Rachelle Gaudet

List of Publications by Year
in descending order

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89 papers	7,592 citations	66343 42 h-index	66911 78 g-index
105 all docs	105 docs citations	105 times ranked	10121 citing authors

#	Article	IF	Citations
1	Advances in TRP channel drug discovery: from target validation to clinical studies. Nature Reviews Drug Discovery, 2022, 21, 41-59.	46.4	206
2	Natural Transformation Protein ComFA Exhibits Single-Stranded DNA Translocase Activity. Journal of Bacteriology, 2022, 204, JB0051821.	2.2	2
3	Examining the Expression Patterns and Proteinâ€Protein Interaction Properties of Protocadherins. FASEB Journal, 2021, 35, .	0.5	0
4	Efficient and flexible synthesis of new photoactivatable propofol analogs. Bioorganic and Medicinal Chemistry Letters, 2021, 39, 127927.	2.2	1
5	Molecular Mechanism of Nramp-Family Transition Metal Transport. Journal of Molecular Biology, 2021, 433, 166991.	4.2	48
6	Inroads into Membrane Physiology through Transport Nanomachines. Journal of Molecular Biology, 2021, 433, 167101.	4.2	1
7	Transmembrane helix 6b links proton and metal release pathways and drives conformational change in an Nramp-family transition metal transporter. Journal of Biological Chemistry, 2020, 295, 1212-1224.	3.4	10
8	Structural and functional diversity calls for a new classification of ABC transporters. FEBS Letters, 2020, 594, 3767-3775.	2.8	169
9	Selecting for Altered Substrate Specificity Reveals the Evolutionary Flexibility of ATP-Binding Cassette Transporters. Current Biology, 2020, 30, 1689-1702.e6.	3.9	16
10	Transmembrane helix 6b links proton and metal release pathways and drives conformational change in an Nramp-family transition metal transporter. Journal of Biological Chemistry, 2020, 295, 1212-1224.	3.4	6
11	Dominant mutations of the Notch ligand Jagged1 cause peripheral neuropathy. Journal of Clinical Investigation, 2020, 130, 1506-1512.	8.2	12
12	Unique structural features in an Nramp metal transporter impart substrate-specific proton cotransport and a kinetic bias to favor import. Journal of General Physiology, 2019, 151, 1413-1429.	1.9	28
13	High-Affinity Alkynyl Bisubstrate Inhibitors of Nicotinamide N-Methyltransferase (NNMT). Journal of Medicinal Chemistry, 2019, 62, 9837-9873.	6.4	41
14	Mechanics and pharmacology of substrate selection and transport by eukaryotic ABC exporters. Nature Structural and Molecular Biology, 2019, 26, 792-801.	8.2	61
15	Interaction specificity of clustered protocadherins inferred from sequence covariation and structural analysis. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17825-17830.	7.1	29
16	Mechanics of an Nramp-Family Transition Metal Transporter. Biophysical Journal, 2019, 116, 169a.	0.5	0
17	Homozygous TRPV4 mutation causes congenital distal spinal muscular atrophy and arthrogryposis. Neurology: Genetics, 2019, 5, e312.	1.9	15
18	Structures in multiple conformations reveal distinct transition metal and proton pathways in an Nramp transporter. ELife, 2019, 8, .	6.0	50

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19	Batrachotoxin acts as a stent to hold open homotetrameric prokaryotic voltage-gated sodium channels. Journal of General Physiology, 2019, 151, 186-199.	1.9	20
20	Applications of sequence coevolution in membrane protein biochemistry. Biochimica Et Biophysica Acta - Biomembranes, 2018, 1860, 895-908.	2.6	27
21	Structural Basis of TRPV4ÂN Terminus Interaction with Syndapin/PACSIN1-3 and PIP2. Structure, 2018, 26, 1583-1593.e5.	3.3	30
22	A Partial Calcium-Free Linker Confers Flexibility to Inner-Ear Protocadherin-15. Structure, 2017, 25, 482-495.	3.3	31
23	Sites Contributing to TRPA1 Activation by the Anesthetic Propofol Identified by Photoaffinity Labeling. Biophysical Journal, 2017, 113, 2168-2172.	0.5	26
24	D-helix influences dimerization of the ATP-binding cassette (ABC) transporter associated with antigen processing 1 (TAP1) nucleotide-binding domain. PLoS ONE, 2017, 12, e0178238.	2.5	6
25	A widespread family of serine/threonine protein phosphatases shares a common regulatory switch with proteasomal proteases. ELife, 2017, 6, .	6.0	28
26	Functional Modification of Bacterial Voltage-Gated Sodium Channels by Batrachotoxin. Biophysical Journal, 2016, 110, 109a.	0.5	0
27	Conserved methionine dictates substrate preference in Nramp-family divalent metal transporters. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10310-10315.	7.1	72
28	Crystal Structure and Conformational Change Mechanism of a Bacterial Nramp-Family Divalent Metal Transporter. Structure, 2016, 24, 2102-2114.	3.3	56
29	Data publication with the structural biology data grid supports live analysis. Nature Communications, 2016, 7, 10882.	12.8	113
30	Antiparallel protocadherin homodimers use distinct affinity- and specificity-mediating regions in cadherin repeats 1-4. ELife, 2016, 5, .	6.0	53
31	How the TRPA1 receptor transmits painful stimuli: Inner workings revealed by electron cryomicroscopy. BioEssays, 2015, 37, 1184-1192.	2.5	26
32	Novel mutations highlight the key role of the ankyrin repeat domain in TRPV4 -mediated neuropathy. Neurology: Genetics, 2015, 1, e29.	1.9	20
33	Insights into the molecular foundations of electrical excitation. Journal of Molecular Biology, 2015, 427, 1-2.	4.2	4
34	Structural Determinants of TRPV Channel Activation and Modulation. Biophysical Journal, 2015, 108, 8a-9a.	0.5	0
35	Structural characterization of the late competence protein ComFB from Bacillus subtilis. Bioscience Reports, 2015, 35, .	2.4	10
36	Structure and Sequence Analyses of Clustered Protocadherins Reveal Antiparallel Interactions that Mediate Homophilic Specificity. Structure, 2015, 23, 2087-2098.	3.3	65

