical Journal, 2014, 107, 1105-1116.	0.5	32
66	Targeting kidney CLC-K channels: Pharmacological profile in a human cell line versus Xenopus oocytes. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 2484-2491.	2.6	32
67	TRPM2 Oxidation Activates Two Distinct Potassium Channels in Melanoma Cells through Intracellular Calcium Increase. International Journal of Molecular Sciences, 2021, 22, 8359.	4.1	31
68	Hyperexcitable interneurons trigger cortical spreading depression in an Scn1a migraine model. Journal of Clinical Investigation, 2021, 131, .	8.2	30
69	An Up-to-Date Overview of the Complexity of Genotype-Phenotype Relationships in Myotonic Channelopathies. Frontiers in Neurology, 2019, 10, 1404.	2.4	27
70	The Muscle Chloride Channel ClC-1 Is Not Directly Regulated by Intracellular ATP. Journal of General Physiology, 2008, 131, 109-116.	1.9	26
71	Mechanisms of Activation of LRRC8 Volume Regulated Anion Channels. Cellular Physiology and Biochemistry, 2021, 55, 41-56.	1.6	25
72	Efficient generation of osteoclasts from human induced pluripotent stem cells and functional investigations of lethal CLCN7-related osteopetrosis. Journal of Bone and Mineral Research, 2020, 36, 1621-1635.	2.8	25

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73	Gain of function of sporadic/familial hemiplegic migraine-causing SCN1A mutations: Use of an optimized cDNA. Cephalalgia, 2019, 39, 477-488.	3.9	24
74	Myotonia-related mutations in the distal C-terminus of ClC-1 and ClC-0 chloride channels affect the structure of a poly-proline helix. Biochemical Journal, 2007, 403, 79-87.	3.7	23
75	Mechanism of Interaction of Niflumic Acid with Heterologously Expressed Kidney CLC-K Chloride Channels. Journal of Membrane Biology, 2007, 216, 73-82.	2.1	23
76	A single point mutation reveals gating of the human ClCâ€5 Cl^{â^'}/H⁺ antiporter. Journal of Physiology, 2013, 591, 5879-5893.	2.9	23
77	Identification and Functional Characterization ofCLCN1Mutations Found in Nondystrophic Myotonia Patients. Human Mutation, 2016, 37, 74-83.	2.5	23
78	Two open states and rateâ€limiting gating steps revealed by intracellular Na + block of human KCNQ1 and KCNQ1/KCNE1 K + channels. Journal of Physiology, 2001, 533, 135-144.	2.9	22
79	Structural requisites of 2-(p -chlorophenoxy)propionic acid analogues for activity on native rat skeletal muscle chloride conductance and on heterologously expressed CLC-1. British Journal of Pharmacology, 2003, 139, 1255-1264.	5.4	22
80	Identification of sites responsible for the potentiating effect of niflumic acid on ClC-Ka kidney chloride channels. British Journal of Pharmacology, 2010, 160, 1652-1661.	5.4	22
81	Dissecting a regulatory calcium-binding site of CLC-K kidney chloride channels. Journal of General Physiology, 2012, 140, 681-696.	1.9	22
82	Expanding the spectrum of megalencephalic leukoencephalopathy with subcortical cysts in two patients with GLIALCAM mutations. Neurogenetics, 2014, 15, 41-48.	1.4	22
83	ClC-5: Physiological role and biophysical mechanisms. Cell Calcium, 2015, 58, 57-66.	2.4	22
84	Kidney CLC-K chloride channels inhibitors. Journal of Hypertension, 2016, 34, 981-992.	0.5	22
85	<scp>d</scp>â€Galactose induced early aging in human erythrocytes: Role of band 3 protein. Journal of Cellular Physiology, 2022, 237, 1586-1596.	4.1	22
86	KCNE1 induces fenestration in the Kv7.1/KCNE1 channel complex that allows for highly specific pharmacological targeting. Nature Communications, 2016, 7, 12795.	12.8	21
87	The biophysics of piezo1 and piezo2 mechanosensitive channels. Biophysical Chemistry, 2016, 208, 26-33.	2.8	21
88	The role of protons in fast and slow gating of the Torpedo chloride channel ClC-0. European Biophysics Journal, 2010, 39, 869-875.	2.2	20
89	Molecular Pharmacology of Kidney and Inner Ear CLC-K Chloride Channels. Frontiers in Pharmacology, 2010, 1, 130.	3.5	20
90	Structural determinants of interaction, trafficking and function in the ClCâ€2/MLC1 subunit GlialCAM involved in leukodystrophy. Journal of Physiology, 2015, 593, 4165-4180.	2.9	19

