Geoffrey W Abbott

List of Publications by Year
in descending order

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138 papers	6,830 citations	101543 36 h-index	64796 79 g-index
144 all docs	144 docs citations	144 times ranked	6030 citing authors

#	Article	IF	Citations
1	MiRP1 Forms IKr Potassium Channels with HERG and Is Associated with Cardiac Arrhythmia. Cell, 1999, 97, 175-187.	28.9	1,305
2	Human cardiovascular progenitor cells develop from a KDR+ embryonic-stem-cell-derived population. Nature, 2008, 453, 524-528.	27.8	1,299
3	MiRP2 Forms Potassium Channels in Skeletal Muscle with Kv3.4 and Is Associated with Periodic Paralysis. Cell, 2001, 104, 217-231.	28.9	283
4	The MinK-related peptides. Neuropharmacology, 2004, 47, 787-821.	4.1	241
5	The KCNE2 Potassium Channel Ancillary Subunit Is Essential for Gastric Acid Secretion. Journal of Biological Chemistry, 2006, 281, 23740-23747.	3.4	130
6	Kcne2 deletion uncovers its crucial role in thyroid hormone biosynthesis. Nature Medicine, 2009, 15, 1186-1194.	30.7	117
7	A superfamily of small potassium channel subunits: form and function of the MinK-related peptides (MiRPs). Quarterly Reviews of Biophysics, 1998, 31, 357-398.	5.7	114
8	Targeted deletion of kcne2 impairs ventricular repolarization via disruption of I K,slow1 and I to,f. FASEB Journal, 2008, 22, 3648-3660.	0.5	99
9	The Role of S4 Charges in Voltage-dependent and Voltage-independent KCNQ1 Potassium Channel Complexes. Journal of General Physiology, 2007, 129, 121-133.	1.9	95
10	Interaction of KCNE subunits with the KCNQ1 K+channel pore. Journal of Physiology, 2006, 570, 455-467.	2.9	91
11	Diseaseâ€associated mutations in KCNE potassium channel subunits (MiRPs) reveal promiscuous disruption of multiple currents and conservation of mechanism. FASEB Journal, 2002, 16, 390-400.	0.5	83
12	MinK-Related Peptide 2 Modulates Kv2.1 and Kv3.1 Potassium Channels in Mammalian Brain. Journal of Neuroscience, 2003, 23, 8077-8091.	3.6	83
13	Biology of the KCNQ1 Potassium Channel. New Journal of Science, 2014, 2014, 1-26.	1.0	80
14	Effects of Electrical and Structural Remodeling on Atrial Fibrillation Maintenance: A Simulation Study. PLoS Computational Biology, 2012, 8, e1002390.	3.2	77
15	KCNE1 and KCNE3: The yin and yang of voltage-gated K+ channel regulation. Gene, 2016, 576, 1-13.	2.2	67
16	MinK, MiRP1, and MiRP2 Diversify Kv3.1 and Kv3.2 Potassium Channel Gating. Journal of Biological Chemistry, 2004, 279, 7884-7892.	3.4	66
17	Targeted Deletion of Kcne2 Causes Gastritis Cystica Profunda and Gastric Neoplasia. PLoS ONE, 2010, 5, e11451.	2.5	65
18	RNA Interference Reveals That EndogenousXenopus MinK-related Peptides Govern Mammalian K+ Channel Function in Oocyte Expression Studies. Journal of Biological Chemistry, 2003, 278, 11739-11745.	3.4	63

