Baron Chanda

List of Publications by Year
in descending order

61 papers	3,469 citations	147566 31 h-index	149479 56 g-index
79 all docs	79 docs citations	79 times ranked	3020 citing authors

#	Article	IF	Citations
1	Tracking Voltage-dependent Conformational Changes in Skeletal Muscle Sodium Channel during Activation. Journal of General Physiology, 2002, 120, 629-645.	0.9	309
2	The hitchhikerâ€™s guide to the voltage-gated sodium channel galaxy. Journal of General Physiology, 2016, 147, 1-24.	0.9	299
3	Gating charge displacement in voltage-gated ion channels involves limited transmembrane movement. Nature, 2005, 436, 852-856.	13.7	263
4	Domain IV voltage-sensor movement is both sufficient and rate limiting for fast inactivation in sodium channels. Journal of General Physiology, 2013, 142, 101-112.	0.9	175
5	A hybrid approach to measuring electrical activity in genetically specified neurons. Nature Neuroscience, 2005, 8, 1619-1626.	7.1	169
6	Two atomic constraints unambiguously position the S4 segment relative to S1 and S2 segments in the closed state of Shaker K channel. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 7904-7909.	3.3	164
7	Movement of â€˜gating chargeâ€™ is coupled to ligand binding in a G-protein-coupled receptor. Nature, 2006, 444, 106-109.	13.7	157
8	Coupling Interactions between Voltage Sensors of the Sodium Channel as Revealed by Site-specific Measurements. Journal of General Physiology, 2004, 123, 217-230.	0.9	103
9	Dynamics and number of trans-SNARE complexes determine nascent fusion pore properties. Nature, 2018, 554, 260-263.	13.7	103
10	A Molecular Framework for Temperature-Dependent Gating of Ion Channels. Cell, 2014, 158, 1148-1158.	13.5	98
11	A fluorophore attached to nicotinic acetylcholine receptor ÂM2 detects productive binding of agonist to the ÂÂ site. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 10195-10200.	3.3	92
12	Î±-Scorpion Toxin Impairs a Conformational Change that Leads to Fast Inactivation of Muscle Sodium Channels. Journal of General Physiology, 2008, 132, 251-263.	0.9	90
13	Nicotinic acetylcholine receptor is internalized via a Rac-dependent, dynamin-independent endocytic pathway. Journal of Cell Biology, 2008, 181, 1179-1193.	2.3	88
14	Estimating the voltage-dependent free energy change of ion channels using the median voltage for activation. Journal of General Physiology, 2012, 139, 3-17.	0.9	78
15	Multiple pore conformations driven by asynchronous movements of voltage sensors in a eukaryotic sodium channel. Nature Communications, 2013, 4, 1350.	5.8	76
16	Exocytotic fusion pores are composed of both lipids and proteins. Nature Structural and Molecular Biology, 2016, 23, 67-73.	3.6	74
17	Î²-Scorpion Toxin Modifies Gating Transitions in All Four Voltage Sensors of the Sodium Channel. Journal of General Physiology, 2007, 130, 257-268.	0.9	72
18	Local Anesthetics Disrupt Energetic Coupling between the Voltage-sensing Segments of a Sodium Channel. Journal of General Physiology, 2009, 133, 1-15.	0.9	63

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19	A Common Pathway for Charge Transport through Voltage-Sensing Domains. Neuron, 2008, 57, 345-351.	3.8	61
20	Improved Probes for Hybrid Voltage Sensor Imaging. Biophysical Journal, 2010, 99, 2355-2365.	0.2	61
21	Gating interaction maps reveal a noncanonical electromechanical coupling mode in the Shaker K+ channel. Nature Structural and Molecular Biology, 2018, 25, 320-326.	3.6	61
22	Gating transitions in the selectivity filter region of a sodium channel are coupled to the domain IV voltage sensor. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 2648-2653.	3.3	57
23	Molecular determinants of coupling between the domain III voltage sensor and pore of a sodium channel. Nature Structural and Molecular Biology, 2010, 17, 230-237.	3.6	49
24	Helix breaking transition in the S4 of HCN channel is critical for hyperpolarization-dependent gating. ELife, 2019, 8, .	2.8	49
25	Molecular mechanism of allosteric modification of voltage-dependent sodium channels by local anesthetics. Journal of General Physiology, 2010, 136, 541-554.	0.9	47
26	Observing Singleâ€Molecule Dynamics at Millimolar Concentrations. Angewandte Chemie - International Edition, 2017, 56, 2399-2402.	7.2	42
27	Structure and dynamics underlying elementary ligand binding events in human pacemaking channels. ELife, 2016, 5, .	2.8	42
28	Optical detection of rate-determining ion-modulated conformational changes of the ether-a-go-go K+ channel voltage sensor. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 18718-18723.	3.3	41
29	Evolutionarily conserved intracellular gate of voltage-dependent sodium channels. Nature Communications, 2014, 5, 3420.	5.8	39
30	Thermodynamics of electromechanical coupling in voltage-gated ion channels. Journal of General Physiology, 2012, 140, 613-623.	0.9	38
31	Free-energy relationships in ion channels activated by voltage and ligand. Journal of General Physiology, 2013, 141, 11-28.	0.9	34
32	Top-down machine learning approach for high-throughput single-molecule analysis. ELife, 2020, 9, .	2.8	33
33	Bipolar switching by HCN voltage sensor underlies hyperpolarization activation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 670-678.	3.3	29
34	The contribution of voltage clamp fluorometry to the understanding of channel and transporter mechanisms. Journal of General Physiology, 2019, 151, 1163-1172.	0.9	24
35	The intrinsically liganded cyclic nucleotideâ€“binding homology domain promotes KCNH channel activation. Journal of General Physiology, 2017, 149, 249-260.	0.9	23
36	Function of Shaker potassium channels produced by cell-free translation upon injection into Xenopus oocytes. Scientific Reports, 2013, 3, 1040.	1.6	22

