Christoph Fahlke

List of Publications by Citations

118 papers	5,198 citations	41 h-index	69 g-index
128 ext. papers	5,904 ext. citations	8.3 avg, IF	5.43 L-index

#	Paper	IF	Citations
118	Engaging neuroscience to advance translational research in brain barrier biology. *Nature Reviews Neuroscience*, **2011**, 12, 169-82	13.5	418
117	Somatic and germline CACNA1D calcium channel mutations in aldosterone-producing adenomas and primary aldosteronism. *Nature Genetics*, **2013**, 45, 1050-4	36.3	410
116	Mutations in CLCN2 encoding a voltage-gated chloride channel are associated with idiopathic generalized epilepsies. *Nature Genetics*, **2003**, 33, 527-32	36.3	274
115	Recurrent gain of function mutation in calcium channel CACNA1H causes early-onset hypertension with primary aldosteronism. *ELife*, **2015**, 4, e06315	8.9	203
114	Pore-forming segments in voltage-gated chloride channels. *Nature*, **1997**, 390, 529-32	50.4	166
113	CLCN2 chloride channel mutations in familial hyperaldosteronism type II. *Nature Genetics*, **2018**, 50, 349-354	36.3	117
112	Crystal structure of a light-driven sodium pump. *Nature Structural and Molecular Biology*, **2015**, 22, 390-5	17.6	115
111	Molecular basis for decreased muscle chloride conductance in the myotonic goat. *Proceedings of the National Academy of Sciences of the United States of America*, **1996**, 93, 11248-52	11.5	115
110	An aspartic acid residue important for voltage-dependent gating of human muscle chloride channels. *Neuron*, **1995**, 15, 463-72	13.9	108
109	Barttin modulates trafficking and function of ClC-K channels. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 11411-6	11.5	105
108	A trimeric quaternary structure is conserved in bacterial and human glutamate transporters. *Journal of Biological Chemistry*, **2004**, 279, 39505-12	5.4	95
107	A mutation in autosomal dominant myotonia congenita affects pore properties of the muscle chloride channel. *Proceedings of the National Academy of Sciences of the United States of America*, **1997**, 94, 2729-34	11.5	93
106	Subunit stoichiometry of human muscle chloride channels. *Journal of General Physiology*, **1997**, 109, 93-104	3.4	89
105	Mechanisms of anion conduction by coupled glutamate transporters. *Cell*, **2015**, 160, 542-53	56.2	86
104	Ion permeation and selectivity in ClC-type chloride channels. *American Journal of Physiology - Renal Physiology*, **2001**, 280, F748-57	4.3	79
103	The photophysics of LOV-based fluorescent proteins--new tools for cell biology. *Photochemical and Photobiological Sciences*, **2014**, 13, 875-83	4.2	77
102	Conserved dimeric subunit stoichiometry of SLC26 multifunctional anion exchangers. *Journal of Biological Chemistry*, **2008**, 283, 4177-88	5.4	76

