Kenton J Swartz

List of Publications by Year
in descending order

72 papers	5,605 citations	76326 40 h-index	91884 69 g-index
87 all docs	87 docs citations	87 times ranked	3581 citing authors

#	Article	IF	Citations
1	Sensing voltage across lipid membranes. Nature, 2008, 456, 891-897.	27.8	269
2	Deconstructing voltage sensor function and pharmacology in sodium channels. Nature, 2008, 456, 202-208.	27.8	258
3	An inhibitor of the Kv2.1 potassium channel isolated from the venom of a Chilean tarantula. Neuron, 1995, 15, 941-949.	8.1	244
4	Hanatoxin Modifies the Gating of a Voltage-Dependent K+ Channel through Multiple Binding Sites. Neuron, 1997, 18, 665-673.	8.1	243
5	Mapping the Receptor Site for Hanatoxin, a Gating Modifier of Voltage-Dependent K+ Channels. Neuron, 1997, 18, 675-682.	8.1	229
6	Portability of paddle motif function and pharmacology in voltage sensors. Nature, 2007, 450, 370-375.	27.8	202
7	Inhibition of T-type voltage-gated calcium channels by a new scorpion toxin. Nature Neuroscience, 1998, 1, 668-674.	14.8	185
8	Voltage-sensor activation with a tarantula toxin as cargo. Nature, 2005, 436, 857-860.	27.8	177
9	Structure and hydration of membranes embedded with voltage-sensing domains. Nature, 2009, 462, 473-479.	27.8	175
10	Î±-Helical Structural Elements within the Voltage-Sensing Domains of a K+ Channel. Journal of General Physiology, 2000, 115, 33-50.	1.9	172
11	Scanning the Intracellular S6 Activation Gate in the Shaker K+ Channel. Journal of General Physiology, 2002, 119, 521-531.	1.9	165
12	Towards a structural view of gating in potassium channels. Nature Reviews Neuroscience, 2004, 5, 905-916.	10.2	156
13	Tarantula toxins interacting with voltage sensors in potassium channels. Toxicon, 2007, 49, 213-230.	1.6	153
14	Solution structure of hanatoxin1, a gating modifier of voltage-dependent K+ channels: common surface features of gating modifier toxins. Journal of Molecular Biology, 2000, 297, 771-780.	4.2	140
15	Interactions between lipids and voltage sensor paddles detected with tarantula toxins. Nature Structural and Molecular Biology, 2009, 16, 1080-1085.	8.2	135
16	Targeting voltage sensors in sodium channels with spider toxins. Trends in Pharmacological Sciences, 2010, 31, 175-182.	8.7	129
17	Interaction between Extracellular Hanatoxin and the Resting Conformation of the Voltage-Sensor Paddle in Kv Channels. Neuron, 2003, 40, 527-536.	8.1	128
18	Localization and Molecular Determinants of the Hanatoxin Receptors on the Voltage-Sensing Domains of a K+ Channel. Journal of General Physiology, 2000, 115, 673-684.	1.9	125

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19	Tarantula Toxins Interact with Voltage Sensors within Lipid Membranes. Journal of General Physiology, 2007, 130, 497-511.	1.9	111
20	Physical basis of apparent pore dilation of ATP-activated P2X receptor channels. Nature Neuroscience, 2015, 18, 1577-1583.	14.8	106
21	Gating the pore of P2X receptor channels. Nature Neuroscience, 2008, 11, 883-887.	14.8	104
22	Solution Structure and Functional Characterization of SGTx1, a Modifier of Kv2.1 Channel Gating,. Biochemistry, 2004, 43, 890-897.	2.5	101
23	A Hot Spot for the Interaction of Gating Modifier Toxins with Voltage-Dependent Ion Channels. Journal of General Physiology, 2000, 116, 637-644.	1.9	100
24	Molecular Surface of Tarantula Toxins Interacting with Voltage Sensors in Kv Channels. Journal of General Physiology, 2004, 123, 455-467.	1.9	100
25	Helical Structure of the Cooh Terminus of S3 and Its Contribution to the Gating Modifier Toxin Receptor in Voltage-Gated Ion Channels. Journal of General Physiology, 2001, 117, 205-218.	1.9	99
26	Solution Structure and Lipid Membrane Partitioning of VSTx1, an Inhibitor of the KvAP Potassium Channel,. Biochemistry, 2005, 44, 6015-6023.	2.5	94
27	Functional Interactions at the Interface between Voltage-Sensing and Pore Domains in the Shaker Kv Channel. Neuron, 2006, 52, 623-634.	8.1	88
28	Structural relationship between the putative hair cell mechanotransduction channel TMC1 and TMEM16 proteins. ELife, 2018, 7, .	6.0	84
29	Single-particle cryo-EM structure of a voltage-activated potassium channel in lipid nanodiscs. ELife, 2018, 7, .	6.0	80
30	Constitutive Activation of the Shaker Kv Channel. Journal of General Physiology, 2003, 122, 541-556.	1.9	75
31	Capsaicin Interaction with TRPV1 Channels in a Lipid Bilayer: Molecular Dynamics Simulation. Biophysical Journal, 2015, 108, 1425-1434.	0.5	74
32	Structural insights into the mechanism of activation of the TRPV1 channel by a membrane-bound tarantula toxin. ELife, 2016, 5, .	6.0	71
33	Secondary Structure and Gating Rearrangements of Transmembrane Segments in Rat P2X4 Receptor Channels. Journal of General Physiology, 2005, 125, 347-359.	1.9	65
34	Stabilizing the Closed S6 Gate in the Shaker K v Channel Through Modification of a Hydrophobic Seal. Journal of General Physiology, 2004, 124, 319-332.	1.9	63
35	Heat activation is intrinsic to the pore domain of TRPV1. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E317-E324.	7.1	55
36	Engineering vanilloid-sensitivity into the rat TRPV2 channel. ELife, 2016, 5, .	6.0	53

