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	Genome-wide detection and characterization of positive selection in human populations. Nature, 2007, 449, 913-918.	27.8	1,788
2	The Ankyrin Repeats of TRPV1 Bind Multiple Ligands and Modulate Channel Sensitivity. Neuron, 2007, 54, 905-918.	8.1	377
3	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
4	Mutations in TRPV4 cause Charcot-Marie-Tooth disease type 2C. Nature Genetics, 2010, 42, 170-174.	21.4	278
5	Structure of the ABC ATPase domain of human TAP1, the transporter associated with antigen processing. EMBO Journal, 2001, 20, 4964-4972.	7.8	249
6	Advances in TRP channel drug discovery: from target validation to clinical studies. Nature Reviews Drug Discovery, 2022, 21, 41-59.	46.4	206
7	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
8	A primer on ankyrin repeat function in TRP channels and beyond. Molecular BioSystems, 2008, 4, 372.	2.9	169
9	Structural and functional diversity calls for a new classification of ABC transporters. FEBS Letters, 2020, 594, 3767-3775.	2.8	169
10	Structure of the Ubiquitin Hydrolase UCH-L3 Complexed with a Suicide Substrate. Journal of Biological Chemistry, 2005, 280, 1512-1520.	3.4	166
11	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
12	Structure of a force-conveying cadherin bond essential for inner-ear mechanotransduction. Nature, 2012, 492, 128-132.	27.8	157
13	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
14	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
15	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
16	Distinct Structural and Functional Properties of the ATPase Sites in an Asymmetric ABC Transporter. Molecular Cell, 2006, 24, 51-62.	9.7	134
17	Structural Determinants of Cadherin-23 Function in Hearing and Deafness. Neuron, 2010, 66, 85-100.	8.1	122
18	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

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19	Structure of the N-terminal Ankyrin Repeat Domain of the TRPV2 Ion Channel. Journal of Biological Chemistry, 2006, 281, 25006-25010.	3.4	117
20	Structure of a Herpesvirus-Encoded Cysteine Protease Reveals a Unique Class of Deubiquitinating Enzymes. Molecular Cell, 2007, 25, 677-687.	9.7	116
21	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
22	Data publication with the structural biology data grid supports live analysis. Nature Communications, 2016, 7, 10882.	12.8	113
23	Structural Analyses of the Ankyrin Repeat Domain of TRPV6 and Related TRPV Ion Channels[,]. Biochemistry, 2008, 47, 2476-2484.	2.5	105
24	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
25	Mechanistic determinants of the directionality and energetics of active export by a heterodimeric ABC transporter. Nature Communications, 2014, 5, 5419.	12.8	86
26	Structural aspects of heterotrimeric G-protein signaling. Current Opinion in Biotechnology, 1997, 8, 480-487.	6.6	85
27	A Molecular Mechanism for the Phosphorylation-Dependent Regulation of Heterotrimeric G Proteins by Phosducin. Molecular Cell, 1999, 3, 649-660.	9.7	85
28	TRP channels entering the structural era. Journal of Physiology, 2008, 586, 3565-3575.	2.9	85
29	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
30	Sorting out a promiscuous superfamily: towards cadherin connectomics. Trends in Cell Biology, 2014, 24, 524-536.	7.9	79
31	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
32	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
33	Structural Biology of TRP Channels. Handbook of Experimental Pharmacology, 2014, 223, 963-990.	1.8	66
34	Structure and Sequence Analyses of Clustered Protocadherins Reveal Antiparallel Interactions that Mediate Homophilic Specificity. Structure, 2015, 23, 2087-2098.	3.3	65
35	Mechanics and pharmacology of substrate selection and transport by eukaryotic ABC exporters. Nature Structural and Molecular Biology, 2019, 26, 792-801.	8.2	61
36	Characterization and Structural Studies of the Plasmodium falciparum Ubiquitin and Nedd8 Hydrolase UCHL3. Journal of Biological Chemistry, 2010, 285, 6857-6866.	3.4	56

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37	Crystal Structure and Conformational Change Mechanism of a Bacterial Nramp-Family Divalent Metal Transporter. Structure, 2016, 24, 2102-2114.	3.3	56
38	Ubiquitylation of the Transducin Î²Î³ Subunit Complex. Journal of Biological Chemistry, 2002, 277, 44566-44575.	3.4	54
39	Virus subversion of immunity: a structural perspective. Current Opinion in Immunology, 2001, 13, 442-450.	5.5	53
40	Antiparallel protocadherin homodimers use distinct affinity- and specificity-mediating regions in cadherin repeats 1-4. ELife, 2016, 5, .	6.0	53
41	Structures in multiple conformations reveal distinct transition metal and proton pathways in an Nramp transporter. ELife, 2019, 8, .	6.0	50
42	Molecular Mechanism of Nramp-Family Transition Metal Transport. Journal of Molecular Biology, 2021, 433, 166991.	4.2	48
43	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
44	Divide and Conquer: High Resolution Structural Information on TRP Channel Fragments. Journal of General Physiology, 2009, 133, 231-237.	1.9	47
45	Antigen processing and presentation: TAPping into ABC transporters. Current Opinion in Immunology, 2009, 21, 84-91.	5.5	44
46	High-Affinity Alkynyl Bisubstrate Inhibitors of Nicotinamide N-Methyltransferase (NNMT). Journal of Medicinal Chemistry, 2019, 62, 9837-9873.	6.4	41
47	Exome sequencing identifies a novel TRPV4 mutation in a CMT2C family. Neurology, 2012, 79, 192-194.	1.1	34
48	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
49	Structural and Functional Analysis of Human Cytomegalovirus US3 Protein. Journal of Virology, 2004, 78, 413-423.	3.4	31
50	A Partial Calcium-Free Linker Confers Flexibility to Inner-Ear Protocadherin-15. Structure, 2017, 25, 482-495.	3.3	31
51	Structural Basis of TRPV4ÂN Terminus Interaction with Syndapin/PACSIN1-3 and PIP2. Structure, 2018, 26, 1583-1593.e5.	3.3	30
52	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
53	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
54	A widespread family of serine/threonine protein phosphatases shares a common regulatory switch with proteasomal proteases. ELife, 2017, 6, .	6.0	28

