Cryo-EM Structure of a KCNQ1/CaM Complex Reveals I Syndrome

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Citation Report

#	Article	IF	CITATIONS
1	Ca ²⁺ -Calmodulin and PIP2 interactions at the proximal C-terminus of Kv7 channels. Channels, 2017, 11, 686-695.	1.5	28
2	A comprehensive structural model for the human KCNQ1/KCNE1 ion channel. Journal of Molecular Graphics and Modelling, 2017, 78, 26-47.	1.3	10
3	Calmodulin confers calcium sensitivity to the stability of the distal intracellular assembly domain of Kv7.2 channels. Scientific Reports, 2017, 7, 13425.	1.6	7
4	Chansporter complexes in cell signaling. FEBS Letters, 2017, 591, 2556-2576.	1.3	18
5	KCNE1 and KCNE3 modulate KCNQ1 channels by affecting different gating transitions. Proceedings of the United States of America, 2017, 114, E7367-E7376.	3.3	38
6	Electron cryo-microscopy structure of a human TRPM4 channel. Nature, 2017, 552, 200-204.	13.7	161
7	PIP2 mediates functional coupling and pharmacology of neuronal KCNQ channels. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9702-E9711.	3.3	42
8	Two missense mutations in KCNQ1 cause pituitary hormone deficiency and maternally inherited gingival fibromatosis. Nature Communications, 2017, 8, 1289.	5.8	33
9	"Divide and conquer―approach to the structural studies of multidomain ion channels by the example of isolated voltage sensing domains of human Kv2.1 and Nav1.4 channels. Russian Journal of Bioorganic Chemistry, 2017, 43, 634-643.	0.3	3
10	Human In Silico Drug Trials Demonstrate Higher Accuracy than Animal Models in Predicting Clinical Pro-Arrhythmic Cardiotoxicity. Frontiers in Physiology, 2017, 8, 668.	1.3	227
11	Phosphatidylinositol-4,5-bisphosphate is required for KCNQ1/KCNE1 channel function but not anterograde trafficking. PLoS ONE, 2017, 12, e0186293.	1.1	9
12	Inactivation gating of Kv7.1 channels does not involve concerted cooperative subunit interactions. Channels, 2018, 12, 89-99.	1.5	4
13	Microbiology catches the cryo-EM bug. Current Opinion in Microbiology, 2018, 43, 199-207.	2.3	9
14	Cryo-EM structure of the polycystic kidney disease-like channel PKD2L1. Nature Communications, 2018, 9, 1192.	5.8	45
15	Kv7.3 Compound Heterozygous Variants in Early Onset Encephalopathy Reveal Additive Contribution of C-Terminal Residues to PIP2-Dependent K+ Channel Gating. Molecular Neurobiology, 2018, 55, 7009-7024.	1.9	21
16	Exploiting ion channel structure to assess rare variant pathogenicity. Heart Rhythm, 2018, 15, 890-894.	0.3	4
17	Never at rest: insights into the conformational dynamics of ion channels from cryoâ€electron microscopy. Journal of Physiology, 2018, 596, 1107-1119.	1.3	22
18	A Calmodulin C-Lobe Ca2+-Dependent Switch Governs Kv7 Channel Function. Neuron, 2018, 97, 836-852.e6.	3.8	63

#	Article	IF	CITATIONS
19	Activation mechanism of a human SK-calmodulin channel complex elucidated by cryo-EM structures. Science, 2018, 360, 508-513.	6.0	135
20	How to Connect Cardiac Excitation to the Atomic Interactions of Ion Channels. Biophysical Journal, 2018, 114, 259-266.	0.2	9
21	Mechanisms of KCNQ1 channel dysfunction in long QT syndrome involving voltage sensor domain mutations. Science Advances, 2018, 4, eaar2631.	4.7	64
22	Selective Ligands and Drug Discovery Targeting the Voltage-Gated Sodium Channel Nav1.7. Handbook of Experimental Pharmacology, 2018, 246, 271-306.	0.9	27
23	Solid-State Nuclear Magnetic Resonance Spectroscopy of Membrane Proteins. , 2018, , 251-283.		0
24	Calmodulin as a protein linker and a regulator of adaptor/scaffold proteins. Biochimica Et Biophysica Acta - Molecular Cell Research, 2018, 1865, 507-521.	1.9	72
25	Membrane Biophysics. , 2018, , .		0
