

# Rachelle Gaudet

## List of Publications by Citations

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79  
papers

5,825  
citations

39  
h-index

76  
g-index

105  
ext. papers

6,826  
ext. citations

9.4  
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5.68  
L-index

| #  | Paper   | IF   | Citations |
|----|---|------|-----------|
| 79 | Genome-wide detection and characterization of positive selection in human populations. <i>Nature</i> , <b>2007</b> , 449, 913-8   | 50.4 | 1367      |
| 78 | The ankyrin repeats of TRPV1 bind multiple ligands and modulate channel sensitivity. <i>Neuron</i> , <b>2007</b> , 54, 905-18   | 13.9 | 314       |
| 77 | Crystal structure at 2.4 angstroms resolution of the complex of transducin betagamma and its regulator, phosducin. <i>Cell</i> , <b>1996</b> , 87, 577-88   | 56.2 | 265       |
| 76 | Mutations in TRPV4 cause Charcot-Marie-Tooth disease type 2C. <i>Nature Genetics</i> , <b>2010</b> , 42, 170-4  | 36.3 | 231       |
| 75 | Structure of the ABC ATPase domain of human TAP1, the transporter associated with antigen processing. <i>EMBO Journal</i> , <b>2001</b> , 20, 4964-72   | 13   | 209       |
| 74 | Identification of a structural motif that confers specific interaction with the WD40 repeat domain of Arabidopsis COP1. <i>EMBO Journal</i> , <b>2001</b> , 20, 118-27  | 13   | 178       |
| 73 | Structure of the ubiquitin hydrolase UCH-L3 complexed with a suicide substrate. <i>Journal of Biological Chemistry</i> , <b>2005</b> , 280, 1512-20   | 5.4  | 155       |
| 72 | A primer on ankyrin repeat function in TRP channels and beyond. <i>Molecular BioSystems</i> , <b>2008</b> , 4, 372-9  |      | 147       |
| 71 | The mechanism of ABC transporters: general lessons from structural and functional studies of an antigenic peptide transporter. <i>FASEB Journal</i> , <b>2009</b> , 23, 1287-302  | 0.9  | 135       |
| 70 | Antigen presentation subverted: Structure of the human cytomegalovirus protein US2 bound to the class I molecule HLA-A2. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2001</b> , 98, 6794-9                    | 11.5 | 129       |
| 69 | Distinct structural and functional properties of the ATPase sites in an asymmetric ABC transporter. <i>Molecular Cell</i> , <b>2006</b> , 24, 51-62   | 17.6 | 128       |
| 68 | Differential regulation of TRPV1, TRPV3, and TRPV4 sensitivity through a conserved binding site on the ankyrin repeat domain. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 731-40  | 5.4  | 125       |
| 67 | Structure of a force-conveying cadherin bond essential for inner-ear mechanotransduction. <i>Nature</i> , <b>2012</b> , 492, 128-32   | 50.4 | 110       |
| 66 | What do we know about the transient receptor potential vanilloid 2 (TRPV2) ion channel?. <i>FEBS Journal</i> , <b>2013</b> , 280, 5471-87   | 5.7  | 105       |
| 65 | Structure of the N-terminal ankyrin repeat domain of the TRPV2 ion channel. <i>Journal of Biological Chemistry</i> , <b>2006</b> , 281, 25006-10  | 5.4  | 99        |
| 64 | Structure of a herpesvirus-encoded cysteine protease reveals a unique class of deubiquitinating enzymes. <i>Molecular Cell</i> , <b>2007</b> , 25, 677-87   | 17.6 | 99        |
| 63 | Phosphatidylinositol-4,5-biphosphate-dependent rearrangement of TRPV4 cytosolic tails enables channel activation by physiological stimuli. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 9553-8 | 11.5 | 96        |

