

# Eduardo Perozo

## List of Publications by Year in descending order

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112  
papers

9,216  
citations

44042

48  
h-index

40954

93  
g-index

121  
all docs

121  
docs citations

121  
times ranked

5882  
citing authors

#	ARTICLE	IF	CITATIONS
1	Physical principles underlying the transduction of bilayer deformation forces during mechanosensitive channel gating. <i>Nature Structural Biology</i> , 2002, 9, 696-703.	9.7	605
2	Open channel structure of MscL and the gating mechanism of mechanosensitive channels. <i>Nature</i> , 2002, 418, 942-948.	13.7	572
3	Structural mechanism of C-type inactivation in K <sup>+</sup> channels. <i>Nature</i> , 2010, 466, 203-208.	13.7	437
4	Molecular determinants of gating at the potassium-channel selectivity filter. <i>Nature Structural and Molecular Biology</i> , 2006, 13, 311-318.	3.6	399
5	Gating currents from a nonconducting mutant reveal open-closed conformations in Shaker K <sup>+</sup> channels. <i>Neuron</i> , 1993, 11, 353-358.	3.8	303
6	Three-dimensional architecture and gating mechanism of a K <sup>+</sup> channel studied by EPR spectroscopy. <i>Nature Structural Biology</i> , 1998, 5, 459-469.	9.7	282
7	Structural basis for the coupling between activation and inactivation gates in K <sup>+</sup> channels. <i>Nature</i> , 2010, 466, 272-275.	13.7	267
8	Asymmetry in the Structure of the ABC Transporter-Binding Protein Complex BtuCD-BtuF. <i>Science</i> , 2007, 317, 1387-1390.	6.0	260
9	Molecular Architecture of Full-Length KcsA. <i>Journal of General Physiology</i> , 2001, 117, 165-180.	0.9	235
10	pH-Dependent Gating in the <i>Streptomyces lividans</i> K <sup>+</sup> Channel. <i>Biochemistry</i> , 1998, 37, 3229-3236.	1.2	233
11	Structural mechanism of voltage-dependent gating in an isolated voltage-sensing domain. <i>Nature Structural and Molecular Biology</i> , 2014, 21, 244-252.	3.6	228
12	Molecular Architecture of the KvAP Voltage-Dependent K <sup>+</sup> Channel in a Lipid Bilayer. <i>Science</i> , 2004, 306, 491-495.	6.0	219
13	Molecular driving forces determining potassium channel slow inactivation. <i>Nature Structural and Molecular Biology</i> , 2007, 14, 1062-1069.	3.6	216
14	Crystal structure of full-length KcsA in its closed conformation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 6644-6649.	3.3	213
15	Structure of the KcsA channel intracellular gate in the open state. <i>Nature Structural Biology</i> , 2001, 8, 883-887.	9.7	185
16	A Structural Mechanism for MscS Gating in Lipid Bilayers. <i>Science</i> , 2008, 321, 1210-1214.	6.0	179
17	An emerging consensus on voltage-dependent gating from computational modeling and molecular dynamics simulations. <i>Journal of General Physiology</i> , 2012, 140, 587-594.	0.9	179
18	Instantaneous ion configurations in the K <sup>+</sup> ion channel selectivity filter revealed by 2D IR spectroscopy. <i>Science</i> , 2016, 353, 1040-1044.	6.0	174