26	Mutational and phenotypic spectra of <i>KCNE1</i> deficiency in Jervell and Langeâ€Nielsen Syndrome and Romanoâ€Ward Syndrome. Human Mutation, 2019, 40, 162-176.	1.1	44
27	Whole-exome sequencing identifies two novel mutations in KCNQ4 in individuals with nonsyndromic hearing loss. Scientific Reports, 2018, 8, 16659.	1.6	24
28	Deconstruction of an African folk medicine uncovers a novel molecular strategy for therapeutic potassium channel activation. Science Advances, 2018, 4, eaav0824.	4.7	24
29	Human Calmodulin Mutations. Frontiers in Molecular Neuroscience, 2018, 11, 396.	1.4	81
30	Crystal structure of the C-terminal four-helix bundle of the potassium channel KCa3.1. PLoS ONE, 2018, 13, e0199942.	1.1	6
31	Effects of β-subunit on gating of a potassium ion channel: Molecular simulations of cardiac IKs activation. Journal of Molecular and Cellular Cardiology, 2018, 124, 35-44.	0.9	6
32	Ancient and modern anticonvulsants act synergistically in a KCNQ potassium channel binding pocket. Nature Communications, 2018, 9, 3845.	5.8	31
33	Phosphatidylinositol 4,5-bisphosphate (PIP2) regulates KCNQ3 K+ channels by interacting with four cytoplasmic channel domains. Journal of Biological Chemistry, 2018, 293, 19411-19428.	1.6	35
34	Pore- and voltage sensor–targeted KCNQ openers have distinct state-dependent actions. Journal of General Physiology, 2018, 150, 1722-1734.	0.9	16
35	Mechanisms Underlying the Dual Effect of Polyunsaturated Fatty Acid Analogs on Kv7.1. Cell Reports, 2018, 24, 2908-2918.	2.9	39
36	Four drug-sensitive subunits are required for maximal effect of a voltage sensor–targeted KCNQ opener. Journal of General Physiology, 2018, 150, 1432-1443.	0.9	19

#	Article	IF	CITATIONS
37	Recombinant Production, Reconstruction in Lipid–Protein Nanodiscs, and Electron Microscopy of Full-Length α-Subunit of Human Potassium Channel Kv7.1. Biochemistry (Moscow), 2018, 83, 562-573.	0.7	2
38	Modeling the Hidden Pathways of IKs Channel Activation. Biophysical Journal, 2018, 115, 1-2.	0.2	13
39	Insights into the molecular mechanism for hyperpolarization-dependent activation of HCN channels. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E8086-E8095.	3.3	46
40	Voltage-Sensing Phosphatases: Biophysics, Physiology, and Molecular Engineering. Physiological Reviews, 2018, 98, 2097-2131.	13.1	34
41	The Role of KCNQ1 Mutations and Maternal Beta Blocker Use During Pregnancy in the Growth of Children With Long QT Syndrome. Frontiers in Endocrinology, 2018, 9, 194.	1.5	3
42	Reduced axonal surface expression and phosphoinositide sensitivity in K v 7 channels disrupts their function to inhibit neuronal excitability in Kcnq2 epileptic encephalopathy. Neurobiology of Disease, 2018, 118, 76-93.	2.1	23
43	Gabapentin Is a Potent Activator of KCNQ3 and KCNQ5 Potassium Channels. Molecular Pharmacology, 2018, 94, 1155-1163.	1.0	45
44	Calmodulin: A Multitasking Protein in Kv7.2 Potassium Channel Functions. Biomolecules, 2018, 8, 57.	1.8	16
45	Direct neurotransmitter activation of voltage-gated potassium channels. Nature Communications, 2018, 9, 1847.	5.8	60
46	Remoteâ€Controlling Potassium Channels in Living Cells through Photothermal Inactivation of Calmodulin. Advanced Healthcare Materials, 2018, 7, e1800674.	3.9	24
47	Lack of correlation between surface expression and currents in epileptogenic AB-calmodulin binding domain Kv7.2 potassium channel mutants. Channels, 2018, 12, 299-310.	1.5	6
48	The Structural Basis of IKs Ion-Channel Activation: Mechanistic Insights from Molecular Simulations. Biophysical Journal, 2018, 114, 2584-2594.	0.2	23
49	Effects of protein-protein interactions and ligand binding on the ion permeation in KCNQ1 potassium channel. PLoS ONE, 2018, 13, e0191905.	1.1	17