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91	Unique Structure and Function of Chloride Transporting CLC Proteins. IEEE Transactions on Nanobioscience, 2005, 4, 49-57.	3.3	18
92	Alkaline pH Block of CLC-K Kidney Chloride Channels Mediated by a Pore Lysine Residue. Biophysical Journal, 2013, 105, 80-90.	0.5	18
93	The ClC Family of Voltage-Gated Chloride Channels: Structure and Function. Annals of the New York Academy of Sciences, 1993, 707, 285-293.	3.8	17
94	Molecular Modeling ofp-Chlorophenoxyacetic Acid Binding to the CLC-0 Channelâ€. Biochemistry, 2003, 42, 5176-5185.	2.5	17
95	Regulatoryâ€“auxiliary subunits of CLC chloride channelâ€“transport proteins. Journal of Physiology, 2015, 593, 4111-4127.	2.9	17
96	Cisplatin activates volume sensitive LRRC8 channel mediated currents in Xenopus oocytes. Channels, 2017, 11, 254-260.	2.8	17
97	The VRAC blocker DCPIB directly gates the BK channels and increases intracellular Ca²⁺ in melanoma and pancreatic duct adenocarcinoma cell lines. British Journal of Pharmacology, 2022, 179, 3452-3469.	5.4	17
98	Functional Analyses of Mutations inHEPACAMCausing Megalencephalic Leukoencephalopathy. Human Mutation, 2014, 35, 1175-1178.	2.5	16
99	Unique variants in CLCN3, encoding an endosomal anion/proton exchanger, underlie a spectrum of neurodevelopmental disorders. American Journal of Human Genetics, 2021, 108, 1450-1465.	6.2	16
100	Structural basis of PI(4,5)P2-dependent regulation of GluA1 by phosphatidylinositol-5-phosphate 4-kinase, type II, alpha (PIP5K2A). Pflugers Archiv European Journal of Physiology, 2014, 466, 1885-1897.	2.8	15
101	Iâ€J loop involvement in the pharmacological profile of CLC-K channels expressed in Xenopus oocytes. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 2745-2756.	2.6	15
102	Gain of function due to increased opening probability by two KCNQ5 pore variants causing developmental and epileptic encephalopathy. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2116887119.	7.1	14
103	Ion Channel Involvement in Tumor Drug Resistance. Journal of Personalized Medicine, 2022, 12, 210.	2.5	13
104	NS-11021 Modulates Cancer-Associated Processes Independently of BK Channels in Melanoma and Pancreatic Duct Adenocarcinoma Cell Lines. Cancers, 2021, 13, 6144.	3.7	13
105	Extracellular Determinants of Anion Discrimination of the Clâ¯/H+ Antiporter Protein CLC-5. Journal of Biological Chemistry, 2011, 286, 44134-44144.	3.4	12
106	Expression of LRRC8/VRAC Currents in Xenopus Oocytes: Advantages and Caveats. International Journal of Molecular Sciences, 2018, 19, 719.	4.1	12
107	Arginine-selective modulation of the lysosomal transporter PQLC2 through a gate-tuning mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	11
108	Large transient capacitive currents in wild-type lysosomal Clâ¯/H+ antiporter ClC-7 and residual transport activity in the proton glutamate mutant E312A. Journal of General Physiology, 2021, 153, .	1.9	11

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109	Relaxing messages from the sarcolemma. Journal of General Physiology, 2010, 136, 593-596.	1.9	10
110	A Two-Holed Story: Structural Secrets About ClC Proteins Become Unraveled?. Physiology, 2004, 19, 293-299.	3.1	9
111	Buffered Diffusion around a Spherical Proton Pumping Cell: A Theoretical Analysis. Biophysical Journal, 2008, 94, 53-62.	0.5	9
112	An optical assay of the transport activity of ClC-7. Scientific Reports, 2013, 3, 1231.	3.3	8
113	Altered voltageâ€dependence of slowly activating chlorideâ€proton antiport by late endosomal ClCâ€6 explains distinct neurological disorders. Journal of Physiology, 2022, 600, 2147-2164.	2.9	8
114	BK Channel in the Physiology and in the Cancer of Pancreatic Duct: Impact and Reliability of BK Openers. Frontiers in Pharmacology, 0, 13, .	3.5	4
115	Analysis of Electrophysiological Data. , 2006, , 111-144.		3
116	Role of PKC in the Regulation of the Human Kidney Chloride Channel ClC-Ka. Scientific Reports, 2020, 10, 10268.	3.3	3
117	The Joy of Markov Modelsâ€”Channel Gating and Transport Cycling Made Easy. The Biophysicist, 2021, 2, 70-107.	0.3	3
118	A Kick-Start for CLC Antiportersâ€™ Pharmacology. Chemistry and Biology, 2012, 19, 1358-1359.	6.0	2
119	Thermal Sensitivity of CLC andÂTMEM16 Chloride ChannelsÂand Transporters. Current Topics in Membranes, 2014, 74, 213-231.	0.9	2
120	TMEM16 Ca2+ Activated Clâ€“ Channels and CLC Chloride Channels and Transporters. , 0, , 696-736.		2
121	Functional and Structural Characterization of ClC-1 and Nav1.4 Channels Resulting from CLCN1 and SCN4A Mutations Identified Alone and Coexisting in Myotonic Patients. Cells, 2021, 10, 374.	4.1	2
122	Chloride Transporting CLC Proteins1. Biological and Medical Physics Series, 2007, , 301-333.	0.4	2
123	Pharmacology of CLC Chloride Channels and Transporters. Advances in Molecular and Cell Biology, 2006, , 83-107.	0.1	1
124	A User-Friendly Computational Tool for Markov Modelling Channel Gating and Transport Cycling. Biophysical Journal, 2021, 120, 90a.	0.5	1
125	CLC chloride channels and chloride/proton antiporters. , 2009, , 172-182.		1
126	Chlorideâ€Transporting Proteins in Mammalian Organisms: An Overview. Advances in Molecular and Cell Biology, 2006, 38, 1-7.	0.1	0

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127	It's the proton also in ClCâ€2. Journal of Physiology, 2009, 587, 1379-1380.	2.9	0
128	Clâ€" CHANNELS: A Journey from Ca2+ Sensors to ATPases and Secondary Active Ion Transporters. Annual Review of Physiology, 2005, 67, .	13.1	0
129	CLC Channels and Transporters. , 2013, , 320-326.		0
130	CLC Channels and Transporters. , 2019, , 1-8.		0
131	Is Neuronal Fatigue the Cause of Migraine?. Brain Sciences, 2022, 12, 673.	2.3	0