

# Stephen J Tucker

## List of Publications by Year in descending order

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113  
papers

8,399  
citations

50276

46  
h-index

53230

85  
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129  
all docs

129  
docs citations

129  
times ranked

6843  
citing authors

#	ARTICLE	IF	CITATIONS
1	Truncation of Kir6.2 produces ATP-sensitive K <sup>+</sup> channels in the absence of the sulphonylurea receptor. <i>Nature</i> , 1997, 387, 179-183.	27.8	723
2	PIP2 and PIP as Determinants for ATP Inhibition of KATP Channels. , 1998, 282, 1141-1144.		481
3	The essential role of the Walker A motifs of SUR1 in K-ATP channel activation by Mg-ADP and diazoxide. <i>EMBO Journal</i> , 1997, 16, 1145-1152.	7.8	317
4	A dominant-negative mutation in the TRESK potassium channel is linked to familial migraine with aura. <i>Nature Medicine</i> , 2010, 16, 1157-1160.	30.7	312
5	A Novel Method for Measurement of Submembrane ATP Concentration. <i>Journal of Biological Chemistry</i> , 2000, 275, 30046-30049.	3.4	257
6	K2P channel gating mechanisms revealed by structures of TREK-2 and a complex with Prozac. <i>Science</i> , 2015, 347, 1256-1259.	12.6	255
7	Hydrophobic Gating in Ion Channels. <i>Journal of Molecular Biology</i> , 2015, 427, 121-130.	4.2	254
8	Tissue specificity of sulfonylureas: studies on cloned cardiac and beta-cell K(ATP) channels. <i>Diabetes</i> , 1998, 47, 1412-1418.	0.6	248
9	The Concise Guide to PHARMACOLOGY 2015/16: Overview. <i>British Journal of Pharmacology</i> , 2015, 172, 5729-5743.	5.4	220
10	Molecular determinants of KATP channel inhibition by ATP. <i>EMBO Journal</i> , 1998, 17, 3290-3296.	7.8	208
11	Subunit positional effects revealed by novel heteromeric inwardly rectifying K <sup>+</sup> channels.. <i>EMBO Journal</i> , 1996, 15, 2980-2987.	7.8	172
12	A Non-canonical Voltage-Sensing Mechanism Controls Gating in K2P K <sup>+</sup> Channels. <i>Cell</i> , 2016, 164, 937-949.	28.9	169
13	Molecular Analysis of ATP-sensitive K Channel Gating and Implications for Channel Inhibition by ATP. <i>Journal of General Physiology</i> , 1998, 112, 333-349.	1.9	168
14	MgATP activates the $\hat{A}$ cell KATP channel by interaction with its SUR1 subunit. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1998, 95, 7185-7190.	7.1	162
15	The pore structure and gating mechanism of K2P channels. <i>EMBO Journal</i> , 2011, 30, 3607-3619.	7.8	162
16	The Interaction of nucleotides with the tolbutamide block of cloned atp-sensitive k <sup>+</sup> channel currents expressed in xenopus oocytes: a reinterpretation. <i>Journal of Physiology</i> , 1997, 504, 35-45.	2.9	149
17	A divergent CFTR homologue: highly regulated salt transport in the euryhaline teleost <i>F. heteroclitus</i> . <i>American Journal of Physiology - Cell Physiology</i> , 1998, 274, C715-C723.	4.6	141
18	<i>De novo</i> point mutations in patients diagnosed with ataxic cerebral palsy. <i>Brain</i> , 2015, 138, 1817-1832.	7.6	129

