Sergei Sukharev

List of Publications by Year
in descending order

58 papers	3,821 citations	159585 30 h-index	155660 55 g-index
62 all docs	62 docs citations	62 times ranked	2825 citing authors

#	Article	IF	Citations
1	Mechanical Activation of MscL Revealed by a Locally Distributed Tension Molecular Dynamics Approach. Biophysical Journal, 2021, 120, 232-242.	0.5	13
2	Partitioning of Seven Different Classes of Antibiotics into LPS Monolayers Supports Three Different Permeation Mechanisms through the Outer Bacterial Membrane. Langmuir, 2021, 37, 1372-1385.	3.5	19
3	A skin-inspired soft material with directional mechanosensation. Bioinspiration and Biomimetics, 2021, 16, 046014.	2.9	5
4	A novel mechanosensitive channel controls osmoregulation, differentiation, and infectivity in Trypanosoma cruzi. ELife, 2021, 10, .	6.0	12
5	Mechanism of Catalysis by <scp>l</scp>-Asparaginase. Biochemistry, 2020, 59, 1927-1945.	2.5	36
6	Recovery of Equilibrium Free Energy from Nonequilibrium Thermodynamics with Mechanosensitive Ion Channels in <i>E.Âcoli</i>. Physical Review Letters, 2020, 124, 228101.	7.8	6
7	Differential Interactions of Piscidins with Phospholipids and Lipopolysaccharides at Membrane Interfaces. Langmuir, 2020, 36, 5065-5077.	3.5	10
8	The host-defense peptide piscidin P1 reorganizes lipid domains in membranes and decreases activation energies in mechanosensitive ion channels. Journal of Biological Chemistry, 2019, 294, 18557-18570.	3.4	14
9	Isothermal Titration Calorimetry of Be²⁺ with Phosphatidylserine Models Guides All-Atom Force-Field Development for Lipidâ€"Ion Interactions. Journal of Physical Chemistry B, 2019, 123, 1554-1565.	2.6	1
10	Glutaminase Activity of <scp>L</scp>-Asparaginase Contributes to Durable Preclinical Activity against Acute Lymphoblastic Leukemia. Molecular Cancer Therapeutics, 2019, 18, 1587-1592.	4.1	46
11	Spatiotemporal relationships defining the adaptive gating of the bacterial mechanosensitive channel MscS. European Biophysics Journal, 2018, 47, 663-677.	2.2	10
12	The voltage-dependence of MscL has dipolar and dielectric contributions and is governed by local intramembrane electric field. Scientific Reports, 2018, 8, 13607.	3.3	6
13	Channel disassembled: Pick, tweak, and soak parts to soften. Channels, 2017, 11, 173-175.	2.8	6
14	Tension-activated channels in the mechanism of osmotic fitness in <i>Pseudomonas aeruginosa</i>. Journal of General Physiology, 2017, 149, 595-609.	1.9	37
15	Mechanics of Droplet Interface Bilayer â€œUnzippingâ€•Defines the Bandwidth for the Mechanotransduction Response of Reconstituted MscL. Advanced Materials Interfaces, 2017, 4, 1600805.	3.7	16
16	High-Affinity Interactions of Beryllium(2+) with Phosphatidylserine Result in a Cross-Linking Effect Reducing Surface Recognition of the Lipid. Biochemistry, 2017, 56, 5457-5470.	2.5	16
17	The Gating Mechanism of Mechanosensitive Channels in Droplet Interface Bilayers. Materials Research Society Symposia Proceedings, 2015, 1722, 32.	0.1	0
18	Multifunctional, Micropipette-based Method for Incorporation And Stimulation of Bacterial Mechanosensitive Ion Channels in Droplet Interface Bilayers. Journal of Visualized Experiments, 2015, , .	0.3	5

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19	Activation of bacterial channel MscL in mechanically stimulated droplet interface bilayers. Scientific Reports, 2015, 5, 13726.	3.3	43
20	Membrane Affinity of Platensimycin and Its Dialkylamine Analogs. International Journal of Molecular Sciences, 2015, 16, 17909-17932.	4.1	6
21	Catalytic Role of the Substrate Defines Specificity of Therapeutic l-Asparaginase. Journal of Molecular Biology, 2015, 427, 2867-2885.	4.2	25
22	Active Role of the Substrate During Catalysis by the Therapeutic Enzyme Lâ€Asparaginase II. FASEB Journal, 2015, 29, 573.51.	0.5	0
23	Mechanosensitive Channels Activity in a Droplet Interface Bilayer System. Materials Research Society Symposia Proceedings, 2014, 1621, 171-176.	0.1	7
24	The cytoplasmic cage domain of the mechanosensitive channel MscS is a sensor of macromolecular crowding. Journal of General Physiology, 2014, 143, 543-557.	1.9	43
25	The glutaminase activity of l-asparaginase is not required for anticancer activity against ASNS-negative cells. Blood, 2014, 123, 3596-3606.	1.4	150
26	The mechanoelectrical response of the cytoplasmic membrane of <i>Vibrio cholerae</i>. Journal of General Physiology, 2013, 142, 75-85.	1.9	31
27	The Glutaminase Activity Of L-Asparaginase Is Not Required For Anticancer Activity Against Asns-Negative Cell Lines. Blood, 2013, 122, 4912-4912.	1.4	1
28	Molecular force transduction by ion channels â€“ diversity and unifying principles. Journal of Cell Science, 2012, 125, 3075-83.	2.0	168
29	Adaptive MscS Gating in the Osmotic Permeability Response in <i>E. coli</i>: The Question of Time. Biochemistry, 2011, 50, 4087-4096.	2.5	70
30	Effects on Membrane Lateral Pressure Suggest Permeation Mechanisms for Bacterial Quorum Signaling Molecules. Biochemistry, 2011, 50, 6983-6993.	2.5	41
31	Structural models of TREK channels and their gating mechanism. Channels, 2011, 5, 23-33.	2.8	15
32	Analyses of gating thermodynamics and effects of deletions in the mechanosensitive channel TREK-1. Channels, 2011, 5, 34-42.	2.8	20
33	The pathway and spatial scale for MscS inactivation. Journal of General Physiology, 2011, 138, 49-57.	1.9	41
34	The tension-transmitting 'clutch' in the mechanosensitive channel MscS. Nature Structural and Molecular Biology, 2010, 17, 451-458.	8.2	77
35	Adaptive behavior of bacterial mechanosensitive channels is coupled to membrane mechanics. Journal of General Physiology, 2010, 135, 641-652.	1.9	70
36	Gadolinium Ions Block Mechanosensitive Channels by Altering the Packing and Lateral Pressure of Anionic Lipids. Biophysical Journal, 2010, 98, 1018-1027.	0.5	105