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55	Applications of sequence coevolution in membrane protein biochemistry. Biochimica Et Biophysica Acta - Biomembranes, 2018, 1860, 895-908.	2.6	27
56	How the TRPA1 receptor transmits painful stimuli: Inner workings revealed by electron cryomicroscopy. BioEssays, 2015, 37, 1184-1192.	2.5	26
57	Sites Contributing to TRPA1 Activation by the Anesthetic Propofol Identified by Photoaffinity Labeling. Biophysical Journal, 2017, 113, 2168-2172.	0.5	26
58	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
59	Novel mutations highlight the key role of the ankyrin repeat domain in TRPV4 -mediated neuropathy. Neurology: Genetics, 2015, 1, e29.	1.9	20
60	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
61	Selecting for Altered Substrate Specificity Reveals the Evolutionary Flexibility of ATP-Binding Cassette Transporters. Current Biology, 2020, 30, 1689-1702.e6.	3.9	16
62	Functionally Important Interactions between the Nucleotide-Binding Domains of an Antigenic Peptide Transporter. Biochemistry, 2008, 47, 5699-5708.	2.5	15
63	Homozygous TRPV4 mutation causes congenital distal spinal muscular atrophy and arthrogryposis. Neurology: Genetics, 2019, 5, e312.	1.9	15
64	High-Resolution Views of TRPV1 and Their Implications for the TRP Channel Superfamily. Handbook of Experimental Pharmacology, 2014, 223, 991-1004.	1.8	15
65	Dominant mutations of the Notch ligand Jagged1 cause peripheral neuropathy. Journal of Clinical Investigation, 2020, 130, 1506-1512.	8.2	12
66	Structural characterization of the late competence protein ComFB from Bacillus subtilis. Bioscience Reports, 2015, 35, .	2.4	10
67	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
68	The Touching Tail of a Mechanotransduction Channel. Cell, 2015, 162, 1214-1216.	28.9	6
69	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
70	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
71	Insights into the molecular foundations of electrical excitation. Journal of Molecular Biology, 2015, 427, 1-2.	4.2	4
72	Structural Insights into the Function of TRP Channels. Frontiers in Neuroscience, 2006, , 349-360.	0.0	3

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73	The ABCs of trans(porter) inhibition. Nature Chemical Biology, 2008, 4, 454-455.	8.0	2
74	Chicken TAP genes are polymorphic and co-evolve with the dominantly-expressed class I gene. Molecular Immunology, 2012, 51, 19-20.	2.2	2
75	Natural Transformation Protein ComFA Exhibits Single-Stranded DNA Translocase Activity. Journal of Bacteriology, 2022, 204, JB0051821.	2.2	2
76	Phenotypic spectrum and incidence of TRPV4 mutations in patients with inherited axonal neuropathy. Neurology, 2014, 83, 1991-1991.	1.1	1
77	Efficient and flexible synthesis of new photoactivatable propofol analogs. Bioorganic and Medicinal Chemistry Letters, 2021, 39, 127927.	2.2	1
78	Inroads into Membrane Physiology through Transport Nanomachines. Journal of Molecular Biology, 2021, 433, 167101.	4.2	1
79	Structural Determinants of Cadherin-23 Function in Hearing and Deafness. Biophysical Journal, 2010, 98, 509a.	0.5	0
80	Structural Comparison of Ankyrin Repeat Domain of TRPV Channels. Biophysical Journal, 2011, 100, 108a.	0.5	0
81	Molecular Mechanics of Tip-Link Cadherins. , 2011, , .		0
82	Biophysical Characterization of TRPV2 Ion Channel. Biophysical Journal, 2012, 102, 342a.	0.5	0
83	Structures and Simulated Dynamics of a Force-Conveying Cadherin Bond Essential for Inner-Ear Mechanotransduction. Biophysical Journal, 2013, 104, 166a.	0.5	0
84	Molecular Mechanisms of Deafness Mutations Disrupting Tip-Link Function in Hair-Cell Mechanotransduction. Biophysical Journal, 2014, 106, 449a.	0.5	0
85	Structural Determinants of TRPV Channel Activation and Modulation. Biophysical Journal, 2015, 108, 8a-9a.	0.5	0
86	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
87	Functional Modification of Bacterial Voltage-Gated Sodium Channels by Batrachotoxin. Biophysical Journal, 2016, 110, 109a.	0.5	0
88	Mechanics of an Nramp-Family Transition Metal Transporter. Biophysical Journal, 2019, 116, 169a.	0.5	0
89	Examining the Expression Patterns and Proteinâ€Protein Interaction Properties of Protocadherins. FASEB Journal, 2021, 35, .	0.5	0