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19	Rare Nav1.7 variants associated with painful diabetic peripheral neuropathy. <i>Pain</i> , 2018, 159, 469-480.	4.2	116
20	pH Dependence of the Inwardly Rectifying Potassium Channel, Kir5.1, and Localization in Renal Tubular Epithelia. <i>Journal of Biological Chemistry</i> , 2000, 275, 16404-16407.	3.4	114
21	Differential pH sensitivity of Kir4.1 and Kir4.2 potassium channels and their modulation by heteropolymerisation with Kir5.1. <i>Journal of Physiology</i> , 2001, 532, 359-367.	2.9	112
22	A hydrophobic barrier deep within the inner pore of the TWIK-1 K2P potassium channel. <i>Nature Communications</i> , 2014, 5, 4377.	12.8	107
23	CHAP: A Versatile Tool for the Structural and Functional Annotation of Ion Channel Pores. <i>Journal of Molecular Biology</i> , 2019, 431, 3353-3365.	4.2	97
24	Renal phenotype in mice lacking the Kir5.1 ( <i>Kcnj16</i> ) K <sup>+</sup> channel subunit contrasts with that observed in SeSAME/EAST syndrome. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 10361-10366.	7.1	95
25	Direct Photoaffinity Labeling of the Kir6.2 Subunit of the ATP-sensitive K <sup>+</sup> Channel by 8-Azido-ATP. <i>Journal of Biological Chemistry</i> , 1999, 274, 3931-3933.	3.4	93
26	Involvement of the N-terminus of Kir6.2 in coupling to the sulphonylurea receptor. <i>Journal of Physiology</i> , 1999, 518, 325-336.	2.9	92
27	Structure of a KirBac potassium channel with an open bundle crossing indicates a mechanism of channel gating. <i>Nature Structural and Molecular Biology</i> , 2012, 19, 158-163.	8.2	92
28	A pharmacological master key mechanism that unlocks the selectivity filter gate in K <sup>+</sup> channels. <i>Science</i> , 2019, 363, 875-880.	12.6	91
29	Functional analysis of missense variants in the TRESK (KCNK18) K <sup>+</sup> channel. <i>Scientific Reports</i> , 2012, 2, 237.	3.3	82
30	Identification and developmental expression of the <i>Xenopus laevis</i> cystic fibrosis transmembrane conductance regulator gene. <i>Human Molecular Genetics</i> , 1992, 1, 77-82.	2.9	79
31	Inward rectification in KATP channels: a pH switch in the pore. <i>EMBO Journal</i> , 1999, 18, 847-853.	7.8	77
32	Ion Mobility Mass Spectrometry of Two Tetrameric Membrane Protein Complexes Reveals Compact Structures and Differences in Stability and Packing. <i>Journal of the American Chemical Society</i> , 2010, 132, 15468-15470.	13.7	77
33	Conformational Changes During the Gating of a Potassium Channel Revealed by Structural Mass Spectrometry. <i>Structure</i> , 2010, 18, 839-846.	3.3	76
34	Functional Annotation of Ion Channel Structures by Molecular Simulation. <i>Structure</i> , 2016, 24, 2207-2216.	3.3	69
35	The pore structure and gating mechanism of K2P channels. <i>EMBO Journal</i> , 2011, 30, 4515-4515.	7.8	65
36	Polymodal activation of the TREK-2 K2P channel produces structurally distinct open states. <i>Journal of General Physiology</i> , 2016, 147, 497-505.	1.9	65

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37	Bilayer-Mediated Structural Transitions Control Mechanosensitivity of the TREK-2 K2P Channel. <i>Structure</i> , 2017, 25, 708-718.e2.	3.3	64
38	H Bonding at the Helix-Bundle Crossing Controls Gating in Kir Potassium Channels. <i>Neuron</i> , 2007, 55, 602-614.	8.1	63
39	Simulation-Based Prediction of Phosphatidylinositol 4,5-Bisphosphate Binding to an Ion Channel. <i>Biochemistry</i> , 2013, 52, 279-281.	2.5	63
40	Activation and inhibition of K-ATP currents by guanine nucleotides is mediated by different channel subunits. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997, 94, 8872-8877.	7.1	60
41	In Vitro Reconstitution of Eukaryotic Ion Channels Using Droplet Interface Bilayers. <i>Journal of the American Chemical Society</i> , 2011, 133, 9370-9375.	13.7	58
42	Structural and functional analysis of the putative pH sensor in the Kir1.1 (ROMK) potassium channel. <i>EMBO Reports</i> , 2006, 7, 611-616.	4.5	57
43	Structure and assembly of calcium homeostasis modulator proteins. <i>Nature Structural and Molecular Biology</i> , 2020, 27, 150-159.	8.2	55
44	Involvement of the N-terminus of Kir6.2 in the inhibition of the KATPchannel by ATP. <i>Journal of Physiology</i> , 1999, 514, 19-25.	2.9	54
45	A lower X-gate in TASK channels traps inhibitors within the vestibule. <i>Nature</i> , 2020, 582, 443-447.	27.8	53
46	Influence of the N Terminus on the Biophysical Properties and Pharmacology of TREK1 Potassium Channels. <i>Molecular Pharmacology</i> , 2014, 85, 671-681.	2.3	52
47	A heuristic derived from analysis of the ion channel structural proteome permits the rapid identification of hydrophobic gates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 13989-13995.	7.1	52
48	How Highly Charged Anionic Lipids Bind and Regulate Ion Channels. <i>Journal of General Physiology</i> , 2008, 131, 431-438.	1.9	51
49	Inhibitory Interactions between Two Inward Rectifier K <sup>+</sup> Channel Subunits Mediated by the Transmembrane Domains. <i>Journal of Biological Chemistry</i> , 1996, 271, 5866-5870.	3.4	48
50	Water and hydrophobic gates in ion channels and nanopores. <i>Faraday Discussions</i> , 2018, 209, 231-247.	3.2	48
51	Mapping of the Physical Interaction between the Intracellular Domains of an Inwardly Rectifying Potassium Channel, Kir6.2. <i>Journal of Biological Chemistry</i> , 1999, 274, 33393-33397.	3.4	47
52	A touching case of channel regulation: the ATP-sensitive K <sup>+</sup> channel. <i>Current Opinion in Neurobiology</i> , 1998, 8, 316-320.	4.2	46
53	Asymmetric mechanosensitivity in a eukaryotic ion channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E8343-E8351.	7.1	45
54	Cystic Fibrosis Transmembrane Conductance Regulator-dependent Up-regulation of Kir1.1 (ROMK) Renal K <sup>+</sup> Channels by the Epithelial Sodium Channel. <i>Journal of Biological Chemistry</i> , 2002, 277, 25377-25384.	3.4	43