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37	Effects of GsMTx4 on Bacterial Mechanosensitive Channels in Inside-Out Patches from Giant Spheroplasts. Biophysical Journal, 2010, 99, 2870-2878.	0.5	39
38	Mechanosensitive Channels in Microbes. Annual Review of Microbiology, 2010, 64, 313-329.	7.3	287
39	Characterization of the Resting MscS: Modeling and Analysis of the Closed Bacterial Mechanosensitive Channel of Small Conductance. Biophysical Journal, 2008, 94, 1252-1266.	0.5	63
40	The Membrane Lateral Pressure-Perturbing Capacity of Parabens and Their Effects on the Mechanosensitive Channel Directly Correlate with Hydrophobicity. Biochemistry, 2008, 47, 10540-10550.	2.5	30
41	Mechanosensitive Channel MscS in the Open State: Modeling of the Transition, Explicit Simulations, and Experimental Measurements of Conductance. Journal of General Physiology, 2008, 132, 67-83.	1.9	58
42	2,2,2-Trifluoroethanol Changes the Transition Kinetics and Subunit Interactions in the Small Bacterial Mechanosensitive Channel MscS. Biophysical Journal, 2007, 92, 2771-2784.	0.5	27
43	Straightening and sequential buckling of the pore-lining helices define the gating cycle of MscS. Nature Structural and Molecular Biology, 2007, 14, 1141-1149.	8.2	102
44	Gain-of-function Mutations Reveal Expanded Intermediate States and a Sequential Action of Two Gates in MscL. Journal of General Physiology, 2005, 125, 155-170.	1.9	84
45	The â€œDashpotâ€•Mechanism of Stretch-dependent Gating in MscS. Journal of General Physiology, 2005, 125, 143-154.	1.9	124
46	Capping Transmembrane Helices of MscL with Aromatic Residues Changes Channel Response to Membrane Stretchâ€. Biochemistry, 2005, 44, 12589-12597.	2.5	30
47	Mechanosensitive Channels: Multiplicity of Families and Gating Paradigms. Science Signaling, 2004, 2004, re4-re4.	3.6	181
48	Mechanosensitive channels: what can we learn from ?simple? model systems?. Trends in Neurosciences, 2004, 27, 345-351.	8.6	88
49	Gating of the Large Mechanosensitive Channel In Situ: Estimation of the Spatial Scale of the Transition from Channel Population Responses. Biophysical Journal, 2004, 86, 2846-2861.	0.5	116
50	Water Dynamics and Dewetting Transitions in the Small Mechanosensitive Channel MscS. Biophysical Journal, 2004, 86, 2883-2895.	0.5	259
51	On the Conformation of the COOH-terminal Domain of the Large Mechanosensitive Channel MscL. Journal of General Physiology, 2003, 121, 227-244.	1.9	73
52	Purification of the Small Mechanosensitive Channel of Escherichia coli (MscS): the Subunit Structure, Conduction, and Gating Characteristicsin Liposomes. Biophysical Journal, 2002, 83, 290-298.	0.5	252
53	A large iris-like expansion of a mechanosensitive channel protein induced by membrane tension. Nature Structural Biology, 2002, 9, 704-710.	9.7	152
54	Structural Models of the MscL Gating Mechanism. Biophysical Journal, 2001, 81, 917-936.	0.5	202

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55	Dipole Potentials Indicate Restructuring of the Membrane Interface Induced by Gadolinium and Beryllium Ions. Biophysical Journal, 2001, 80, 1851-1862.	0.5	90
56	The gating mechanism of the large mechanosensitive channel MscL. Nature, 2001, 409, 720-724.	27.8	346
57	Mechanosensitive channels in bacteria as membrane tension reporters. FASEB Journal, 1999, 13, S55-61.	0.5	42
58	MscL, a Bacterial Mechanosensitive Channel. , 0, , 259-290.		2