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19	Recovery from slow inactivation in K <sup>+</sup> channels is controlled by water molecules. <i>Nature</i> , 2013, 501, 121-124.	13.7	171
20	Structure and mechanism in prokaryotic mechanosensitive channels. <i>Current Opinion in Structural Biology</i> , 2003, 13, 432-442.	2.6	151
21	Structural Dynamics of the <i>Streptomyces lividans</i> K <sup>+</sup> Channel (SKC1): Oligomeric Stoichiometry and Stability. <i>Biochemistry</i> , 1997, 36, 10343-10352.	1.2	137
22	Voltage-dependent gating at the KcsA selectivity filter. <i>Nature Structural and Molecular Biology</i> , 2006, 13, 319-322.	3.6	129
23	Ion Conduction through MscS as Determined by Electrophysiology and Simulation. <i>Biophysical Journal</i> , 2007, 92, 886-902.	0.2	121
24	Explicit Treatment of Spin Labels in Modeling of Distance Constraints from Dipolar EPR and DEER. <i>Journal of the American Chemical Society</i> , 2005, 127, 9334-9335.	6.6	117
25	Gating prokaryotic mechanosensitive channels. <i>Nature Reviews Molecular Cell Biology</i> , 2006, 7, 109-119.	16.1	112
26	Cryo-EM Structures of the Magnesium Channel CorA Reveal Symmetry Break upon Gating. <i>Cell</i> , 2016, 164, 747-756.	13.5	111
27	A Quantitative Description of KcsA Gating I: Macroscopic Currents. <i>Journal of General Physiology</i> , 2007, 130, 465-478.	0.9	103
28	Detection of the Opening of the Bundle Crossing in KcsA with Fluorescence Lifetime Spectroscopy Reveals the Existence of Two Gates for Ion Conduction. <i>Journal of General Physiology</i> , 2006, 128, 569-581.	0.9	97
29	Site-Directed Spin-Labeling Analysis of Reconstituted MscL in the Closed State. <i>Journal of General Physiology</i> , 2001, 118, 193-206.	0.9	96
30	Phosphorylation affects voltage gating of the delayed rectifier K <sup>+</sup> channel by electrostatic interactions. <i>Neuron</i> , 1990, 5, 685-690.	3.8	94
31	A Multipoint Hydrogen-Bond Network Underlying KcsA C-Type Inactivation. <i>Biophysical Journal</i> , 2011, 100, 2387-2393.	0.2	92
32	Structural Dynamics of an Isolated Voltage-Sensor Domain in a Lipid Bilayer. <i>Structure</i> , 2008, 16, 398-409.	1.6	88
33	The role of MscL amphipathic N terminus indicates a blueprint for bilayer-mediated gating of mechanosensitive channels. <i>Nature Communications</i> , 2016, 7, 11984.	5.8	87
34	A Quantitative Description of KcsA Gating II: Single-Channel Currents. <i>Journal of General Physiology</i> , 2007, 130, 479-496.	0.9	86
35	Protein conformational dynamics in the mechanism of HIV-1 protease catalysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 20982-20987.	3.3	86
36	The gating cycle of a K <sup>+</sup> channel at atomic resolution. <i>ELife</i> , 2017, 6, .	2.8	85