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55	Genetic Inactivation of Kcnj16 Identifies Kir5.1 as an Important Determinant of Neuronal PCO <sub>2</sub> /pH Sensitivity. <i>Journal of Biological Chemistry</i> , 2011, 286, 192-198.	3.4	43
56	Characterization and variation of a human inwardly-rectifying K-channel gene (KCNJ6): a putative ATP-sensitive K-channel subunit. <i>FEBS Letters</i> , 1995, 367, 193-197.	2.8	42
57	The role of lysine 185 in the Kir6.2 subunit of the ATP-sensitive channel in channel inhibition by ATP. <i>Journal of Physiology</i> , 1999, 520, 661-669.	2.9	42
58	Identification of a Heteromeric Interaction That Influences the Rectification, Gating, and pH Sensitivity of Kir4.1/Kir5.1 Potassium Channels. <i>Journal of Biological Chemistry</i> , 2003, 278, 43533-43540.	3.4	42
59	Novel phenotype associated with a mutation in the KCNA1(Kv1.1) gene. <i>Frontiers in Physiology</i> , 2014, 5, 525.	2.8	42
60	Respiratory responses to hypercapnia and hypoxia in mice with genetic ablation of Kir5.1 (<i>Kcnj16</i>). <i>Experimental Physiology</i> , 2011, 96, 451-459.	2.0	41
61	Molecular Dynamics Simulations of Inwardly Rectifying (Kir) Potassium Channels: A Comparative Study. <i>Biochemistry</i> , 2007, 46, 3643-3652.	2.5	40
62	Crystal Structures of the Extracellular Domain from PepT1 and PepT2 Provide Novel Insights into Mammalian Peptide Transport. <i>Structure</i> , 2015, 23, 1889-1899.	3.3	40
63	A novel KCNA1 mutation identified in an Italian family affected by episodic ataxia type 1. <i>Neuroscience</i> , 2008, 157, 577-587.	2.3	39
64	Induced Polarization in Molecular Dynamics Simulations of the 5-HT <sub>3</sub> Receptor Channel. <i>Journal of the American Chemical Society</i> , 2020, 142, 9415-9427.	13.7	38
65	State-independent intracellular access of quaternary ammonium blockers to the pore of TREK-1. <i>Channels</i> , 2012, 6, 473-478.	2.8	37
66	Direct Photoaffinity Labeling of Kir6.2 by [ <sup>32</sup> P]ATP-[ <sup>3</sup> H]4-Azidoanilide. <i>Biochemical and Biophysical Research Communications</i> , 2000, 272, 316-319.	2.1	36
67	Long Chain CoA Esters as Competitive Antagonists of Phosphatidylinositol 4,5-Bisphosphate Activation in Kir Channels. <i>Journal of Biological Chemistry</i> , 2005, 280, 30760-30767.	3.4	36
68	Mechanism of ATP-sensitive K Channel Inhibition by Sulfhydryl Modification. <i>Journal of General Physiology</i> , 1998, 112, 325-332.	1.9	35
69	Dynamic role of the tether helix in PIP <sub>2</sub> -dependent gating of a G protein-gated potassium channel. <i>Journal of General Physiology</i> , 2017, 149, 799-811.	1.9	35
70	Non-equivalent cooperation between the two nucleotide-binding folds of P-glycoprotein. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 1998, 1373, 131-136.	2.6	33
71	Identification of domains that control the heteromeric assembly of Kir5.1/Kir4.0 potassium channels. <i>American Journal of Physiology - Cell Physiology</i> , 2003, 284, C910-C917.	4.6	30
72	Control of pH and PIP <sub>2</sub> Gating in Heteromeric Kir4.1/Kir5.1 Channels by H-Bonding at the Helix-Bundle Crossing. <i>Channels</i> , 2007, 1, 327-330.	2.8	30