101	Different effects on gating of three myotonia-causing mutations in the inactivation gate of the human muscle sodium channel. *Journal of Physiology*, **1995**, 487, 107-14	3.9	76
100	Mechanism of voltage-dependent gating in skeletal muscle chloride channels. *Biophysical Journal*, **1996**, 71, 695-706	2.9	72
99	The role of the carboxyl terminus in ClC chloride channel function. *Journal of Biological Chemistry*, **2004**, 279, 13140-7	5.4	70
98	Excitatory amino acid transporters: recent insights into molecular mechanisms, novel modes of modulation and new therapeutic possibilities. *Current Opinion in Pharmacology*, **2015**, 20, 116-23	5.1	68
97	A beta-lactam antibiotic dampens excitotoxic inflammatory CNS damage in a mouse model of multiple sclerosis. *PLoS ONE*, **2008**, 3, e3149	3.7	68
96	Novel CLCN1 mutations with unique clinical and electrophysiological consequences. *Brain*, **2002**, 125, 2392-407	11.2	67
95	Disease-causing dysfunctions of barttin in Bartter syndrome type IV. *Journal of the American Society of Nephrology: JASN*, **2009**, 20, 145-53	12.7	62
94	CLC channel function and dysfunction in health and disease. *Frontiers in Physiology*, **2014**, 5, 378	4.6	61
93	Molecular basis of DFNB73: mutations of BSND can cause nonsyndromic deafness or Bartter syndrome. *American Journal of Human Genetics*, **2009**, 85, 273-80	11	61
92	Barttin activates ClC-K channel function by modulating gating. *Journal of the American Society of Nephrology: JASN*, **2010**, 21, 1281-9	12.7	60
91	Pore stoichiometry of a voltage-gated chloride channel. *Nature*, **1998**, 394, 687-90	50.4	58
90	A missense mutation in canine C1C-1 causes recessive myotonia congenita in the dog. *FEBS Letters*, **1999**, 456, 54-8	3.8	57
89	Channel-like slippage modes in the human anion/proton exchanger ClC-4. *Journal of General Physiology*, **2009**, 133, 485-96	3.4	54
88	ClC-3 is an intracellular chloride/proton exchanger with large voltage-dependent nonlinear capacitance. *ACS Chemical Neuroscience*, **2013**, 4, 994-1003	5.7	53
87	Mechanism of ion permeation in skeletal muscle chloride channels. *Journal of General Physiology*, **1997**, 110, 551-64	3.4	53
86	Anion permeation in human ClC-4 channels. *Biophysical Journal*, **2003**, 84, 2306-18	2.9	53
85	Two novel CLCN2 mutations accelerating chloride channel deactivation are associated with idiopathic generalized epilepsy. *Human Mutation*, **2009**, 30, 397-405	4.7	52
84	Glutamate modifies ion conduction and voltage-dependent gating of excitatory amino acid transporter-associated anion channels. *Journal of Biological Chemistry*, **2003**, 278, 50112-9	5.4	51

83	Glutamate transporter-associated anion channels adjust intracellular chloride concentrations during glial maturation. *Glia*, **2017**, 65, 388-400	9	50
82	A point mutation associated with episodic ataxia 6 increases glutamate transporter anion currents. *Brain*, **2012**, 135, 3416-25	11.2	50
81	Molecular and cellular physiology of sodium-dependent glutamate transporters. *Brain Research Bulletin*, **2018**, 136, 3-16	3.9	48
80	Physiology and pathophysiology of ClC-K/barttin channels. *Frontiers in Physiology*, **2010**, 1, 155	4.6	47
79	Regulation of the human skeletal muscle chloride channel hClC-1 by protein kinase C. *Journal of Physiology*, **1999**, 514 (Pt 3), 677-85	3.9	45
78	Functional properties of the retinal glutamate transporters GLT-1c and EAAT5. *Journal of Biological Chemistry*, **2014**, 289, 1815-24	5.4	42
77	Allosteric modulation of an excitatory amino acid transporter: the subtype-selective inhibitor UCPH-101 exerts sustained inhibition of EAAT1 through an intramonomeric site in the trimerization domain. *Journal of Neuroscience*, **2013**, 33, 1068-87	6.6	41
76	CLCN2 variants in idiopathic generalized epilepsy. *Nature Genetics*, **2009**, 41, 954-5	36.3	40
75	Gating of human ClC-2 chloride channels and regulation by carboxy-terminal domains. *Journal of Physiology*, **2008**, 586, 5325-36	3.9	39
74	Induced fit substrate binding to an archeal glutamate transporter homologue. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 12486-91	11.5	38
73	Carboxy-terminal truncations modify the outer pore vestibule of muscle chloride channels. *Biophysical Journal*, **2005**, 89, 1710-20	2.9	38
72	Molecular physiology of EAAT anion channels. *Pflugers Archiv European Journal of Physiology*, **2016**, 468, 491-502	4.6	37
71	VGLUT1 functions as a glutamate/proton exchanger with chloride channel activity in hippocampal glutamatergic synapses. *Nature Communications*, **2017**, 8, 2279	17.4	36
70	Neuronal glutamate transporters vary in substrate transport rate but not in unitary anion channel conductance. *Journal of Biological Chemistry*, **2007**, 282, 34719-26	5.4	35
69	A conserved aspartate determines pore properties of anion channels associated with excitatory amino acid transporter 4 (EAAT4). *Journal of Biological Chemistry*, **2010**, 285, 23676-86	5.4	32
68	Residues lining the inner pore vestibule of human muscle chloride channels. *Journal of Biological Chemistry*, **2001**, 276, 1759-65	5.4	30
67	Unique structure and function of viral rhodopsins. *Nature Communications*, **2019**, 10, 4939	17.4	29
66	Disease-causing mutations C277R and C277Y modify gating of human ClC-1 chloride channels in myotonia congenita. *Journal of Physiology*, **2012**, 590, 3449-64	3.9	28