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37	Molecular basis of force-from-lipids gating in the mechanosensitive channel MscS. <i>ELife</i> , 2019, 8, .	2.8	84
38	Three-Dimensional Architecture of Membrane-Embedded MscS in the Closed Conformation. <i>Journal of Molecular Biology</i> , 2008, 378, 55-70.	2.0	82
39	On the structural basis of modal gating behavior in K <sup>+</sup> channels. <i>Nature Structural and Molecular Biology</i> , 2011, 18, 67-74.	3.6	71
40	Resting state of the human proton channel dimer in a lipid bilayer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, E5926-35.	3.3	68
41	Mechanism of activation gating in the full-length KcsA K <sup>+</sup> channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 11896-11899.	3.3	65
42	A designer ligand specific for Kv1.3 channels from a scorpion neurotoxin-based library. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 22211-22216.	3.3	64
43	Rapid constriction of the selectivity filter underlies C-type inactivation in the KcsA potassium channel. <i>Journal of General Physiology</i> , 2018, 150, 1408-1420.	0.9	64
44	Structural basis of lipid-driven conformational transitions in the KvAP voltage-sensing domain. <i>Nature Structural and Molecular Biology</i> , 2014, 21, 160-166.	3.6	62
45	Biomolecular DNPâ€Supported NMR Spectroscopy using Siteâ€Directed Spin Labeling. <i>Chemistry - A European Journal</i> , 2015, 21, 12971-12977.	1.7	62
46	Conformational Chaperones for Structural Studies of Membrane Proteins Using Antibody Phage Display with Nanodiscs. <i>Structure</i> , 2016, 24, 300-309.	1.6	57
47	Molecular mechanism of Mg <sup>2+</sup> -dependent gating in CorA. <i>Nature Communications</i> , 2014, 5, 3590.	5.8	56
48	Towards a Structural View of Drug Binding to hERG K <sup>+</sup> Channels. <i>Trends in Pharmacological Sciences</i> , 2017, 38, 899-907.	4.0	56
49	The conformational cycle of prestin underlies outer-hair cell electromotility. <i>Nature</i> , 2021, 600, 553-558.	13.7	53
50	Dynamics transitions at the outer vestibule of the KcsA potassium channel during gating. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 1831-1836.	3.3	51
51	Electromechanical coupling in the hyperpolarization-activated K <sup>+</sup> channel KAT1. <i>Nature</i> , 2020, 583, 145-149.	13.7	51
52	xMDFF: molecular dynamics flexible fitting of low-resolution X-ray structures. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2014, 70, 2344-2355.	2.5	50
53	Thermodynamic coupling between activation and inactivation gating in potassium channels revealed by free energy molecular dynamics simulations. <i>Journal of General Physiology</i> , 2011, 138, 571-580.	0.9	49
54	A molecular mechanism for protonâ€dependent gating in KcsA. <i>FEBS Letters</i> , 2010, 584, 1126-1132.	1.3	48

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55	Importance of lipid-pore loop interface for potassium channel structure and function. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 13008-13013.	3.3	48
56	The activated state of a sodium channel voltage sensor in a membrane environment. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 5435-5440.	3.3	46
57	Role of human Hv1 channels in sperm capacitation and white blood cell respiratory burst established by a designed peptide inhibitor. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E11847-E11856.	3.3	43
58	Structural dynamics of the <i>Streptomyces lividans</i> K <sup>+</sup> channel (SKC1): secondary structure characterization from FTIR spectroscopy. FEBS Letters, 1998, 423, 205-212.	1.3	42
59	An Optimized Purification and Reconstitution Method for the MscS Channel: Strategies for Spectroscopical Analysis. Biochemistry, 2007, 46, 6766-6773.	1.2	42
60	The voltage sensor and the gate in ion channels. Advances in Protein Chemistry, 2003, 63, 211-241.	4.4	39
61	Dynamics of Flap Structures in Three HIV-1 Protease/Inhibitor Complexes Probed by Total Chemical Synthesis and Pulse-EPR Spectroscopy. Journal of the American Chemical Society, 2009, 131, 884-885.	6.6	35
62	Multi-ion free energy landscapes underscore the microscopic mechanism of ion selectivity in the KcsA channel. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 1722-1732.	1.4	34
63	Distinct gate conformations of the ABC transporter BtuCD revealed by electron spin resonance spectroscopy and chemical cross-linking. FEBS Letters, 2009, 583, 266-270.	1.3	32
64	Symmetry-Constrained Analysis of Pulsed Double Electron Electron Resonance (DEER) Spectroscopy Reveals the Dynamic Nature of the KcsA Activation Gate. Journal of the American Chemical Society, 2012, 134, 16360-16369.	6.6	32
65	A repulsion mechanism explains magnesium permeation and selectivity in CorA. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3002-3007.	3.3	31
66	Structural Dynamics of the Magnesium-Bound Conformation of CorA in a Lipid Bilayer. Structure, 2010, 18, 868-878.	1.6	30
67	Probing the Effects of Gating on the Ion Occupancy of the K <sup>+</sup> Channel Selectivity Filter Using Two-Dimensional Infrared Spectroscopy. Journal of the American Chemical Society, 2017, 139, 8837-8845.	6.6	30
68	New Structural Perspectives on K <sup>+</sup> Channel Gating. Structure, 2002, 10, 1027-1029.	1.6	29
69	From Nanodiscs to Isotropic Bicelles: A Procedure for Solution Nuclear Magnetic Resonance Studies of Detergent-Sensitive Integral Membrane Proteins. Structure, 2016, 24, 1830-1841.	1.6	29
70	Chemical substitutions in the selectivity filter of potassium channels do not rule out constricted-like conformations for C-type inactivation. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11145-11150.	3.3	29
71	Mechanism of C-type inactivation in the hERG potassium channel. Science Advances, 2021, 7, .	4.7	26
72	STRUCTURAL BIOLOGY: Force and Voltage Sensors in One Structure. Science, 2002, 298, 1562-1563.	6.0	25