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19	Dynamical Mechanism for Subcellular Alternans in Cardiac Myocytes. Circulation Research, 2009, 105, 335-342.	4.5	61
20	Direct neurotransmitter activation of voltage-gated potassium channels. Nature Communications, 2018, 9, 1847.	12.8	60
21	KCNQ1, KCNE2, and Na ⁺ -Coupled Solute Transporters Form Reciprocally Regulating Complexes That Affect Neuronal Excitability. Science Signaling, 2014, 7, ra22.	3.6	56
22	Impairment of Hyperpolarization-Activated, Cyclic Nucleotide-Gated Channel Function by the Intravenous General Anesthetic Propofol. Journal of Pharmacology and Experimental Therapeutics, 2005, 315, 517-525.	2.5	55
23	Activation of mitochondrial ATP-sensitive potassium channels increases cell viability against rotenone-induced cell death. Journal of Neurochemistry, 2003, 84, 1193-1200.	3.9	54
24	Impact of ancillary subunits on ventricular repolarization. Journal of Electrocardiology, 2007, 40, S42-S46.	0.9	51
25	Regulation of the Kv2.1 Potassium Channel by MinK and MiRP1. Journal of Membrane Biology, 2009, 228, 1-14.	2.1	51
26	The envelope protein of SARSâ€CoVâ€2 increases intraâ€Golgi pH and forms a cation channel that is regulated by pH. Journal of Physiology, 2021, 599, 2851-2868.	2.9	51
27	Protein kinase C downregulates IKs by stimulating KCNQ1-KCNE1 potassium channel endocytosis. Heart Rhythm, 2011, 8, 1641-1647.	0.7	49
28	The KCNQ1â€KCNE2 K⁺channel is required for adequate thyroid I^{â^'}uptake. FASEB Journal, 2012, 26, 3252-3259.	0.5	48
29	Do All Voltage-Gated Potassium Channels Use MiRPs?. Circulation Research, 2001, 88, 981-983.	4.5	46
30	Gabapentin Is a Potent Activator of KCNQ3 and KCNQ5 Potassium Channels. Molecular Pharmacology, 2018, 94, 1155-1163.	2.3	45
31	KCNQs: Ligand- and Voltage-Gated Potassium Channels. Frontiers in Physiology, 2020, 11, 583.	2.8	45
32	KCNE2 forms potassium channels with KCNA3 and KCNQ1 in the choroid plexus epithelium. FASEB Journal, 2011, 25, 4264-4273.	0.5	43
33	MinK-dependent internalization of the IKs potassium channel. Cardiovascular Research, 2009, 82, 430-438.	3.8	42
34	The KCNE2 K+ channel regulatory subunit: Ubiquitous influence, complex pathobiology. Gene, 2015, 569, 162-172.	2.2	41
35	Pharmacogenetic Considerations in Diseases of Cardiac Ion Channels. Journal of Pharmacology and Experimental Therapeutics, 2003, 307, 831-838.	2.5	40
36	Kcne2 Deletion Creates a Multisystem Syndrome Predisposing to Sudden Cardiac Death. Circulation: Cardiovascular Genetics, 2014, 7, 33-42.	5.1	40

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37	Phosphorylation and protonation of neighboring MiRP2 sites: function and pathophysiology of MiRP2â€Kv3.4 potassium channels in periodic paralysis. FASEB Journal, 2006, 20, 293-301.	0.5	39
38	Ion channelâ€“transporter interactions. Critical Reviews in Biochemistry and Molecular Biology, 2016, 51, 257-267.	5.2	39
39	Empagliflozin protects the heart against ischemia/reperfusion-induced sudden cardiac death. Cardiovascular Diabetology, 2021, 20, 199.	6.8	38
40	KCNE1 and KCNE2 Inhibit Forward Trafficking of Homomeric N-Type Voltage-Gated Potassium Channels. Biophysical Journal, 2011, 101, 1354-1363.	0.5	37
41	KCNE4 and KCNE5: K+ channel regulation and cardiac arrhythmogenesis. Gene, 2016, 593, 249-260.	2.2	37
42	A KCNE2 mutation in a patient with cardiac arrhythmia induced by auditory stimuli and serum electrolyte imbalance. Cardiovascular Research, 2008, 77, 98-106.	3.8	35
43	KCNE2 and the K⁺channel. Channels, 2012, 6, 1-10.	2.8	35
44	The Impact of Ancillary Subunits on Small-Molecule Interactions with Voltage-Gated Potassium Channels. Current Pharmaceutical Design, 2006, 12, 2285-2302.	1.9	32
45	Kcne4 Deletion Sex-Dependently Alters Vascular Reactivity. Journal of Vascular Research, 2016, 53, 138-148.	1.4	32
46	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.	7.1	32
47	Allosteric regulation of mammalian Na+/Iâ€™ symporter activity by perchlorate. Nature Structural and Molecular Biology, 2020, 27, 533-539.	8.2	32
48	Ancient and modern anticonvulsants act synergistically in a KCNQ potassium channel binding pocket. Nature Communications, 2018, 9, 3845.	12.8	31
49	Endogenous KCNE Subunits Govern Kv2.1K+ Channel Activation Kinetics in Xenopus Oocyte Studies. Biophysical Journal, 2006, 90, 1223-1231.	0.5	30
50	KCNE Regulation of K+ Channel Trafficking â€“ a Sisyphean Task?. Frontiers in Physiology, 2012, 3, 231.	2.8	30
51	Kcne2deletion attenuates acute post-ischaemia/reperfusion myocardial infarction. Cardiovascular Research, 2016, 110, 227-237.	3.8	29
52	Genetic dissection reveals unexpected influence of Î² subunits on KCNQ1 K + channel polarized trafficking in vivo. FASEB Journal, 2011, 25, 727-736.	0.5	28
53	Filamin A Promotes Dynamin-dependent Internalization of Hyperpolarization-activated Cyclic Nucleotide-gated Type 1 (HCN1) Channels and Restricts Ih in Hippocampal Neurons. Journal of Biological Chemistry, 2014, 289, 5889-5903.	3.4	28
54	Prenatal one-carbon metabolism dysregulation programs schizophrenia-like deficits. Molecular Psychiatry, 2018, 23, 282-294.	7.9	27

