

# Vladimir Yarov-Yarovoy

## List of Publications by Citations

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92  
papers

6,527  
citations

40  
h-index

80  
g-index

158  
ext. papers

7,354  
ext. citations

5.7  
avg, IF

5.54  
L-index

#	Paper	IF	Citations
92	Cardioprotective effect of diazoxide and its interaction with mitochondrial ATP-sensitive K <sup>+</sup> channels. Possible mechanism of cardioprotection. <i>Circulation Research</i> , <b>1997</b> , 81, 1072-82	15.7	707
91	Voltage-gated ion channels and gating modifier toxins. <i>Toxicon</i> , <b>2007</b> , 49, 124-41	2.8	489
90	Overview of molecular relationships in the voltage-gated ion channel superfamily. <i>Pharmacological Reviews</i> , <b>2005</b> , 57, 387-95	22.5	345
89	The mitochondrial KATP channel as a receptor for potassium channel openers. <i>Journal of Biological Chemistry</i> , <b>1996</b> , 271, 8796-9	5.4	340
88	Multipass membrane protein structure prediction using Rosetta. <i>Proteins: Structure, Function and Bioinformatics</i> , <b>2006</b> , 62, 1010-25	4.2	260
87	Closing in on the resting state of the Shaker K(+) channel. <i>Neuron</i> , <b>2007</b> , 56, 124-40	13.9	243
86	Voltage sensor conformations in the open and closed states in ROSETTA structural models of K(+) channels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2006</b> , 103, 7292-7	11.5	196
85	Molecular determinants of voltage-dependent gating and binding of pore-blocking drugs in transmembrane segment IIIIS6 of the Na(+) channel alpha subunit. <i>Journal of Biological Chemistry</i> , <b>2001</b> , 276, 20-7	5.4	193
84	Role of amino acid residues in transmembrane segments IS6 and IIS6 of the Na <sup>+</sup> channel alpha subunit in voltage-dependent gating and drug block. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 35393-401	5.4	185
83	Structural mechanism underlying capsaicin binding and activation of the TRPV1 ion channel. <i>Nature Chemical Biology</i> , <b>2015</b> , 11, 518-524	11.7	181
82	State-dependent Inhibition of the Mitochondrial KATP Channel by Glyburide and 5-Hydroxydecanoate. <i>Journal of Biological Chemistry</i> , <b>1998</b> , 273, 13578-13582	5.4	177
81	Structural basis for gating charge movement in the voltage sensor of a sodium channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, E93-102	11.5	176
80	State-dependent inhibition of the mitochondrial KATP channel by glyburide and 5-hydroxydecanoate. <i>Journal of Biological Chemistry</i> , <b>1998</b> , 273, 13578-82	5.4	148
79	An emerging consensus on voltage-dependent gating from computational modeling and molecular dynamics simulations. <i>Journal of General Physiology</i> , <b>2012</b> , 140, 587-94	3.4	141
78	Autoinhibitory control of the CaV1.2 channel by its proteolytically processed distal C-terminal domain. <i>Journal of Physiology</i> , <b>2006</b> , 576, 87-102	3.9	137
77	A gating hinge in Na <sup>+</sup> channels; a molecular switch for electrical signaling. <i>Neuron</i> , <b>2004</b> , 41, 859-65	13.9	127
76	Calculation of the gating charge for the Kv1.2 voltage-activated potassium channel. <i>Biophysical Journal</i> , <b>2010</b> , 98, 2189-98	2.9	121