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73	Design and characterization of a constitutively open KcsA. FEBS Letters, 2010, 584, 1133-1138.	1.3	25
74	Direct activation of the proton channel by albumin leads to human sperm capacitation and sustained release of inflammatory mediators by neutrophils. Nature Communications, 2021, 12, 3855.	5.8	25
75	Structural Refinement of Membrane Proteins by Restrained Molecular Dynamics and Solvent Accessibility Data. Biophysical Journal, 2008, 95, 5349-5361.	0.2	23
76	Mechanism of Cd <sup>2+</sup> Coordination during Slow Inactivation in Potassium Channels. Structure, 2012, 20, 1332-1342.	1.6	23
77	Toward a structural blueprint for bilayer-mediated channel mechanosensitivity. Channels, 2017, 11, 91-93.	1.5	23
78	Reactions of cysteines substituted in the amphipathic N-terminal tail of a bacterial potassium channel with hydrophilic and hydrophobic maleimides. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 11605-11610.	3.3	22
79	Never at rest: insights into the conformational dynamics of ion channels from cryo-electron microscopy. Journal of Physiology, 2018, 596, 1107-1119.	1.3	22
80	Calculation of Rigid-Body Conformational Changes Using Restraint-Driven Cartesian Transformations. Biophysical Journal, 2001, 81, 2530-2546.	0.2	21
81	Binding of the CYK-4 Subunit of the Centralspindlin Complex Induces a Large Scale Conformational Change in the Kinesin Subunit. Journal of Biological Chemistry, 2013, 288, 19785-19795.	1.6	19
82	Real time dynamics of Gating-Related conformational changes in CorA. ELife, 2019, 8, .	2.8	19
83	Phosphorylation of K <sup>+</sup> channels in the squid giant axon. A mechanistic analysis. Journal of Bioenergetics and Biomembranes, 1991, 23, 599-613.	1.0	16
84	Conformational Dynamics at the Inner Gate of KcsA during Activation. Biochemistry, 2014, 53, 2557-2559.	1.2	16
85	Structural Dynamics of the MscL C-terminal Domain. Scientific Reports, 2017, 7, 17229.	1.6	16
86	How to gate an ion channel: lessons from MthK. Nature Structural and Molecular Biology, 2007, 14, 180-182.	3.6	14
87	Molecular Coupling in the Human ether-a-go-go-related gene-1 (hERG1) K <sup>+</sup> Channel Inactivation Pathway. Journal of Biological Chemistry, 2011, 286, 39091-39099.	1.6	14
88	Computational study of non-conductive selectivity filter conformations and C-type inactivation in a voltage-dependent potassium channel. Journal of General Physiology, 2021, 153, .	0.9	14
89	Mechanism of voltage sensing in Ca <sup>2+</sup> - and voltage-activated K <sup>+</sup> (BK) channels. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	12
90	Structure and Packing Orientation of Transmembrane Segments in Voltage-Dependent Channels. Journal of General Physiology, 2000, 115, 29-32.	0.9	6