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55	Pharmacogenetics and cardiac ion channels. Vascular Pharmacology, 2006, 44, 90-106.	2.1	26
56	Deletion in mice of Xâ€linked, Brugada syndromeâ€“and atrial fibrillationâ€“associated Kcne5 augments ventricular K _v currents and predisposes to ventricular arrhythmia. FASEB Journal, 2019, 33, 2537-2552.	0.5	26
57	Targeted Deletion of Kcne2 Impairs HCN Channel Function in Mouse Thalamocortical Circuits. PLoS ONE, 2012, 7, e42756.	2.5	26
58	Molecular Mechanisms of Cardiac Voltage-Gated Potassium Channelopathies. Current Pharmaceutical Design, 2006, 12, 3631-3644.	1.9	24
59	Cardioprotective Effect of Histamine H₃-Receptor Activation: Pivotal Role of GÎ²Î³-Dependent Inhibition of Voltage-Operated Ca²⁺Channels. Journal of Pharmacology and Experimental Therapeutics, 2008, 326, 871-878.	2.5	24
60	KCNE1 and KCNE2 Provide a Checkpoint Governing Voltage-Gated Potassium Channel Î±-Subunit Composition. Biophysical Journal, 2011, 101, 1364-1375.	0.5	24
61	Kcne2 deletion impairs insulin secretion and causes type 2 diabetes mellitus. FASEB Journal, 2017, 31, 2674-2685.	0.5	24
62	Deconstruction of an African folk medicine uncovers a novel molecular strategy for therapeutic potassium channel activation. Science Advances, 2018, 4, eaav0824.	10.3	24
63	Cilantro leaf harbors a potent potassium channelâ€activating anticonvulsant. FASEB Journal, 2019, 33, 11349-11363.	0.5	24
64	Synthetic putative transmembrane region of minimal potassium channel protein (minK) adopts an Î±-helical conformation in phospholipid membranes. Biochemical Journal, 1997, 325, 475-479.	3.7	23
65	Cardiac arrhythmia and thyroid dysfunction: A novel genetic link. International Journal of Biochemistry and Cell Biology, 2010, 42, 1767-1770.	2.8	23
66	Remote Liver Ischemic Preconditioning Protects against Sudden Cardiac Death via an ERK/GSK-3Î²-Dependent Mechanism. PLoS ONE, 2016, 11, e0165123.	2.5	23
67	Emulsified isoflurane postconditioning produces cardioprotection against myocardial ischemiaâ€reperfusion injury in rats. Journal of Physiological Sciences, 2013, 63, 251-261.	2.1	22
68	KCNEgenetics and pharmacogenomics in cardiac arrhythmias: much ado about nothing?. Expert Review of Clinical Pharmacology, 2013, 6, 49-60.	3.1	22
69	Arrhythmogenic KCNE gene variants: current knowledge and future challenges. Frontiers in Genetics, 2014, 5, 3.	2.3	22
70	Kcne4 deletion sexâ€and ageâ€specifically impairs cardiac repolarization in mice. FASEB Journal, 2016, 30, 360-369.	0.5	21
71	Involvement of glycogen synthase kinase-3Î² in liver ischemic conditioning induced cardioprotection against myocardial ischemia and reperfusion injury in rats. Journal of Applied Physiology, 2017, 122, 1095-1105.	2.5	21
72	Remote ischemic preconditioning STAT3-dependently ameliorates pulmonary ischemia/reperfusion injury. PLoS ONE, 2018, 13, e0196186.	2.5	21