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37	Structural Study of a Novel Partial Calcium-Free Linker and a Positively Selected Variation in Protocadherin-15: Implications for Hearing and Cell Adhesion. Biophysical Journal, 2015, 108, 505a.	0.5	0
38	The Touching Tail of a Mechanotransduction Channel. Cell, 2015, 162, 1214-1216.	28.9	6
39	Structural Biology of TRP Channels. Handbook of Experimental Pharmacology, 2014, 223, 963-990.	1.8	66
40	Phenotypic spectrum and incidence of TRPV4 mutations in patients with inherited axonal neuropathy. Neurology, 2014, 83, 1991-1991.	1.1	1
41	Mechanistic determinants of the directionality and energetics of active export by a heterodimeric ABC transporter. Nature Communications, 2014, 5, 5419.	12.8	86
42	Sorting out a promiscuous superfamily: towards cadherin connectomics. Trends in Cell Biology, 2014, 24, 524-536.	7.9	79
43	Molecular Mechanisms of Deafness Mutations Disrupting Tip-Link Function in Hair-Cell Mechanotransduction. Biophysical Journal, 2014, 106, 449a.	0.5	0
44	High-Resolution Views of TRPV1 and Their Implications for the TRP Channel Superfamily. Handbook of Experimental Pharmacology, 2014, 223, 991-1004.	1.8	15
45	Structures and Simulated Dynamics of a Force-Conveying Cadherin Bond Essential for Inner-Ear Mechanotransduction. Biophysical Journal, 2013, 104, 166a.	0.5	0
46	What do we know about the transient receptor potential vanilloid 2 (<scp>TRPV</scp>2) ion channel?. FEBS Journal, 2013, 280, 5471-5487.	4.7	142
47	Noddy, a Mouse Harboring a Missense Mutation in Protocadherin-15, Reveals the Impact of Disrupting a Critical Interaction Site between Tip-Link Cadherins in Inner Ear Hair Cells. Journal of Neuroscience, 2013, 33, 4395-4404.	3.6	33
48	Phosphatidylinositol-4,5-biphosphate-dependent rearrangement of TRPV4 cytosolic tails enables channel activation by physiological stimuli. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9553-9558.	7.1	122
49	Exome sequencing identifies a novel TRPV4 mutation in a CMT2C family. Neurology, 2012, 79, 192-194.	1.1	34
50	Distinct properties of Ca2+â€“calmodulin binding to N- and C-terminal regulatory regions of the TRPV1 channel. Journal of General Physiology, 2012, 140, 541-555.	1.9	94
51	Structural and Biochemical Consequences of Disease-Causing Mutations in the Ankyrin Repeat Domain of the Human TRPV4 Channel. Biochemistry, 2012, 51, 6195-6206.	2.5	84
52	Structure of a force-conveying cadherin bond essential for inner-ear mechanotransduction. Nature, 2012, 492, 128-132.	27.8	157
53	Biophysical Characterization of TRPV2 Ion Channel. Biophysical Journal, 2012, 102, 342a.	0.5	0
54	Chicken TAP genes are polymorphic and co-evolve with the dominantly-expressed class I gene. Molecular Immunology, 2012, 51, 19-20.	2.2	2