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37	An external sodium ion binding site controls allosteric gating in TRPV1 channels. ELife, 2016, 5, .	6.0	53
38	Structural interactions of a voltage sensor toxin with lipid membranes. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5463-70.	7.1	52
39	Structure of the Shaker Kv channel and mechanism of slow C-type inactivation. Science Advances, 2022, 8, eabm7814.	10.3	49
40	Solution Structure of Ï‰-Grammotoxin SIA, A Gating Modifier of P/Q and N-type Ca2+ Channel. Journal of Molecular Biology, 2002, 321, 517-526.	4.2	47
41	Functional properties and toxin pharmacology of a dorsal root ganglion sodium channel viewed through its voltage sensors. Journal of General Physiology, 2011, 138, 59-72.	1.9	46
42	Global alignment and assessment of TRP channel transmembrane domain structures to explore functional mechanisms. ELife, 2020, 9, .	6.0	42
43	The ion selectivity filter is not an activation gate in TRPV1-3 channels. ELife, 2019, 8, .	6.0	38
44	Tarantula toxins use common surfaces for interacting with Kv and ASIC ion channels. ELife, 2015, 4, e06774.	6.0	36
45	Defining the Conductance of the Closed State in a Voltage-Gated K+ Channel. Neuron, 2003, 38, 61-67.	8.1	32
46	Exploring structure-function relationships between TRP and Kv channels. Scientific Reports, 2013, 3, 1523.	3.3	30
47	Molecular mechanisms of human P2X3 receptor channel activation and modulation by divalent cation bound ATP. ELife, 2019, 8, .	6.0	30
48	Solution Structure of GxTX-1E, a High-Affinity Tarantula Toxin Interacting with Voltage Sensors in Kv2.1 Potassium Channels,. Biochemistry, 2010, 49, 5134-5142.	2.5	29
49	Structure and Orientation of a Voltage-Sensor Toxin in Lipid Membranes. Biophysical Journal, 2010, 99, 638-646.	0.5	28
50	Opening the Shaker K+ channel with hanatoxin. Journal of General Physiology, 2013, 141, 203-216.	1.9	28
51	Structures of the T cell potassium channel Kv1.3 with immunoglobulin modulators. Nature Communications, 2022, 13, .	12.8	28
52	Elucidating the Molecular Basis of Action of a Classic Drug: Guanidine Compounds As Inhibitors of Voltage-Gated Potassium Channels. Molecular Pharmacology, 2011, 80, 1085-1095.	2.3	26
53	High Yield Production and Refolding of the Double-Knot Toxin, an Activator of TRPV1 Channels. PLoS ONE, 2012, 7, e51516.	2.5	25
54	Conserved allosteric pathways for activation of TRPV3 revealed through engineering vanilloid-sensitivity. ELife, 2019, 8, .	6.0	23

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55	Structural Interactions between Lipids, Water and S1â€“S4 Voltage-Sensing Domains. Journal of Molecular Biology, 2012, 423, 632-647.	4.2	21
56	Solution Structure of Kurtoxin: A Gating Modifier Selective for Cav3 Voltage-Gated Ca²⁺ Channels. Biochemistry, 2012, 51, 1862-1873.	2.5	17
57	TMEM266 is a functional voltage sensor regulated by extracellular Zn2+. ELife, 2019, 8, .	6.0	15
58	Position and motions of the S4 helix during opening of the Shaker potassium channel. Journal of General Physiology, 2010, 136, 629-644.	1.9	14
59	Hearing loss mutations alter the functional properties of human P2X2 receptor channels through distinct mechanisms. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 22862-22871.	7.1	13
60	Structure and Anticipatory Movements of the S6 Gate in K v Channels. Journal of General Physiology, 2005, 126, 413-417.	1.9	12
61	Exploring structural dynamics of a membrane protein by combining bioorthogonal chemistry and cysteine mutagenesis. ELife, 2019, 8, .	6.0	10
62	TRPM channels come into focus. Science, 2018, 359, 160-161.	12.6	8
63	Lipids surf the groove in scramblases. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7648-7650.	7.1	8
64	Expression and characterization of recombinant kurtoxin, an inhibitor of T-type voltage-gated calcium channels. Biochemical and Biophysical Research Communications, 2011, 416, 277-282.	2.1	7
65	The scorpion toxin and the potassium channel. ELife, 2013, 2, e00873.	6.0	6
66	Twists and turns in gating ion channels with voltage. Science, 2016, 353, 646-647.	12.6	6
67	Expression of a membrane-targeted fluorescent reporter disrupts auditory hair cell mechanoelectrical transduction and causes profound deafness. Hearing Research, 2021, 404, 108212.	2.0	4
68	Divining the design principles of voltage sensors. Journal of General Physiology, 2014, 143, 139-144.	1.9	2
69	Dextran Labeling and Uptake in Live and Functional Murine Cochlear Hair Cells. Journal of Visualized Experiments, 2020, , .	0.3	2
70	The design principle of paddle motifs in voltage sensors. Nature Structural and Molecular Biology, 2013, 20, 534-535.	8.2	0
71	Protein ligands for studying ion channel proteins. Journal of General Physiology, 2017, 149, 407-411.	1.9	0
72	Structural basis of temperature sensing in vanilloid sensitive TRPV channels.. Proceedings for Annual Meeting of the Japanese Pharmacological Society, 2019, 92, 1-SL02.	0.0	0