65	Intersubunit interactions in EAAT4 glutamate transporters. *Journal of Neuroscience*, **2006**, 26, 7513-22	6.6	28
64	Neuronal ClC-3 Splice Variants Differ in Subcellular Localizations, but Mediate Identical Transport Functions. *Journal of Biological Chemistry*, **2015**, 290, 25851-62	5.4	27
63	Involvement of ClC-3 chloride/proton exchangers in controlling glutamatergic synaptic strength in cultured hippocampal neurons. *Frontiers in Cellular Neuroscience*, **2014**, 8, 143	6.1	27
62	Hetero-oligomerization of neuronal glutamate transporters. *Journal of Biological Chemistry*, **2011**, 286, 3935-43	5.4	27
61	A dynamic switch between inhibitory and excitatory currents in a neuronal glutamate transporter. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 19214-8	11.5	27
60	Anion- and proton-dependent gating of ClC-4 anion/proton transporter under uncoupling conditions. *Biophysical Journal*, **2011**, 100, 1233-41	2.9	26
59	Regulation of ClC-2 gating by intracellular ATP. *Pflugers Archiv European Journal of Physiology*, **2013** , 465, 1423-37	4.6	25
58	Anion transport by the cochlear motor protein prestin. *Journal of Physiology*, **2012**, 590, 259-72	3.9	24
57	Chloride channels with reduced single-channel conductance in recessive myotonia congenita. *Neuron*, **1993**, 10, 225-32	13.9	24
56	Regulation of glial glutamate transporters by C-terminal domains. *Journal of Biological Chemistry*, **2011**, 286, 1927-37	5.4	23
55	Impaired K binding to glial glutamate transporter EAAT1 in migraine. *Scientific Reports*, **2017**, 7, 13913	4.9	21
54	Elevated aldosterone and blood pressure in a mouse model of familial hyperaldosteronism with ClC-2 mutation. *Nature Communications*, **2019**, 10, 5155	17.4	19
53	ClC-1 and ClC-2 form hetero-dimeric channels with novel protopore functions. *Pflugers Archiv European Journal of Physiology*, **2014**, 466, 2191-204	4.6	19
52	Role of the cytoskeleton in the regulation of Cl- channels in human embryonic skeletal muscle cells. *Pflugers Archiv European Journal of Physiology*, **1994**, 428, 323-30	4.6	19
51	Single-channel recordings of chloride currents in cultured human skeletal muscle. *Pflugers Archiv European Journal of Physiology*, **1992**, 421, 108-16	4.6	19
50	Allosteric gate modulation confers K coupling in glutamate transporters. *EMBO Journal*, **2019**, 38, e101468	13	18
49	Impaired surface membrane insertion of homo- and heterodimeric human muscle chloride channels carrying amino-terminal myotonia-causing mutations. *Scientific Reports*, **2015**, 5, 15382	4.9	15
48	Mutating a conserved proline residue within the trimerization domain modifies Na+ binding to excitatory amino acid transporters and associated conformational changes. *Journal of Biological Chemistry*, **2013**, 288, 36492-501	5.4	15