50	Noncanonical mechanism of voltage sensor coupling to pore revealed by tandem dimersÂof Shaker. Nature Communications, 2019, 10, 3584.	5.8	25
51	A synthetic biological approach to reconstitution of inositide signaling pathways in bacteria. Advances in Biological Regulation, 2019, 73, 100637.	1.4	5
52	Rare KCNQ4 variants found in public databases underlie impaired channel activity that may contribute to hearing impairment. Experimental and Molecular Medicine, 2019, 51, 1-12.	3.2	16
53	NMR Structural Analysis of Isolated Shaker Voltage-Sensing Domain in LPPG Micelles. Biophysical Journal, 2019, 117, 388-398.	0.2	3
54	Cilantro leaf harbors a potent potassium channel–activating anticonvulsant. FASEB Journal, 2019, 33, 11349-11363.	0.2	24

ARTICLE IF CITATIONS # Competitive Interactions between PIRT, the Cold Sensing Ion Channel TRPM8, and PIP2 Suggest a 1.6 7 55 Mechanism for Regulation. Scientific Reports, 2019, 9, 14128. A conserved arginine/lysine-based motif promotes ER export of KCNE1 and KCNE2 to regulate KCNQ1 1.5 channel activity. Channels, 2019, 13, 483-497. In silico re-engineering of a neurotransmitter to activate KCNQ potassium channels in an 57 2.0 9 isoform-specific manner. Communications Biology, 2019, 2, 401. KCNQ5 activation is a unifying molecular mechanism shared by genetically and culturally diverse botanical hypotensive folk medicines. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 21236-21245. 3.3 Cholesterol-Dependent Gating Effects on Ion Channels. Advances in Experimental Medicine and 59 0.8 21 Biology, 2019, 1115, 167-190. Detergent-free solubilization of human Kv channels expressed in mammalian cells. Chemistry and Physics of Lipids, 2019, 219, 50-57. 1.5 Gating modulation of the KCNQ1 channel by KCNE proteins studied by voltage-clamp fluorometry. 61 0.5 4 Biophysics and Physicobiology, 2019, 16, 121-126. Recent advances in our understanding of the structure and function of more unusual cation 0.8 channels. F1000Research, 2019, 8, 123. Molecular mechanisms of coupling to voltage sensors in voltage-evoked cellular signals. 63 8 1.6 Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 2019, 95, 111-135. Protein structure aids predicting functional perturbation of missense variants in SCN5A and KCNQ1. 64 Computational and Structural Biotechnology Journal, 2019, 17, 206-214. Structural insight into TRPV5 channel function and modulation. Proceedings of the National Academy 65 3.3 78 of Sciences of the United States of America, 2019, 116, 8869-8878. <i><</i><i>< sensor movements. Proceedings of the National Academy of Sciences of the United States of America, 3.3 2019, 116, 7879-7888. A mutually induced conformational fit underlies Ca2+-directed interactions between calmodulin and 67 1.6 13 the proximal C terminus of KCNQ4 K+ channels. Journal of Biological Chemistry, 2019, 294, 6094-6112. Voltage-dependent activation in EAG channels follows a ligand-receptor rather than a 1.6 mechanical-lever mechanism. Journal of Biological Chemistry, 2019, 294, 6506-6521. Dimeric structures of quinol-dependent nitric oxide reductases (qNORs) revealed by cryo–electron 69 4.7 14 microscopy. Science Advances, 2019, 5, eaax1803. Voltage Sensor Movements during Hyperpolarization in the HCN Channel. Cell, 2019, 179, 1582-1589.e7. 13.5 89 Presynaptic Mechanisms and KCNQ Potassium Channels Modulate Opioid Depression of Respiratory 71 1.341 Drivé. Frontiers in Physiology, 2019, 10, 1407. ï‰â€6 and ï‰â€9 polyunsaturated fatty acids with double bonds near the carboxyl head have the highest affinity and largest effects on the cardiac <scp><i>I</i> 1.8 channel. Acta Physiologica, 2019, 225, e13186.