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73	Electric Field Induced Wetting of a Hydrophobic Gate in a Model Nanopore Based on the 5-HT <sub>3</sub> Receptor Channel. ACS Nano, 2020, 14, 10480-10491.	14.6	30
74	Functional characterisation of missense variations in the Kir4.1 potassium channel (KCNJ10) associated with seizure susceptibility. Molecular Brain Research, 2005, 139, 178-183.	2.3	29
75	Heteromeric channel formation and Ca <sup>2+</sup> -free media reduce the toxic effect of the weaver Kir3.2 allele. FEBS Letters, 1996, 390, 253-257.	2.8	28
76	Intrinsic Sensitivity of Kir1.1 (ROMK) to Glibenclamide in the Absence of SUR2B. Journal of Biological Chemistry, 2002, 277, 21346-21351.	3.4	27
77	Molecular Simulations of Hydrophobic Gating of Pentameric Ligand Gated Ion Channels: Insights into Water and Ions. Journal of Physical Chemistry B, 2021, 125, 981-994.	2.6	27
78	Role of receptor protein tyrosine phosphatase $\hat{I}\pm$ (RPTP $\hat{I}\pm$ ) and tyrosine phosphorylation in the serotonergic inhibition of voltage-dependent potassium channels. Pflugers Archiv European Journal of Physiology, 2000, 441, 257-262.	2.8	26
79	A BEST example of channel structure annotation by molecular simulation. Channels, 2017, 11, 347-353.	2.8	26
80	Multiple sites of interaction between the intracellular domains of an inwardly rectifying potassium channel, Kir6.2. FEBS Letters, 2001, 508, 85-89.	2.8	24
81	Inward Rectifier Potassium Channels. Cloning, Expression and Structure-Function Studies.. International Heart Journal, 1996, 37, 651-660.	0.6	23
82	Contribution of the central hydrophobic residue in the PXP motif of voltage-dependent K <sup>+</sup> channels to S6 flexibility and gating properties. Channels, 2009, 3, 39-45.	2.8	22
83	Functional Complementation and Genetic Deletion Studies of KirBac Channels. Journal of Biological Chemistry, 2010, 285, 40754-40761.	3.4	22
84	Molecular simulation studies of hydrophobic gating in nanopores and ion channels. Biochemical Society Transactions, 2015, 43, 146-150.	3.4	22
85	Influence of lipids on the hydrophobic barrier within the pore of the TWIK-1 K <sub>2</sub> P channel. Channels, 2015, 9, 44-49.	2.8	21
86	Muscarine-gated K <sup>+</sup> channel: subunit stoichiometry and structural domains essential for G protein stimulation. American Journal of Physiology - Heart and Circulatory Physiology, 1996, 271, H379-H385.	3.2	20
87	Control of KirBac3.1 Potassium Channel Gating at the Interface between Cytoplasmic Domains. Journal of Biological Chemistry, 2014, 289, 143-151.	3.4	20
88	Solution-Based Single-Molecule FRET Studies of K <sup>+</sup> Channel Gating in a Lipid Bilayer. Biophysical Journal, 2016, 110, 2663-2670.	0.5	20
89	Norfluoxetine inhibits TREK-2 K <sub>2</sub> P channels by multiple mechanisms including state-independent effects on the selectivity filter gate. Journal of General Physiology, 2021, 153, .	1.9	17
90	Cloning and functional characterization of a superfamily of microbial inwardly rectifying potassium channels. Physiological Genomics, 2006, 26, 1-7.	2.3	16