47	A novel alteration of muscle chloride channel gating in myotonia levior. *Journal of Physiology*, **2002**, 545, 345-54	3.9	15
46	The myotonia congenita mutation A331T confers a novel hyperpolarization-activated gate to the muscle chloride channel ClC-1. *Journal of Neuroscience*, **2002**, 22, 7462-70	6.6	15
45	Human CLC-K Channels Require Palmitoylation of Their Accessory Subunit Barttin to Be Functional. *Journal of Biological Chemistry*, **2015**, 290, 17390-400	5.4	14
44	Substrate-dependent gating of anion channels associated with excitatory amino acid transporter 4. *Journal of Biological Chemistry*, **2011**, 286, 23780-8	5.4	14
43	Giga-seal formation alters properties of sodium channels of human myoballs. *Pflugers Archiv European Journal of Physiology*, **1992**, 420, 248-54	4.6	14
42	Carboxyl-terminal Truncations of ClC-Kb Abolish Channel Activation by Barttin Via Modified Common Gating and Trafficking. *Journal of Biological Chemistry*, **2015**, 290, 30406-16	5.4	13
41	Increased glutamate transporter-associated anion currents cause glial apoptosis in episodic ataxia 6. *Brain Communications*, **2020**, 2, fcaa022	4.5	13
40	Functional consequences of SLC1A3 mutations associated with episodic ataxia 6. *Human Mutation*, **2020**, 41, 1892-1905	4.7	13
39	Preferential association with ClC-3 permits sorting of ClC-4 into endosomal compartments. *Journal of Biological Chemistry*, **2017**, 292, 19055-19065	5.4	11
38	Efficient non-cytotoxic fluorescent staining of halophiles. *Scientific Reports*, **2018**, 8, 2549	4.9	11
37	Tryptophan Scanning Mutagenesis Identifies the Molecular Determinants of Distinct Barttin Functions. *Journal of Biological Chemistry*, **2015**, 290, 18732-43	5.4	11
36	Molecular mechanisms of ion conduction in ClC-type chloride channels: lessons from disease-causing mutations. *Kidney International*, **2000**, 57, 780-6	9.9	11
35	Characterization of the high-conductance Ca(2+)-activated K+ channel in adult human skeletal muscle. *Pflugers Archiv European Journal of Physiology*, **1995**, 429, 738-47	4.6	11
34	Na-dependent gate dynamics and electrostatic attraction ensure substrate coupling in glutamate transporters. *Science Advances*, **2020**, 6,	14.3	11
33	Molecular Basis of CLC Antiporter Inhibition by Fluoride. *Journal of the American Chemical Society*, **2020**, 142, 7254-7258	16.4	10
32	CNS Schwann cells display oligodendrocyte precursor-like potassium channel activation and antigenic expression in vitro. *Journal of Neural Transmission*, **2014**, 121, 569-81	4.3	10
31	Neutralizing aspartate 83 modifies substrate translocation of excitatory amino acid transporter 3 (EAAT3) glutamate transporters. *Journal of Biological Chemistry*, **2012**, 287, 20016-26	5.4	10
30	Anion channels: regulation of ClC-3 by an orphan second messenger. *Current Biology*, **2008**, 18, R1061-4	6.3	10