#	Article	IF	CITATIONS
73	Epilepsy-associated mutations in the voltage sensor of KCNQ3 affect voltage dependence of channel opening. Journal of General Physiology, 2019, 151, 247-257.	0.9	7
74	Homomeric Kv7.2 current suppression is a common feature in <i><scp>KCNQ</scp>2</i> epileptic encephalopathy. Epilepsia, 2019, 60, 139-148.	2.6	23
76	Folding and Misfolding of Human Membrane Proteins in Health and Disease: From Single Molecules to Cellular Proteostasis. Chemical Reviews, 2019, 119, 5537-5606.	23.0	184
77	Probing the Dynamics and Structural Topology of the Reconstituted Human KCNQ1 Voltage Sensor Domain (Q1-VSD) in Lipid Bilayers Using Electron Paramagnetic Resonance Spectroscopy. Biochemistry, 2019, 58, 965-973.	1.2	15
78	New Structures and Gating of Voltage-Dependent Potassium (Kv) Channels and Their Relatives: A Multi-Domain and Dynamic Question. International Journal of Molecular Sciences, 2019, 20, 248.	1.8	28
79	Characterizing the structure of styrene-maleic acid copolymer-lipid nanoparticles (SMALPs) using RAFT polymerization for membrane protein spectroscopic studies. Chemistry and Physics of Lipids, 2019, 218, 65-72.	1.5	20
80	Genetic intolerance analysis as a tool for protein science. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183058.	1.4	6
81	Structural Basis of Human KCNQ1 Modulation and Gating. Cell, 2020, 180, 340-347.e9.	13.5	188
82	The membrane protein KCNQ1 potassium ion channel: Functional diversity and current structural insights. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183148.	1.4	16
83	Synthesis and Pharmacological Characterization of Conformationally Restricted Retigabine Analogues as Novel Neuronal Kv7 Channel Activators. Journal of Medicinal Chemistry, 2020, 63, 163-185.	2.9	20
84	Functional phenotype variations of two novel K _V 7.1 mutations identified in patients with Long QT syndrome. PACE - Pacing and Clinical Electrophysiology, 2020, 43, 210-216.	0.5	4
85	Two KCNQ2 Encephalopathy Variants in the Calmodulin-Binding Helix A Exhibit Dominant-Negative Effects and Altered PIP2 Interaction. Frontiers in Physiology, 2020, 11, 1144.	1.3	7
86	The Role of Kv7 Channels in Neural Plasticity and Behavior. Frontiers in Physiology, 2020, 11, 568667.	1.3	27
87	Network analysis reveals how lipids and other cofactors influence membrane protein allostery. Journal of Chemical Physics, 2020, 153, 141103.	1.2	21
88	A PIP2 substitute mediates voltage sensor-pore coupling in KCNQ activation. Communications Biology, 2020, 3, 385.	2.0	22
89	Ion channels as lipid sensors: from structures to mechanisms. Nature Chemical Biology, 2020, 16, 1331-1342.	3.9	38
90	CaV channels reject signaling from a second CaM in eliciting Ca2+-dependent feedback regulation. Journal of Biological Chemistry, 2020, 295, 14948-14962.	1.6	3
91	Complex Arrhythmia Syndrome in a Knock-In Mouse Model Carrier of the N98S Calm1 Mutation. Circulation, 2020, 142, 1937-1955.	1.6	12

#	Article	IF	CITATIONS
92	Gating and regulation of KCNH (ERG, EAG, and ELK) channels by intracellular domains. Channels, 2020, 14, 294-309.	1.5	8
93	Neurohormonal Regulation of I _{Ks} in Heart Failure: Implications for Ventricular Arrhythmogenesis and Sudden Cardiac Death. Journal of the American Heart Association, 2020, 9, e016900.	1.6	10
94	Insights into Cardiac IKs (KCNQ1/KCNE1) Channels Regulation. International Journal of Molecular Sciences, 2020, 21, 9440.	1.8	25
95	Familial neonatal seizures caused by the Kv7.3 selectivity filter mutation T313I. Epilepsia Open, 2020, 5, 562-573.	1.3	4
96	Calmodulin acts as a state-dependent switch to control a cardiac potassium channel opening. Science Advances, 2020, 6, .	4.7	38
97	Electron Paramagnetic Resonance as a Tool for Studying Membrane Proteins. Biomolecules, 2020, 10, 763.	1.8	33
98	Structures Illuminate Cardiac Ion Channel Functions in Health and in Long QT Syndrome. Frontiers in Pharmacology, 2020, 11, 550.	1.6	23
99	PIRT the TRP Channel Regulating Protein Binds Calmodulin and Cholesterol-Like Ligands. Biomolecules, 2020, 10, 478.	1.8	5
100	Hydrophobic Drug/Toxin Binding Sites in Voltage-Dependent K+ and Na+ Channels. Frontiers in Pharmacology, 2020, 11, 735.	1.6	11