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37	Deconstructing thermodynamic parameters of a coupled system from site-specific observables. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 18856-18861.	3.3	21
38	Functional reconstitution of bacterially expressed human potassium channels in proteoliposomes: membrane potential measurements with JC-1 to assay ion channel activity. Biochimica Et Biophysica Acta - Biomembranes, 1999, 1416, 92-100.	1.4	18
39	Observing Singleâ€Molecule Dynamics at Millimolar Concentrations. Angewandte Chemie, 2017, 129, 2439-2442.	1.6	18
40	cAMP binding to closed pacemaker ion channels is non-cooperative. Nature, 2021, 595, 606-610.	13.7	18
41	Interfacial gating triad is crucial for electromechanical transduction in voltage-activated potassium channels. Journal of General Physiology, 2014, 144, 457-467.	0.9	15
42	A self-consistent approach for determining pairwise interactions that underlie channel activation. Journal of General Physiology, 2014, 144, 441-455.	0.9	15
43	SnapShot: Channel Gating Mechanisms. Cell, 2017, 170, 594-594.e1.	13.5	14
44	Minimal molecular determinants of isoform-specific differences in efficacy in the HCN channel family. Journal of General Physiology, 2018, 150, 1203-1213.	0.9	14
45	Mapping Electromechanical Coupling Pathways in Voltage-Gated Ion Channels: Challenges and the Way Forward. Journal of Molecular Biology, 2021, 433, 167104.	2.0	13
46	Activation of the archaeal ion channel MthK is exquisitely regulated by temperature. ELife, 2020, 9, .	2.8	13
47	Tethered Spectroscopic Probes Estimate Dynamic Distances with Subnanometer Resolution in Voltage-Dependent Potassium Channels. Biophysical Journal, 2013, 105, 2724-2732.	0.2	11
48	Transplanting the N-terminus from Kv1.4 to Kv1.1 generates an inwardly rectifying K+ channel. NeuroReport, 1999, 10, 237-241.	0.6	10
49	Congruent pattern of accessibility identifies minimal pore gate in a non-symmetric voltage-gated sodium channel. Nature Communications, 2016, 7, 11608.	5.8	10
50	Modeling of ion permeation in calcium and sodium channel selectivity filters. , 2000, 38, 384-392.		8
51	Exploring the Architecture of Potassium Channels Using ChimÃ¦ras to Reveal Signal Transduction. Bioscience Reports, 1999, 19, 301-306.	1.1	7
52	Mapping temperature-dependent conformational change in the voltage-sensing domain of an engineered heat-activated K ⁺ channel. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	7
53	Probing Gating Mechanisms of Sodium Channels Using Pore Blockers. Handbook of Experimental Pharmacology, 2014, 221, 183-201.	0.9	7
54	Arranging the elements of the potassium channel: the T1 domain occludes the cytoplasmic face of the channel. European Biophysics Journal, 2004, 33, 370-6.	1.2	5

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55	Re-evaluation of the mechanism of cytotoxicity of dialkylated lariat ether compounds. RSC Advances, 2020, 10, 40391-40394.	1.7	5
56	Sodium channels caught in the act. Science, 2019, 363, 1278-1279.	6.0	4
57	NMR Structural Analysis of Isolated Shaker Voltage-Sensing Domain in LPPG Micelles. Biophysical Journal, 2019, 117, 388-398.	0.2	3
58	Generalized Interaction Energy Analysis of Intersubunit Linkage in Shaker Potassium Channels. Biophysical Journal, 2014, 106, 742a.	0.2	2
59	How to open a proton poreâ€"more than S4?. Nature Structural and Molecular Biology, 2015, 22, 277-278.	3.6	2
60	Acylated and alkylated benzo(crown-ethers) form ion-dependent ion channels in biological membranes. Biophysical Journal, 2022, 121, 1105-1114.	0.2	2
61	Preparation of Giant Escherichia coli spheroplasts for Electrophysiological Recordings. Bio-protocol, 2021, 11, e4261.	0.2	0