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55	Structural Comparison of Ankyrin Repeat Domain of TRPV Channels. Biophysical Journal, 2011, 100, 108a.	0.5	0
56	Molecular Mechanics of Tip-Link Cadherins. , 2011, , .		0
57	Mutations in TRPV4 cause Charcot-Marie-Tooth disease type 2C. Nature Genetics, 2010, 42, 170-174.	21.4	278
58	Characterization and Structural Studies of the Plasmodium falciparum Ubiquitin and Nedd8 Hydrolase UCHL3. Journal of Biological Chemistry, 2010, 285, 6857-6866.	3.4	56
59	Differential Regulation of TRPV1, TRPV3, and TRPV4 Sensitivity through a Conserved Binding Site on the Ankyrin Repeat Domain. Journal of Biological Chemistry, 2010, 285, 731-740.	3.4	158
60	Dominant mutations in the cation channel gene transient receptor potential vanilloid 4 cause an unusual spectrum of neuropathies. Brain, 2010, 133, 1798-1809.	7.6	113
61	Structural Determinants of Cadherin-23 Function in Hearing and Deafness. Biophysical Journal, 2010, 98, 509a.	0.5	0
62	Structural Determinants of Cadherin-23 Function in Hearing and Deafness. Neuron, 2010, 66, 85-100.	8.1	122
63	Divide and Conquer: High Resolution Structural Information on TRP Channel Fragments. Journal of General Physiology, 2009, 133, 231-237.	1.9	47
64	Antigen processing and presentation: TAPping into ABC transporters. Current Opinion in Immunology, 2009, 21, 84-91.	5.5	44
65	The mechanism of ABC transporters: general lessons from structural and functional studies of an antigenic peptide transporter. FASEB Journal, 2009, 23, 1287-1302.	0.5	155
66	TRP channels entering the structural era. Journal of Physiology, 2008, 586, 3565-3575.	2.9	85
67	The ABCs of trans(porter) inhibition. Nature Chemical Biology, 2008, 4, 454-455.	8.0	2
68	A primer on ankyrin repeat function in TRP channels and beyond. Molecular BioSystems, 2008, 4, 372.	2.9	169
69	Functionally Important Interactions between the Nucleotide-Binding Domains of an Antigenic Peptide Transporter. Biochemistry, 2008, 47, 5699-5708.	2.5	15
70	Structural Analyses of the Ankyrin Repeat Domain of TRPV6 and Related TRPV Ion Channels[,]. Biochemistry, 2008, 47, 2476-2484.	2.5	105
71	Insights into the Roles of Conserved and Divergent Residues in the Ankyrin Repeats of TRPV Ion Channels. Channels, 2007, 1, 148-151.	2.8	23
72	The Role of the N Terminus and Transmembrane Domain of TRPM8 in Channel Localization and Tetramerization. Journal of Biological Chemistry, 2007, 282, 36474-36480.	3.4	69

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73	The Ankyrin Repeats of TRPV1 Bind Multiple Ligands and Modulate Channel Sensitivity. Neuron, 2007, 54, 905-918.	8.1	377
74	Structure of a Herpesvirus-Encoded Cysteine Protease Reveals a Unique Class of Deubiquitinating Enzymes. Molecular Cell, 2007, 25, 677-687.	9.7	116
75	Genome-wide detection and characterization of positive selection in human populations. Nature, 2007, 449, 913-918.	27.8	1,788
76	Distinct Structural and Functional Properties of the ATPase Sites in an Asymmetric ABC Transporter. Molecular Cell, 2006, 24, 51-62.	9.7	134
77	Structure of the N-terminal Ankyrin Repeat Domain of the TRPV2 Ion Channel. Journal of Biological Chemistry, 2006, 281, 25006-25010.	3.4	117
78	Structural Insights into the Function of TRP Channels. Frontiers in Neuroscience, 2006, , 349-360.	0.0	3
79	Identification of domain boundaries within the Nâ€termini of TAP1 and TAP2 and their importance in tapasin binding and tapasinâ€mediated increase in peptide loading of MHC class I. Immunology and Cell Biology, 2005, 83, 475-482.	2.3	47
80	Structure of the Ubiquitin Hydrolase UCH-L3 Complexed with a Suicide Substrate. Journal of Biological Chemistry, 2005, 280, 1512-1520.	3.4	166
81	Structural and Functional Analysis of Human Cytomegalovirus US3 Protein. Journal of Virology, 2004, 78, 413-423.	3.4	31
82	Ubiquitylation of the Transducin Î²Î³ Subunit Complex. Journal of Biological Chemistry, 2002, 277, 44566-44575.	3.4	54
83	Virus subversion of immunity: a structural perspective. Current Opinion in Immunology, 2001, 13, 442-450.	5.5	53
84	Identification of a structural motif that confers specific interaction with the WD40 repeat domain of Arabidopsis COP1. EMBO Journal, 2001, 20, 118-127.	7.8	205
85	Structure of the ABC ATPase domain of human TAP1, the transporter associated with antigen processing. EMBO Journal, 2001, 20, 4964-4972.	7.8	249
86	Antigen presentation subverted: Structure of the human cytomegalovirus protein US2 bound to the class I molecule HLA-A2. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 6794-6799.	7.1	136
87	A Molecular Mechanism for the Phosphorylation-Dependent Regulation of Heterotrimeric G Proteins by Phosducin. Molecular Cell, 1999, 3, 649-660.	9.7	85
88	Structural aspects of heterotrimeric G-protein signaling. Current Opinion in Biotechnology, 1997, 8, 480-487.	6.6	85
89	Crystal Structure at 2.4 Ã... Resolution of the Complex of Transducin Î²Î³ and Its Regulator, Phosducin. Cell, 1996, 87, 577-588.	28.9	292