101	Gating and Regulation of KCNQ1 and KCNQ1 + KCNE1 Channel Complexes. Frontiers in Physiology, 2020, 11, 504.	1.3	23
102	Identifying mutation hotspots reveals pathogenetic mechanisms of KCNQ2 epileptic encephalopathy. Scientific Reports, 2020, 10, 4756.	1.6	42
103	Molecular Mechanisms and Structural Basis of Retigabine Analogues in Regulating KCNQ2 Channel. Journal of Membrane Biology, 2020, 253, 167-181.	1.0	15
104	KCNQs: Ligand- and Voltage-Gated Potassium Channels. Frontiers in Physiology, 2020, 11, 583.	1.3	45
105	Polyunsaturated Fatty Acids as Modulators of KV7 Channels. Frontiers in Physiology, 2020, 11, 641.	1.3	15
106	Pharmacological Manipulation of Kv7 Channels as a New Therapeutic Tool for Multiple Brain Disorders. Frontiers in Physiology, 2020, 11, 688.	1.3	23
107	Heteromeric Assembly of Truncated Neuronal Kv7 Channels: Implications for Neurologic Disease and Pharmacotherapy. Molecular Pharmacology, 2020, 98, 192-202.	1.0	7
108	Potassium channels act as chemosensors for solute transporters. Communications Biology, 2020, 3, 90.	2.0	12
109	Contributions of natural products to ion channel pharmacology. Natural Product Reports, 2020, 37, 703-716.	5.2	24

#	Article	IF	CITATIONS
110	M-Channel Activation Contributes to the Anticonvulsant Action of the Ketone Body <i>β</i> -Hydroxybutyrate. Journal of Pharmacology and Experimental Therapeutics, 2020, 372, 148-156.	1.3	18
111	Atomistic Insights of Calmodulin Gating of Complete Ion Channels. International Journal of Molecular Sciences, 2020, 21, 1285.	1.8	18
112	Two-stage electro–mechanical coupling of a KV channel in voltage-dependent activation. Nature Communications, 2020, 11, 676.	5.8	46
113	Arrhythmia mutations in calmodulin can disrupt cooperativity of Ca2+binding and cause misfolding. Journal of Physiology, 2020, 598, 1169-1186.	1.3	26
114	Structure-function relationship of the slow delayed rectifier channel: impactful questions in 2020 and beyond. American Journal of Physiology - Heart and Circulatory Physiology, 2020, 318, H329-H331.	1.5	0
115	Molecular basis and restoration of function deficiencies of Kv7.4 variants associated with inherited hearing loss. Hearing Research, 2020, 388, 107884.	0.9	16
116	Rottlerin: Structure Modifications and KCNQ1/KCNE1 Ion Channel Activity. ChemMedChem, 2020, 15, 1078-1088.	1.6	6
117	The EAG Voltage-Dependent K+ Channel Subfamily: Similarities and Differences in Structural Organization and Gating. Frontiers in Pharmacology, 2020, 11, 411.	1.6	24
118	Polyunsaturated fatty acidâ€derived I Ks channel activators shorten the QT interval exâ€vivo and inâ€vivo. Acta Physiologica, 2020, 229, e13471.	1.8	8
119	Heritable arrhythmias associated with abnormal function of cardiac potassium channels. Cardiovascular Research, 2020, 116, 1542-1556.	1.8	21
120	Hormonal Signaling Actions on Kv7.1 (KCNQ1) Channels. Annual Review of Pharmacology and Toxicology, 2021, 61, 381-400.	4.2	4
121	Ictal and interictal electroencephalographic findings can contribute to early diagnosis and prompt treatment in KCNQ2-associated epileptic encephalopathy. Journal of the Formosan Medical Association, 2021, 120, 744-754.	0.8	10
122	Structural Basis for the Modulation of Human KCNQ4 by Small-Molecule Drugs. Molecular Cell, 2021, 81, 25-37.e4.	4.5	53
123	Molecular basis for ligand activation of the human KCNQ2 channel. Cell Research, 2021, 31, 52-61.	5.7	77
124	High-Resolution Structures of K+ Channels. Handbook of Experimental Pharmacology, 2021, 267, 51-81.	0.9	3
126	Therapeutic Antibodies Targeting Potassium Ion Channels. Handbook of Experimental Pharmacology, 2021, 267, 507-545.	0.9	2
127	Calcium-Activated K+ Channels (KCa) and Therapeutic Implications. Handbook of Experimental Pharmacology, 2021, 267, 379-416.	0.9	9
128	The S2–S3 Loop of Kv7.4 Channels Is Essential for Calmodulin Regulation of Channel Activation. Frontiers in Physiology, 2020, 11, 604134.	1.3	5

#	Article	IF	CITATIONS
129	<i>KCNQ</i> variants and pain modulation: a missense variant in Kv7.3 contributes to pain resilience. Brain Communications, 2021, 3, fcab212.	1.5	13