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|----|---|------|----|
| 62 | Dominant mutations in the cation channel gene transient receptor potential vanilloid 4 cause an unusual spectrum of neuropathies. <i>Brain</i> , <b>2010</b> , 133, 1798-809  | 11.2 | 95 |
| 61 | Structural determinants of cadherin-23 function in hearing and deafness. <i>Neuron</i> , <b>2010</b> , 66, 85-100   | 13.9 | 93 |
| 60 | Structural analyses of the ankyrin repeat domain of TRPV6 and related TRPV ion channels. <i>Biochemistry</i> , <b>2008</b> , 47, 2476-84  | 3.2  | 89 |
| 59 | Distinct properties of Ca <sup>2+</sup> -calmodulin binding to N- and C-terminal regulatory regions of the TRPV1 channel. <i>Journal of General Physiology</i> , <b>2012</b> , 140, 541-55                          | 3.4  | 81 |
| 58 | Structural aspects of heterotrimeric G-protein signaling. <i>Current Opinion in Biotechnology</i> , <b>1997</b> , 8, 480-7  | 11.4 | 81 |
| 57 | Data publication with the structural biology data grid supports live analysis. <i>Nature Communications</i> , <b>2016</b> , 7, 10882  | 17.4 | 78 |
| 56 | A molecular mechanism for the phosphorylation-dependent regulation of heterotrimeric G proteins by phosphoinositide 3-kinase. <i>Molecular Cell</i> , <b>1999</b> , 3, 649-60                                       | 17.6 | 77 |
| 55 | Mechanistic determinants of the directionality and energetics of active export by a heterodimeric ABC transporter. <i>Nature Communications</i> , <b>2014</b> , 5, 5419   | 17.4 | 73 |
| 54 | TRP channels entering the structural era. <i>Journal of Physiology</i> , <b>2008</b> , 586, 3565-75   | 3.9  | 67 |
| 53 | Structural and functional diversity calls for a new classification of ABC transporters. <i>FEBS Letters</i> , <b>2020</b> , 594, 3767-3775  | 3.8  | 66 |
| 52 | Sorting out a promiscuous superfamily: towards cadherin connectomics. <i>Trends in Cell Biology</i> , <b>2014</b> , 24, 524-36  | 18.3 | 64 |
| 51 | Structural and biochemical consequences of disease-causing mutations in the ankyrin repeat domain of the human TRPV4 channel. <i>Biochemistry</i> , <b>2012</b> , 51, 6195-206                                      | 3.2  | 63 |
| 50 | The role of the N terminus and transmembrane domain of TRPM8 in channel localization and tetramerization. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 36474-80                                      | 5.4  | 58 |
| 49 | Conserved methionine dictates substrate preference in Nrapm-family divalent metal transporters. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 10310-5 | 11.5 | 51 |
| 48 | Virus subversion of immunity: a structural perspective. <i>Current Opinion in Immunology</i> , <b>2001</b> , 13, 442-50   | 7.8  | 51 |
| 47 | Ubiquitylation of the transducin betagamma subunit complex. Regulation by phosphoinositide 3-kinase. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 44566-75   | 5.4  | 49 |
| 46 | Structural biology of TRP channels. <i>Handbook of Experimental Pharmacology</i> , <b>2014</b> , 223, 963-90  | 3.2  | 48 |
| 45 | Structure and Sequence Analyses of Clustered Protocadherins Reveal Antiparallel Interactions that Mediate Homophilic Specificity. <i>Structure</i> , <b>2015</b> , 23, 2087-98                                      | 5.2  | 47 |