75	Sequential formation of ion pairs during activation of a sodium channel voltage sensor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 22498-503	11.5	117
74	Structure and function of the voltage sensor of sodium channels probed by a beta-scorpion toxin. <i>Journal of Biological Chemistry</i> , <b>2006</b> , 281, 21332-21344	5.4	115
73	Mapping the receptor site for alpha-scorpion toxins on a Na <sup>+</sup> channel voltage sensor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 15426-31	11.5	110
72	Disulfide locking a sodium channel voltage sensor reveals ion pair formation during activation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2008</b> , 105, 15142-7	11.5	103
71	Interdomain interaction in the FimH adhesin of Escherichia coli regulates the affinity to mannose. <i>Journal of Biological Chemistry</i> , <b>2007</b> , 282, 23437-46	5.4	103
70	Differential interactions of lamotrigine and related drugs with transmembrane segment IVS6 of voltage-gated sodium channels. <i>Neuropharmacology</i> , <b>2003</b> , 44, 413-22	5.5	89
69	Selective disruption of high sensitivity heat activation but not capsaicin activation of TRPV1 channels by pore turret mutations. <i>Journal of General Physiology</i> , <b>2012</b> , 139, 273-83	3.4	82
68	In vivo optophysiology reveals that G-protein activation triggers osmotic swelling and increased light scattering of rod photoreceptors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, E2937-E2946	11.5	77
67	LG2 agrin mutation causing severe congenital myasthenic syndrome mimics functional characteristics of non-neural (z-) agrin. <i>Human Genetics</i> , <b>2012</b> , 131, 1123-35	6.3	75
66	Inhibition of the mitochondrial KATP channel by long-chain acyl-CoA esters and activation by guanine nucleotides. <i>Journal of Biological Chemistry</i> , <b>1996</b> , 271, 32084-8	5.4	72
65	Antibodies and venom peptides: new modalities for ion channels. <i>Nature Reviews Drug Discovery</i> , <b>2019</b> , 18, 339-357	64.1	68
64	A pain-inducing centipede toxin targets the heat activation machinery of nociceptor TRPV1. <i>Nature Communications</i> , <b>2015</b> , 6, 8297	17.4	68
63	Local anesthetic and antiepileptic drug access and binding to a bacterial voltage-gated sodium channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 13057-62	11.5	67
62	Structure-function map of the receptor site for $\beta$ -scorpion toxins in domain II of voltage-gated sodium channels. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 33641-51	5.4	66
61	Gating charge interactions with the S1 segment during activation of a Na <sup>+</sup> channel voltage sensor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 18825-30	11.5	63
60	Adenylyl cyclase subtype-specific compartmentalization: differential regulation of L-type Ca <sup>2+</sup> current in ventricular myocytes. <i>Circulation Research</i> , <b>2013</b> , 112, 1567-76	15.7	62
59	Mapping the interaction site for a $\beta$ -scorpion toxin in the pore module of domain III of voltage-gated Na <sup>(+)</sup> channels. <i>Journal of Biological Chemistry</i> , <b>2012</b> , 287, 30719-28	5.4	55
58	Potassium channels in the heart: structure, function and regulation. <i>Journal of Physiology</i> , <b>2017</b> , 595, 2209-2228	3.9	49

57	The bipolar assembly domain of the mitotic motor kinesin-5. <i>Nature Communications</i> , <b>2013</b> , 4, 1343	17.4	46
56	Structural refinement of the hERG1 pore and voltage-sensing domains with ROSETTA-membrane and molecular dynamics simulations. <i>Proteins: Structure, Function and Bioinformatics</i> , <b>2010</b> , 78, 2922-34	4.2	44
55	The nucleotide regulatory sites on the mitochondrial KATP channel face the cytosol. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , <b>1997</b> , 1321, 128-36	4.6	43
54	Na <sup>+</sup> channel function, regulation, structure, trafficking and sequestration. <i>Journal of Physiology</i> , <b>2015</b> , 593, 1347-60	3.9	42
53	Structural basis for antiarrhythmic drug interactions with the human cardiac sodium channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 2945-2954	11.5	41
52	Finding homes for orphan cytochrome P450s: CYP4V2 and CYP4F22 in disease states. <i>Molecular Interventions: Pharmacological Perspectives From Biology, Chemistry and Genomics</i> , <b>2011</b> , 11, 124-32		39
51	Identification of amino acid determinants in CYP4B1 for optimal catalytic processing of 4-ipomeanol. <i>Biochemical Journal</i> , <b>2015</b> , 465, 103-14	3.8	37
50	Functional interaction with filamin A and intracellular Ca <sup>2+</sup> enhance the surface membrane expression of a small-conductance Ca <sup>2+</sup> -activated K <sup>+</sup> (SK2) channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 9989-94	11.5	35
49	Interactions of H562 in the S5 helix with T618 and S621 in the pore helix are important determinants of hERG1 potassium channel structure and function. <i>Biophysical Journal</i> , <b>2009</b> , 96, 3600-10 <sup>2</sup> .9	10.9	35
48	Directed Evolution of a Selective and Sensitive Serotonin Sensor via Machine Learning. <i>Cell</i> , <b>2020</b> , 183, 1986-2002.e26	56.2	34
47	Rational design and validation of a vanilloid-sensitive TRPV2 ion channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, E3657-66	11.5	33
46	The conformational wave in capsaicin activation of transient receptor potential vanilloid 1 ion channel. <i>Nature Communications</i> , <b>2018</b> , 9, 2879	17.4	33
45	Molecular Interactions in the Voltage Sensor Controlling Gating Properties of Ca <sub>v</sub> Calcium Channels. <i>Structure</i> , <b>2016</b> , 24, 261-71	5.2	29
44	A Computational Pipeline to Predict Cardiotoxicity: From the Atom to the Rhythm. <i>Circulation Research</i> , <b>2020</b> , 126, 947-964	15.7	27
43	Chemoselective tarantula toxins report voltage activation of wild-type ion channels in live cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, E4789-96	11.5	27
42	Tarantula toxins use common surfaces for interacting with Kv and ASIC ion channels. <i>ELife</i> , <b>2015</b> , 4, e06784	11.4	27
41	Structural Insights into the Atomistic Mechanisms of Action of Small Molecule Inhibitors Targeting the KCa3.1 Channel Pore. <i>Molecular Pharmacology</i> , <b>2017</b> , 91, 392-402	4.3	26
40	Constitutive coupling of a naturally occurring human alpha1a-adrenergic receptor genetic variant to EGFR transactivation pathway. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 19796-801	11.5	23