130	Control of Biophysical and Pharmacological Properties of Potassium Channels by Ancillary Subunits. Handbook of Experimental Pharmacology, 2021, 267, 445-480.	0.9	4
131	Molecular basis for functional connectivity between the voltage sensor and the selectivity filter gate in Shaker K+ channels. ELife, 2021, 10, .	2.8	15
132	Dynein regulates Kv7.4 channel trafficking from the cell membrane. Journal of General Physiology, 2021, 153, .	0.9	14
133	Structural Mechanism of ω-Currents in a Mutated Kv7.2 Voltage Sensor Domain from Molecular Dynamics Simulations. Journal of Chemical Information and Modeling, 2021, 61, 1354-1367.	2.5	6
135	Lipid regulation of hERG1 channel function. Nature Communications, 2021, 12, 1409.	5.8	9
137	Identification of PUFA interaction sites on the cardiac potassium channel KCNQ1. Journal of General Physiology, 2021, 153, .	0.9	22
138	An epilepsy-causing mutation leads to co-translational misfolding of the Kv7.2 channel. BMC Biology, 2021, 19, 109.	1.7	5
139	Modulating the voltage sensor of a cardiac potassium channel shows antiarrhythmic effects. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	6
140	Elementary mechanisms of calmodulin regulation of NaV1.5 producing divergent arrhythmogenic phenotypes. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2025085118.	3.3	13
143	Novel KCNQ4 variants in different functional domains confer genotype- and mechanism-based therapeutics in patients with nonsyndromic hearing loss. Experimental and Molecular Medicine, 2021, 53, 1192-1204.	3.2	16
144	The Amyloid Precursor Protein C99 Fragment Modulates Voltage-Gated Potassium Channels Cellular Physiology and Biochemistry, 2021, 55, 157-170.	1.1	7
145	A general mechanism of KCNE1 modulation of KCNQ1 channels involving non-canonical VSD-PD coupling. Communications Biology, 2021, 4, 887.	2.0	4
146	Calcium-release channels: structure and function of IP ₃ receptors and ryanodine receptors. Physiological Reviews, 2022, 102, 209-268.	13.1	93
147	Structure and Sequence-based Computational Approaches to Allosteric Signal Transduction: Application to Electromechanical Coupling in Voltage-gated Ion Channels. Journal of Molecular Biology, 2021, 433, 167095.	2.0	4
149	Ion channel-related hereditary hearing loss. Journal of Bio-X Research, 2021, Publish Ahead of Print, .	0.3	1
150	Mutation location and <i>I</i> ÂKs regulation in the arrhythmic risk of long QT syndrome type 1: the importance of the KCNQ1 S6 region. European Heart Journal, 2021, 42, 4743-4755.	1.0	26
152	Kv7 Channels and Excitability Disorders. Handbook of Experimental Pharmacology, 2021, 267, 185-230.	0.9	21

#	Article	IF	CITATIONS
153	Mechanism of hERG inhibition by gating-modifier toxin, APETx1, deduced by functional characterization. BMC Molecular and Cell Biology, 2021, 22, 3.	1.0	5
154	Different arrhythmia-associated calmodulin mutations have distinct effects on cardiac SK channel regulation. Journal of General Physiology, 2020, 152, .	0.9	7
156	A unique mechanism of inactivation gating of the Kv channel family member Kv7.1 and its modulation by PIP2 and calmodulin. Science Advances, 2020, 6, .	4.7	10
157	Upgraded molecular models of the human KCNQ1 potassium channel. PLoS ONE, 2019, 14, e0220415.	1.1	26
158	The Crossroad of Ion Channels and Calmodulin in Disease. International Journal of Molecular Sciences, 2019, 20, 400.	1.8	32
159	KCNE1 tunes the sensitivity of KV7.1 to polyunsaturated fatty acids by moving turret residues close to the binding site. ELife, 2018, 7, .	2.8	24
160	TMEM266 is a functional voltage sensor regulated by extracellular Zn2+. ELife, 2019, 8, .	2.8	15
161	ML277 specifically enhances the fully activated open state of KCNQ1 by modulating VSD-pore coupling. ELife, 2019, 8, .	2.8	28
162	Regulation of Eag1 gating by its intracellular domains. ELife, 2019, 8, .	2.8	25
163	Cryo-EM structure of the KvAP channel reveals a non-domain-swapped voltage sensor topology. ELife, 2019, 8, .	2.8	17
164	Structure and physiological function of the human KCNQ1 channel voltage sensor intermediate state. ELife, 2020, 9, .	2.8	36
165	Allosteric mechanism for KCNE1 modulation of KCNQ1 potassium channel activation. ELife, 2020, 9, .	2.8	19