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|----|--|------|----|
| 44 | Identification of domain boundaries within the N-termini of TAP1 and TAP2 and their importance in tapasin binding and tapasin-mediated increase in peptide loading of MHC class I. <i>Immunology and Cell Biology</i> , <b>2005</b> , 83, 475-82 | 5    | 45 |
| 43 | Divide and conquer: high resolution structural information on TRP channel fragments. <i>Journal of General Physiology</i> , <b>2009</b> , 133, 231-7   | 3-4  | 42 |
| 42 | Characterization and structural studies of the Plasmodium falciparum ubiquitin and Nedd8 hydrolase UCHL3. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 6857-66  | 5-4  | 40 |
| 41 | Antigen processing and presentation: TAPPING into ABC transporters. <i>Current Opinion in Immunology</i> , <b>2009</b> , 21, 84-91   | 7-8  | 40 |
| 40 | Crystal Structure and Conformational Change Mechanism of a Bacterial Nramp-Family Divalent Metal Transporter. <i>Structure</i> , <b>2016</b> , 24, 2102-2114   | 5-2  | 37 |
| 39 | Antiparallel protocadherin homodimers use distinct affinity- and specificity-mediating regions in cadherin repeats 1-4. <i>ELife</i> , <b>2016</b> , 5,  | 8-9  | 34 |
| 38 | Mechanics and pharmacology of substrate selection and transport by eukaryotic ABC exporters. <i>Nature Structural and Molecular Biology</i> , <b>2019</b> , 26, 792-801  | 17-6 | 30 |
| 37 | Exome sequencing identifies a novel TRPV4 mutation in a CMT2C family. <i>Neurology</i> , <b>2012</b> , 79, 192-4   | 6-5  | 29 |
| 36 | Structural and functional analysis of human cytomegalovirus US3 protein. <i>Journal of Virology</i> , <b>2004</b> , 78, 413-23   | 6-6  | 29 |
| 35 | High-Affinity Alkynyl Bisubstrate Inhibitors of Nicotinamide -Methyltransferase (NNMT). <i>Journal of Medicinal Chemistry</i> , <b>2019</b> , 62, 9837-9873  | 8-3  | 26 |
| 34 | 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. <i>Journal of Neuroscience</i> , <b>2013</b> , 33, 4395-404   | 6-6  | 26 |
| 33 | Structures in multiple conformations reveal distinct transition metal and proton pathways in an Nramp transporter. <i>ELife</i> , <b>2019</b> , 8,   | 8-9  | 23 |
| 32 | Advances in TRP channel drug discovery: from target validation to clinical studies. <i>Nature Reviews Drug Discovery</i> , <b>2021</b> ,   | 64-1 | 23 |
| 31 | Sites Contributing to TRPA1 Activation by the Anesthetic Propofol Identified by Photoaffinity Labeling. <i>Biophysical Journal</i> , <b>2017</b> , 113, 2168-2172  | 2-9  | 22 |
| 30 | How the TRPA1 receptor transmits painful stimuli: Inner workings revealed by electron cryomicroscopy. <i>BioEssays</i> , <b>2015</b> , 37, 1184-92   | 4-1  | 20 |
| 29 | Insights into the roles of conserved and divergent residues in the ankyrin repeats of TRPV ion channels. <i>Channels</i> , <b>2007</b> , 1, 148-51   | 3    | 20 |
| 28 | Applications of sequence coevolution in membrane protein biochemistry. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , <b>2018</b> , 1860, 895-908   | 3-8  | 19 |
| 27 | A Partial Calcium-Free Linker Confers Flexibility to Inner-Ear Protocadherin-15. <i>Structure</i> , <b>2017</b> , 25, 482-495  | 18   | 18 |