39	Activity-Dependent Palmitoylation Controls SynDIG1 Stability, Localization, and Function. <i>Journal of Neuroscience</i> , <b>2016</b> , 36, 7562-8	6.6	21
38	A Polybasic Plasma Membrane Binding Motif in the I-II Linker Stabilizes Voltage-gated CaV1.2 Calcium Channel Function. <i>Journal of Biological Chemistry</i> , <b>2015</b> , 290, 21086-21100	5.4	21
37	Allosteric catch bond properties of the FimH adhesin from <i>Salmonella enterica</i> serovar Typhimurium. <i>Journal of Biological Chemistry</i> , <b>2011</b> , 286, 38136-38147	5.4	18
36	Catalytic residues and a predicted structure of tetrahydrobiopterin-dependent alkylglycerol mono-oxygenase. <i>Biochemical Journal</i> , <b>2012</b> , 443, 279-86	3.8	16
35	Gain-of-function mutation of a voltage-gated sodium channel Na1.7 associated with peripheral pain and impaired limb development. <i>Journal of Biological Chemistry</i> , <b>2017</b> , 292, 9262-9272	5.4	15
34	Structural mechanisms underlying activation of TRPV1 channels by pungent compounds in gingers. <i>British Journal of Pharmacology</i> , <b>2019</b> , 176, 3364-3377	8.6	14
33	A distinct structural mechanism underlies TRPV1 activation by piperine. <i>Biochemical and Biophysical Research Communications</i> , <b>2019</b> , 516, 365-372	3.4	13
32	Characterization of an Additional Splice Acceptor Site Introduced into CYP4B1 in Hominoidae during Evolution. <i>PLoS ONE</i> , <b>2015</b> , 10, e0137110	3.7	13
31	Sensitivity to the two peptide bacteriocin plantaricin EF is dependent on CorC, a membrane-bound, magnesium/cobalt efflux protein. <i>MicrobiologyOpen</i> , <b>2019</b> , 8, e827	3.4	12
30	Na <sup>+</sup> /K <sup>+</sup> -ATPase E960 and phospholemman F28 are critical for their functional interaction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 20756-61	11.5	12
29	Mechanisms of Calmodulin Regulation of Different Isoforms of Kv7.4 K <sup>+</sup> Channels. <i>Journal of Biological Chemistry</i> , <b>2016</b> , 291, 2499-509	5.4	11
28	Computational Models for Predictive Cardiac Ion Channel Pharmacology. <i>Drug Discovery Today: Disease Models</i> , <b>2014</b> , 14, 3-10	1.3	11
27	An Unorthodox Mechanism Underlying Voltage Sensitivity of TRPV1 Ion Channel. <i>Advanced Science</i> , <b>2020</b> , 7, 2000575	13.6	11
26	Cooperativity of K7.4 channels confers ultrafast electromechanical sensitivity and emergent properties in cochlear outer hair cells. <i>Science Advances</i> , <b>2020</b> , 6, eaba1104	14.3	11
25	βActinin-1 promotes activity of the L-type Ca channel Ca 1.2. <i>EMBO Journal</i> , <b>2020</b> , 39, e102622	13	10
24	Opening TRPP2 ( ) requires the transfer of gating charges. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 15540-15549	11.5	10
23	Structural Determinants for the Selectivity of the Positive KCa3.1 Gating Modulator 5-Methylnaphtho[2,1-]oxazol-2-amine (SKA-121). <i>Molecular Pharmacology</i> , <b>2017</b> , 92, 469-480	4.3	9
22	A Large and Phylogenetically Diverse Class of Type 1 Opsins Lacking a Canonical Retinal Binding Site. <i>PLoS ONE</i> , <b>2016</b> , 11, e0156543	3.7	7