166	Progression of KCNQ4 related genetic hearing loss: a narrative review. Journal of Bio-X Research, 2021, 4, 151-157.	0.3	1
167	The Integrative Approach to Study of the Structure and Functions of Cardiac Voltage-Dependent Ion Channels. Crystallography Reports, 2021, 66, 711-725.	0.1	1
168	PIP2-dependent coupling of voltage sensor and pore domains in Kv7.2 channel. Communications Biology, 2021, 4, 1189.	2.0	7
169	KCNQ1 Potassium Channel Expressed in Human Sperm Is Involved in Sperm Motility, Acrosome Reaction, Protein Tyrosine Phosphorylation, and Ion Homeostasis During Capacitation. Frontiers in Physiology, 2021, 12, 761910.	1.3	10
170	Experimental challenges in ion channel research: uncovering basic principles of permeation and gating in potassium channels. Advances in Physics: X, 2022, 7, .	1.5	2
171	Ventricular voltageâ€gated ion channels: Detection, characteristics, mechanisms, and drug safety evaluation. Clinical and Translational Medicine, 2021, 11, e530.	1.7	6

#	Article	IF	CITATIONS
172	Cell death-inducing cytotoxicity in truncated KCNQ4 variants associated with DFNA2 hearing loss. DMM Disease Models and Mechanisms, 2021, 14, .	1.2	4
173	ML277 regulates KCNQ1 single-channel amplitudes and kinetics, modified by voltage sensor state. Journal of General Physiology, 2021, 153, .	0.9	10
175	Analysis of Voltage Sensor Movement in KCNQ1-KCNE1 Channels by Voltage Clamp Fluorometry. Seibutsu Butsuri, 2018, 58, 144-148.	0.0	1
180	The Structure and Gating Mechanism of KCNQ1 Channel with a Gain-of-Function Mutation. Japanese Journal of Electrocardiology, 2020, 40, 101-106.	0.0	0
181	Early initial video-electro-encephalography combined with variant location predict prognosis of KCNQ2-related disorder. BMC Pediatrics, 2021, 21, 477.	0.7	4
182	KCNE Regulation of KCNQ Channels. Physiology in Health and Disease, 2020, , 1011-1049.	0.2	0
183	KCa3.1 in Epithelia. Physiology in Health and Disease, 2020, , 893-948.	0.2	2
184	Computational Approaches for Elucidating Protein-Protein Interactions in Cation Channel Signaling. Current Drug Targets, 2020, 21, 179-192.	1.0	0
188	The agonistic action of URO-K10 on Kv7.4 and 7.5 channels is attenuated by co-expression of KCNE4 ancillary subunit. Korean Journal of Physiology and Pharmacology, 2020, 24, 503-516.	0.6	1
190	Structural insights into the lipid and ligand regulation of a human neuronal KCNQ channel. Neuron, 2022, 110, 237-247.e4.	3.8	32
191	Voltage-Gated K+ Channels. , 2021, , 1573-1578.		0
192	Symmetry breaking in photoreceptor cyclic nucleotide-gated channels. Nature Structural and Molecular Biology, 2022, 29, 7-9.	3.6	2
193	Spotlight on the Binding Affinity of Ion Channels for Phosphoinositides: From the Study of Sperm Flagellum. Frontiers in Physiology, 2022, 13, 834180.	1.3	1
194	Physiological Functions, Biophysical Properties, and Regulation of KCNQ1 (KV7.1) Potassium Channels. Advances in Experimental Medicine and Biology, 2021, 1349, 335-353.	0.8	5
195	Novel <i>CALM3</i> Variant Causing Calmodulinopathy With Variable Expressivity in a 4-Generation Family. Circulation: Arrhythmia and Electrophysiology, 2022, 15, CIRCEP121010572.	2.1	11
196	Molecular Insights Into Binding and Activation of the Human KCNQ2 Channel by Retigabine. Frontiers in Molecular Biosciences, 2022, 9, 839249.	1.6	1
198	KCNQ2 Selectivity Filter Mutations Cause Kv7.2 M-Current Dysfunction and Configuration Changes Manifesting as Epileptic Encephalopathies and Autistic Spectrum Disorders. Cells, 2022, 11, 894.	1.8	2
199	Gain of function due to increased opening probability by two <i>KCNQ5</i> pore variants causing developmental and epileptic encephalopathy. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2116887119.	3.3	14

#	Article	IF	CITATIONS
201	A benzodiazepine activator locks Kv7.1 channels open by electro-mechanical uncoupling. Communications Biology, 2022, 5, 301.	2.0	7
202	Molecular cloning and functional characterization of KCNQ1 in shell biomineralisation of pearl oyster Pinctada fucata martensii. Gene, 2022, 821, 146285.	1.0	Ο