29	Parawixin1: a spider toxin opening new avenues for glutamate transporter pharmacology. *Molecular Pharmacology*, **2007**, 72, 1100-2	4.3	10
28	Whole-cell recordings of chloride currents in cultured human skeletal muscle. *Pflugers Archiv European Journal of Physiology*, **1992**, 421, 101-7	4.6	10
27	Gating Charge Calculations by Computational Electrophysiology Simulations. *Biophysical Journal*, **2017**, 112, 1396-1405	2.9	9
26	Molecular Determinants of Substrate Specificity in Sodium-coupled Glutamate Transporters. *Journal of Biological Chemistry*, **2015**, 290, 28988-96	5.4	9
25	Dysregulation of Astrocyte Ion Homeostasis and Its Relevance for Stroke-Induced Brain Damage. *International Journal of Molecular Sciences*, **2021**, 22,	6.3	9
24	Quantitative determination of cellular [Na] by fluorescence lifetime imaging with CoroNaGreen. *Journal of General Physiology*, **2019**, 151, 1319-1331	3.4	8
23	Noise analysis to study unitary properties of transporter-associated ion channels. *Channels*, **2011**, 5, 468-74	3	8
22	Chloride channels take center stage in a muscular drama. *Journal of General Physiology*, **2011**, 137, 17-9	3.4	8
21	Chloride channels in cultured human skeletal muscle are regulated by G proteins. *Pflugers Archiv European Journal of Physiology*, **1992**, 421, 566-71	4.6	8
20	Reduced Membrane Insertion of CLC-K by V33L Barttin Results in Loss of Hearing, but Leaves Kidney Function Intact. *Frontiers in Physiology*, **2017**, 8, 269	4.6	7
19	Barttin Regulates the Subcellular Localization and Posttranslational Modification of Human Cl/H Antiporter ClC-5. *Frontiers in Physiology*, **2018**, 9, 1490	4.6	7
18	Determination of Intracellular Chloride Concentrations by Fluorescence Lifetime Imaging. *Springer Series in Chemical Physics*, **2015**, 189-211	0.3	6
17	Metabolic energy sensing by mammalian CLC anion/proton exchangers. *EMBO Reports*, **2020**, 21, e47872	6.5	5
16	Infection-Induced Neutrophil Recruitment and Location in the Conducting Airway of Immunocompetent, Neutropenic, and Immunosuppressed Mice. *Journal of Immunology Research*, **2018**, 2018, 5379085	4.5	4
15	Reconstitution and NMR Characterization of the Ion-Channel Accessory Subunit Barttin in Detergents and Lipid-Bilayer Nanodiscs. *Frontiers in Molecular Biosciences*, **2019**, 6, 13	5.6	3
14	Molecular physiology and pathophysiology of ClC-type chloride channels. *Advances in Molecular and Cell Biology*, **2004**, 189-217		3
13	An amino-terminal point mutation increases EAAT2 anion currents without affecting glutamate transport rates. *Journal of Biological Chemistry*, **2020**, 295, 14936-14947	5.4	3
12	Mechanisms Underlying Proton Release in CLC-type F/H Antiporters. *Journal of Physical Chemistry Letters*, **2021**, 12, 4415-4420	6.4	3

11	Glial Chloride Homeostasis Under Transient Ischemic Stress. *Frontiers in Cellular Neuroscience*, **2021**, 15, 735300	6.1	3
10	Molecular physiology of anion channels: dual function proteins and new structural motifs--a special issue. *Pflugers Archiv European Journal of Physiology*, **2016**, 468, 369-70	4.6	2
9	Excitatory Amino Acid Transporter EAAT5 Improves Temporal Resolution in the Retina. *ENeuro*, **2021**, 8,	3.9	2
8	Molecular Basis of Coupled Transport and Anion Conduction in Excitatory Amino Acid Transporters. *Neurochemical Research*, **2021**, 1	4.6	2
7	Cellular Physiology and Pathophysiology of EAAT Anion Channels.. *Frontiers in Cellular Neuroscience* , **2021**, 15, 815279	6.1	1
6	CLC anion/proton exchangers regulate secretory vesicle filling and granule exocytosis in chromaffin cells.. *Journal of Neuroscience*, **2022**,	6.6	1
5	ClC-3: biophysical properties clarify cellular functions. *Journal of Physiology*, **2018**, 596, 3823-3824	3.9	0
4	The molecular and phenotypic spectrum of CLCN4-related epilepsy. *Epilepsia*, **2021**, 62, 1401-1415	6.4	0
3	Behind the scenes of CLC gating: deriving the voltage dependence of membrane proteins by admittance measurements. *Biophysical Journal*, **2014**, 107, 1261-2	2.9	
2	Electrophysiological Characterization of eGFP-Labeled Intrastriatal Dopamine Grafts. *Cell Transplantation*, **2015**, 24, 1451-67	4	
1	Dent's disease **2000**, 255-276		