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91	Chemical modification of squid axon K <sup>+</sup> channel -SH groups with the organic mercurial compound p-hydroxymercuriphenylsulfonic acid (PHMPS). <i>Pflugers Archiv European Journal of Physiology</i> , 1994, 428, 315-322.	1.3	5
92	Molecular determinants of inhibition of the human proton channel hHv1 by the designer peptide C6 and a bivalent derivative. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	5
93	Up a Hydrophobic Creek with a Short Paddle. <i>Cell</i> , 2010, 142, 515-516.	13.5	3
94	Shedding Light on Voltage-dependent Gating. <i>Journal of General Physiology</i> , 1998, 112, 373-376.	0.9	1
95	A channel with a twist. <i>Nature</i> , 2009, 461, 47-48.	13.7	1
96	The Resting State of Human Proton Channel from Functional and Structural Determinations. <i>Biophysical Journal</i> , 2014, 106, 745a.	0.2	1
97	On the Nature of hERG Inactivation using KcsA, Shaker and Kv1.2 as Structural and Functional Models. <i>Biophysical Journal</i> , 2009, 96, 188a-189a.	0.2	0
98	Gating-related Structural Dynamics in the Outer Vestibule of KcsA: A Functional and Spectroscopic Analysis. <i>Biophysical Journal</i> , 2009, 96, 394a.	0.2	0
99	Crystal Structure Of Full-length Kcsa Trapped In Open Conformation Reveals That C-terminal Domain Fine Tunes Activation And Coupled Inactivation. <i>Biophysical Journal</i> , 2009, 96, 370a.	0.2	0
100	The Importance of Ion Binding for Potassium Channel Inactivation and Recovery. <i>Biophysical Journal</i> , 2010, 98, 621a.	0.2	0
101	Gating-Related Conformational Changes in the Outer Vestibule of KcsA: a Fluorescence and Pulsed-Epr Analysis. <i>Biophysical Journal</i> , 2010, 98, 314a.	0.2	0
102	Analysis of CorA-Catalyzed Mg <sup>2+</sup> Selective Currents in <i>Xenopus</i> Oocytes. <i>Biophysical Journal</i> , 2010, 98, 705a.	0.2	0
103	Engineering the hERG1 Selectivity Filter into the NaK Pore Domain. <i>Biophysical Journal</i> , 2011, 100, 584a.	0.2	0
104	Role of Structural Water in the Stabilization of the KcsA C-Type Inactivated Selectivity Filter: Evidence from High-Resolution Structures. <i>Biophysical Journal</i> , 2012, 102, 529a.	0.2	0
105	A Three-Ion Selectivity Filter Potential Energy Landscape of a Putative Open-Conductive KcsA. <i>Biophysical Journal</i> , 2012, 102, 676a-677a.	0.2	0
106	Rate of Recovery from Slow Inactivation in K <sup>+</sup> Channels Controlled by Buried Water Molecules. <i>Biophysical Journal</i> , 2013, 104, 25a-26a.	0.2	0
107	Dynamics of the KcsA Selectivity Filter Probed using Intrinsic Tyrosine Fluorescence. <i>Biophysical Journal</i> , 2015, 108, 118a-119a.	0.2	0
108	Structures of the Mg <sup>2+</sup> Channel Cora in the Open State by Cryo Electron Microscopy. <i>Biophysical Journal</i> , 2016, 110, 291a.	0.2	0

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109	A Molecular Mechanism for Gating Polarity in Non-Domain-Swapped Kv Channels. Biophysical Journal, 2020, 118, 260a-261a.	0.2	0
110	An Asymmetric C-Type Inactivated Structure of HERG Channel and Its Binding to Chemically Diverse Drugs. Biophysical Journal, 2021, 120, 245a.	0.2	0
111	Influence of Phospholipid Binding on Voltage Sensor-Pore Coupling in the KAT1 Potassium Channel. Biophysical Journal, 2021, 120, 11a.	0.2	0
112	Prestin's structural cycle and the molecular basis of electromotility in outer hair cells. Biophysical Journal, 2022, 121, 18a.	0.2	0