205	Human <i>KCNQ5</i> de novo mutations underlie epilepsy and intellectual disability. Journal of Neurophysiology, 2022, 128, 40-61.	0.9	8
207	Activation and closed-state inactivation mechanisms of the human voltage-gated KV4 channel complexes. Molecular Cell, 2022, 82, 2427-2442.e4.	4.5	18
209	Apo and ligand-bound high resolution Cryo-EM structures of the human Kv3.1 channel reveal a novel binding site for positive modulators. , 2022, 1, .		6
210	KCNQ1-deficient and KCNQ1-mutant human embryonic stem cell-derived cardiomyocytes for modeling QT prolongation. Stem Cell Research and Therapy, 2022, 13, .	2.4	2
211	Mechanisms Underlying C-type Inactivation in Kv Channels: Lessons From Structures of Human Kv1.3 and Fly Shaker-IR Channels. Frontiers in Pharmacology, 0, 13, .	1.6	4
212	Structural and electrophysiological basis for the modulation of KCNQ1 channel currents by ML277. Nature Communications, 2022, 13, .	5.8	15
214	Kv Channel Ancillary Subunits: Where Do We Go from Here?. Physiology, 2022, 37, 225-241.	1.6	7
215	Purification and membrane interactions of human KCNQ1100–370 potassium ion channel. Biochimica Et Biophysica Acta - Biomembranes, 2022, 1864, 184010.	1.4	1
216	Electro-mechanical coupling of KCNQ channels is a target of epilepsy-associated mutations and retigabine. Science Advances, 2022, 8, .	4.7	3
217	Venom resistance mechanisms in centipede show tissue specificity. Current Biology, 2022, 32, 3556-3563.e3.	1.8	4
220	Clinically Relevant KCNQ1 Variants Causing KCNQ1-KCNE2 Gain-of-Function Affect the Ca2+ Sensitivity of the Channel. International Journal of Molecular Sciences, 2022, 23, 9690.	1.8	0
221	The Pathological Mechanisms of Hearing Loss Caused by KCNQ1 and KCNQ4 Variants. Biomedicines, 2022, 10, 2254.	1.4	3
222	Markov state modelling reveals heterogeneous drug-inhibition mechanism of Calmodulin. PLoS Computational Biology, 2022, 18, e1010583.	1.5	1
224	Mechanism of voltage gating in the voltage-sensing phosphatase Ci-VSP. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	11
225	Structural mechanisms for the activation of human cardiac KCNQ1 channel by electro-mechanical coupling enhancers. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	12
226	Voltage-sensor movements in the Eag Kv channel under an applied electric field. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	25

#	ARTICLE	IF	CITATIONS
227	Genetics of congenital arrhythmia syndromes: the challenge of variant interpretation. Current Opinion in Genetics and Development, 2022, 77, 102004.	1.5	4
228	Intracellular zinc protects Kv7 K+ channels from Ca2+/calmodulin-mediated inhibition. Journal of Biological Chemistry, 2023, 299, 102819.	1.6	5
229	Continuous Bayesian variant interpretation accounts for incomplete penetrance among Mendelian cardiac channelopathies. Genetics in Medicine, 2023, 25, 100355.	1.1	4
230	Modulation of the IKS channel by PIP2 requires two binding sites per monomer. BBA Advances, 2023, 3, 100073.	0.7	1
233	Genome-Scale Analysis Reveals Extensive Diversification of Voltage-Gated K+ Channels in Stem Cnidarians. Genome Biology and Evolution, 2023, 15, .	1.1	1
234	The role of native cysteine residues in the oligomerization of KCNQ1 channels. Biochemical and Biophysical Research Communications, 2023, 659, 34-39.	1.0	0
235	Endocannabinoids enhance hKV7.1/KCNE1 channel function and shorten the cardiac action potential and QT interval. EBioMedicine, 2023, 89, 104459.	2.7	3
236	Redox regulation of KV7 channels through EF3 hand of calmodulin. ELife, 0, 12, .	2.8	1
237	Mechanism of external K+ sensitivity of KCNQ1 channels. Journal of General Physiology, 2023, 155, .	0.9	3
238	Noncanonical electromechanical coupling paths in cardiac hERG potassium channel. Nature Communications, 2023, 14, .	5.8	8
239	Sensing its own permeant ion: KCNQ1 channel inhibition by external K+. Journal of General Physiology, 2023, 155, .	0.9	0
240	Structural basis of calmodulin modulation of the rod cyclic nucleotide-gated channel. Proceedings of the National Academy of Sciences of the United States of America, 2023, 120, .	3.3	4
241	Molecular architecture and gating mechanisms of the Drosophila TRPA1 channel. Cell Discovery, 2023, 9, .	3.1	5