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|----|---|------|----|
| 26 | Structural Basis of TRPV4 N Terminus Interaction with Syndapin/PACSIN1-3 and PIP. <i>Structure</i> , <b>2018</b> , 26, 1583-1593.e5   | 5.2  | 18 |
| 25 | Interaction specificity of clustered protocadherins inferred from sequence covariation and structural analysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 17825-17830 | 11.5 | 17 |
| 24 | Functionally important interactions between the nucleotide-binding domains of an antigenic peptide transporter. <i>Biochemistry</i> , <b>2008</b> , 47, 5699-708  | 3.2  | 15 |
| 23 | Unique structural features in an Nramp metal transporter impart substrate-specific proton cotransport and a kinetic bias to favor import. <i>Journal of General Physiology</i> , <b>2019</b> , 151, 1413-1429                           | 3.4  | 12 |
| 22 | A widespread family of serine/threonine protein phosphatases shares a common regulatory switch with proteasomal proteases. <i>ELife</i> , <b>2017</b> , 6,  | 8.9  | 12 |
| 21 | High-resolution views of TRPV1 and their implications for the TRP channel superfamily. <i>Handbook of Experimental Pharmacology</i> , <b>2014</b> , 223, 991-1004   | 3.2  | 12 |
| 20 | Molecular Mechanism of Nramp-Family Transition Metal Transport. <i>Journal of Molecular Biology</i> , <b>2021</b> , 433, 166991   | 6.5  | 12 |
| 19 | Novel mutations highlight the key role of the ankyrin repeat domain in TRPV4-mediated neuropathy. <i>Neurology: Genetics</i> , <b>2015</b> , 1, e29   | 3.8  | 11 |
| 18 | Batrachotoxin acts as a stent to hold open homotetrameric prokaryotic voltage-gated sodium channels. <i>Journal of General Physiology</i> , <b>2019</b> , 151, 186-199  | 3.4  | 11 |
| 17 | Homozygous mutation causes congenital distal spinal muscular atrophy and arthrogryposis. <i>Neurology: Genetics</i> , <b>2019</b> , 5, e312   | 3.8  | 9  |
| 16 | Structural characterization of the late competence protein ComFB from <i>Bacillus subtilis</i> . <i>Bioscience Reports</i> , <b>2015</b> , 35,  | 4.1  | 6  |
| 15 | The Touching Tail of a Mechanotransduction Channel. <i>Cell</i> , <b>2015</b> , 162, 1214-6   | 56.2 | 6  |
| 14 | D-helix influences dimerization of the ATP-binding cassette (ABC) transporter associated with antigen processing 1 (TAP1) nucleotide-binding domain. <i>PLoS ONE</i> , <b>2017</b> , 12, e0178238                                       | 3.7  | 6  |
| 13 | Selecting for Altered Substrate Specificity Reveals the Evolutionary Flexibility of ATP-Binding Cassette Transporters. <i>Current Biology</i> , <b>2020</b> , 30, 1689-1702.e6  | 6.3  | 5  |
| 12 | Transmembrane helix 6b links proton and metal release pathways and drives conformational change in an Nramp-family transition metal transporter. <i>Journal of Biological Chemistry</i> , <b>2020</b> , 295, 12124-1224                 | 5.4  | 4  |
| 11 | Dominant mutations of the Notch ligand Jagged1 cause peripheral neuropathy. <i>Journal of Clinical Investigation</i> , <b>2020</b> , 130, 1506-1512   | 15.9 | 3  |
| 10 | Proton co-transport and voltage dependence enforce unidirectional metal transport in an Nramp transporter   |      | 3  |
| 9  | Chicken TAP genes are polymorphic and co-evolve with the dominantly-expressed class I gene. <i>Molecular Immunology</i> , <b>2012</b> , 51, 19-20   | 4.3  | 2  |

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|---|--|-----|---|
| 8 | Structural Insights into the Function of TRP Channels. <i>Frontiers in Neuroscience</i> , <b>2006</b> , 349-360  |     | 2 |
| 7 | Author response: Structures in multiple conformations reveal distinct transition metal and proton pathways in an Nramp transporter <b>2019</b> ,   |     | 2 |
| 6 | Phenotypic spectrum and incidence of TRPV4 mutations in patients with inherited axonal neuropathy. <i>Neurology</i> , <b>2014</b> , 83, 1991   | 6.5 | 1 |
| 5 | Structures in multiple conformations reveal distinct transition metal and proton pathways in an Nramp transporter  |     | 1 |
| 4 | Transmembrane helix 6b links proton and metal release pathways and drives conformational change in an Nramp-family transition metal transporter. <i>Journal of Biological Chemistry</i> , <b>2020</b> , 295, 1212-1224 | 5.4 | 1 |
| 3 | Transmembrane helix 6b links proton- and metal-release pathways to drive conformational change in an Nramp transition metal transporter  |     | 1 |
| 2 | Efficient and flexible synthesis of new photoactivatable propofol analogs. <i>Bioorganic and Medicinal Chemistry Letters</i> , <b>2021</b> , 39, 127927  | 2.9 | 1 |
| 1 | Natural transformation protein ComFA exhibits single-stranded DNA translocase activity.. <i>Journal of Bacteriology</i> , <b>2022</b> , JB0051821  | 3.5 |   |