21	A novel tarantula toxin stabilizes the deactivated voltage sensor of bacterial sodium channel. <i>FASEB Journal</i> , <b>2017</b> , 31, 3167-3178	0.9	5
20	Veratridine: A Janus-Faced Modulator of Voltage-Gated Sodium Ion Channels. <i>ACS Chemical Neuroscience</i> , <b>2020</b> , 11, 418-426	5.7	5
19	The Trials and Tribulations of Structure Assisted Design of K Channel Activators. <i>Frontiers in Pharmacology</i> , <b>2019</b> , 10, 972	5.6	5
18	Helical motion of an S4 voltage sensor revealed by gating pore currents. <i>Channels</i> , <b>2010</b> , 4, 75-7	3	5
17	New capsaicin analogs as molecular rulers to define the permissive conformation of the mouse TRPV1 ligand-binding pocket. <i>ELife</i> , <b>2020</b> , 9,	8.9	5
16	Pathogenic effects of agrin V1727F mutation are isoform specific and decrease its expression and affinity for HSPGs and LRP4. <i>Human Molecular Genetics</i> , <b>2019</b> , 28, 2648-2658	5.6	4
15	Different arrhythmia-associated calmodulin mutations have distinct effects on cardiac SK channel regulation. <i>Journal of General Physiology</i> , <b>2020</b> , 152,	3.4	4
14	Gating Properties of Mutant Sodium Channels and Responses to Sodium Current Inhibitors Predict Mexiletine-Sensitive Mutations of Long QT Syndrome 3. <i>Frontiers in Pharmacology</i> , <b>2020</b> , 11, 1182	5.6	4
13	Distinguishing Potassium Channel Resting State Conformations in Live Cells with Environment-Sensitive Fluorescence. <i>ACS Chemical Neuroscience</i> , <b>2020</b> , 11, 2316-2326	5.7	3
12	De Novo Design of Peptidic Positive Allosteric Modulators Targeting TRPV1 with Analgesic Effects. <i>Advanced Science</i> , <b>2021</b> , 8, e2101716	13.6	3
11	Atomistic modeling towards predictive cardiotoxicity		2
10	The Sodium Channel Voltage Sensor Slides to Rest. <i>Trends in Pharmacological Sciences</i> , <b>2019</b> , 40, 718-720	3.2	1
9	First insights into structure-function relationships of alkylglycerol monooxygenase. <i>Pteridines</i> , <b>2013</b> , 24, 99-103	0.6	1
8	Actinin-1 promotes activity of the L-type Ca <sup>2+</sup> Channel CaV1.2		1
7	The MX-Helix of Muscle nAChR Subunits Regulates Receptor Assembly and Surface Trafficking. <i>Frontiers in Molecular Neuroscience</i> , <b>2020</b> , 13, 48	6.1	1
6	Structural insights into TRPV2 activation by small molecules.. <i>Nature Communications</i> , <b>2022</b> , 13, 2334	17.4	1
5	Towards Structure-Guided Development of Pain Therapeutics Targeting Voltage-Gated Sodium Channels.. <i>Frontiers in Pharmacology</i> , <b>2022</b> , 13, 842032	5.6	0
4	Ensuring scientific reproducibility in bio-macromolecular modeling via extensive, automated benchmarks. <i>Nature Communications</i> , <b>2021</b> , 12, 6947	17.4	0

3	Toggle switch residues control allosteric transitions in bacterial adhesins by participating in a concerted repacking of the protein core. <i>PLoS Pathogens</i> , <b>2021</b> , 17, e1009440	7.6	o
2	Molecular determinants of pro-arrhythmia proclivity of d- and l-sotalol via a multi-scale modeling pipeline. <i>Journal of Molecular and Cellular Cardiology</i> , <b>2021</b> , 158, 163-177	5.8	o
1	Rosetta modeling of the inner KCa3.1 pore, a hotspot for small molecule modulation. <i>FASEB Journal</i> , <b>2013</b> , 27, 913.23	0.9	