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91	Random mutagenesis screening indicates the absence of a separate H <sup>+</sup> -sensor in the pH-sensitive Kir channels. <i>Channels</i> , 2010, 4, 390-397.	2.8	16
92	Selectivity filter instability dominates the low intrinsic activity of the TWIK-1 K2P K <sup>+</sup> channel. <i>Journal of Biological Chemistry</i> , 2020, 295, 610-618.	3.4	16
93	Non-equivalent role of TM2 gating hinges in heteromeric Kir4.1/Kir5.1 potassium channels. <i>European Biophysics Journal</i> , 2008, 37, 165-171.	2.2	14
94	Genetic selection of activatory mutations in KcsA. <i>Channels</i> , 2008, 2, 413-418.	2.8	14
95	Water Nanoconfined in a Hydrophobic Pore: Molecular Dynamics Simulations of Transmembrane Protein 175 and the Influence of Water Models. <i>ACS Nano</i> , 2021, 15, 19098-19108.	14.6	14
96	Assignment of KATP-1, the Cardiac ATP-Sensitive Potassium Channel Gene (KCNJ5), to Human Chromosome 11q24. <i>Genomics</i> , 1995, 28, 127-128.	2.9	12
97	Dominant-Negative Effect of a Missense Variant in the TASK-2 (KCNK5) K <sup>+</sup> Channel Associated with Balkan Endemic Nephropathy. <i>PLoS ONE</i> , 2016, 11, e0156456.	2.5	12
98	The <i>KCNJ11-E23K</i> Gene Variant Hastens Diabetes Progression by Impairing Glucose-Induced Insulin Secretion. <i>Diabetes</i> , 2021, 70, 1145-1156.	0.6	11
99	NEM modification prevents high-affinity ATP binding to the first nucleotide binding fold of the sulphonylurea receptor, SUR1. <i>FEBS Letters</i> , 1999, 458, 292-294.	2.8	10
100	Altered functional properties of a missense variant in the TRESK K <sup>+</sup> channel (KCNK18) associated with migraine and intellectual disability. <i>Pflugers Archiv European Journal of Physiology</i> , 2020, 472, 923-930.	2.8	9
101	State-Dependent Network Connectivity Determines Gating in a K <sup>+</sup> Channel. <i>Structure</i> , 2014, 22, 1037-1046.	3.3	8
102	Ion channels as convergence points in the pathology of pulmonary arterial hypertension. <i>Biochemical Society Transactions</i> , 2021, 49, 1855-1865.	3.4	7
103	The effects of stretch activation on ionic selectivity of the TREK-2 K2P K <sup>+</sup> channel. <i>Channels</i> , 2017, 11, 482-486.	2.8	6
104	Peptide Backbone Mutagenesis of Putative Gating Hinges in a Potassium Ion Channel. <i>ChemBioChem</i> , 2008, 9, 1725-1728.	2.6	5
105	Kcnj16 (Kir5.1) Gene Ablation Causes Subfertility and Increases the Prevalence of Morphologically Abnormal Spermatozoa. <i>International Journal of Molecular Sciences</i> , 2021, 22, 5972.	4.1	5
106	Influence of effective polarization on ion and water interactions within a biomimetic nanopore. <i>Biophysical Journal</i> , 2022, 121, 2014-2026.	0.5	5
107	Kir5.1 underlies long-lived subconductance levels in heteromeric Kir4.1/Kir5.1 channels from <i>Xenopus tropicalis</i> . <i>Biochemical and Biophysical Research Communications</i> , 2009, 388, 501-505.	2.1	3
108	Insights into the structural nature of the transition state in the Kir channel gating pathway. <i>Channels</i> , 2014, 8, 551-555.	2.8	3

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109	KCNK18 Biallelic Variants Associated with Intellectual Disability and Neurodevelopmental Disorders Alter TRESK Channel Activity. <i>International Journal of Molecular Sciences</i> , 2021, 22, 6064.	4.1	3
110	Transition between conformational states of the TREK-1 K2P channel promoted by interaction with PIP2. <i>Biophysical Journal</i> , 2022, 121, 2380-2388.	0.5	3
111	Modular Design of the Selectivity Filter Pore Loop in a Novel Family of Prokaryotic $\text{K}^+$ Inward Rectifier <sup>TM</sup> (NirBac) channels. <i>Scientific Reports</i> , 2015, 5, 15305.	3.3	2
112	A Newly Available Tool for Functional Annotation of Ion Channel Structures Based on Molecular Dynamics Simulations. <i>Biophysical Journal</i> , 2018, 114, 134a.	0.5	1
113	Effects of ionic strength on gating and permeation of TREK-2 K2P channels. <i>PLoS ONE</i> , 2021, 16, e0258275.	2.5	0