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73	The ubiquitous flavonoid quercetin is an atypical KCNQ potassium channel activator. Communications Biology, 2020, 3, 356.	4.4	21
74	KCNQâ€šSMIT complex formation facilitates ion channelâ€šolute transporter cross talk. FASEB Journal, 2017, 31, 2828-2838.	0.5	20
75	SMIT1 Modifies KCNQ Channel Function and Pharmacology by Physical Interaction with the Pore. Biophysical Journal, 2017, 113, 613-626.	0.5	20
76	Remote ischemic preconditioning differentially attenuates post-ischemic cardiac arrhythmia in streptozotocin-induced diabetic versus nondiabetic rats. Cardiovascular Diabetology, 2017, 16, 57.	6.8	20
77	Voltage-Dependent C-Type Inactivation in a Constitutively Open K+ Channel. Biophysical Journal, 2008, 95, 2759-2778.	0.5	19
78	Does hERG Coassemble with a Î² Subunit? Evidence for Roles of MinK and MiRP1. Novartis Foundation Symposium, 2008, , 100-117.	1.1	19
79	Kcne3 deletion initiates extracardiac arrhythmogenesis in mice. FASEB Journal, 2014, 28, 935-945.	0.5	19
80	Kcne2 deletion promotes atherosclerosis and diet-dependent sudden death. Journal of Molecular and Cellular Cardiology, 2015, 87, 148-151.	1.9	19
81	Chansporter complexes in cell signaling. FEBS Letters, 2017, 591, 2556-2576.	2.8	18
82	M-Channel Activation Contributes to the Anticonvulsant Action of the Ketone Body Î²-Hydroxybutyrate. Journal of Pharmacology and Experimental Therapeutics, 2020, 372, 148-156.	2.5	18
83	A shared mechanism for lipidâ€•and Î²â€šubunitâ€coordinated stabilization of the activated K ⁺ channel voltage sensor. FASEB Journal, 2010, 24, 1518-1524.	0.5	16
84	Transcriptomic analysis reveals atrial KCNE1 downâ€regulation following lung lobectomy. Journal of Molecular and Cellular Cardiology, 2012, 53, 350-353.	1.9	15
85	Metabolomic and transcriptomic signatures of prenatal excessive methionine support nature rather than nurture in schizophrenia pathogenesis. Communications Biology, 2020, 3, 409.	4.4	15
86	Acetaminophen (Paracetamol) Metabolites Induce Vasodilation and Hypotension by Activating Kv7 Potassium Channels Directly and Indirectly. Arteriosclerosis, Thrombosis, and Vascular Biology, 2020, 40, 1207-1219.	2.4	15
87	Isoform-Selective KCNA1 Potassium Channel Openers Built from Glycine. Journal of Pharmacology and Experimental Therapeutics, 2020, 373, 391-401.	2.5	15
88	Dynein regulates Kv7.4 channel trafficking from the cell membrane. Journal of General Physiology, 2021, 153, .	1.9	14
89	KCNQ5 Potassium Channel Activation Underlies Vasodilation by Tea. Cellular Physiology and Biochemistry, 2021, 55, 46-64.	1.6	14
90	KCNQ Potassium Channels as Targets of Botanical Folk Medicines. Annual Review of Pharmacology and Toxicology, 2022, 62, 447-464.	9.4	14

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91	Emerging concepts in the pharmacogenomics of arrhythmias: ion channel trafficking. Expert Review of Cardiovascular Therapy, 2010, 8, 1161-1173.	1.5	13
92	Novel exon 1 proteinâ€coding regions Nâ€terminally extend human KCNE3 and KCNE4. FASEB Journal, 2016, 30, 2959-2969.	0.5	13
93	KCNE2 and gastric cancer: bench to bedside. Oncotarget, 2016, 7, 17286-17287.	1.8	13
94	Empagliflozin Protects against Pulmonary Ischemia/Reperfusion Injury via an Extracellular Signal-Regulated Kinases 1 and 2-Dependent Mechanism. Journal of Pharmacology and Experimental Therapeutics, 2022, 380, 230-241.	2.5	13
95	Conformational Changes in a Mammalian Voltage-Dependent Potassium Channel Inactivation Peptideâ€. Biochemistry, 1998, 37, 1640-1645.	2.5	12
96	Potassium channels act as chemosensors for solute transporters. Communications Biology, 2020, 3, 90.	4.4	12
97	Kcne2 deletion causes early-onset nonalcoholic fatty liver disease via iron deficiency anemia. Scientific Reports, 2016, 6, 23118.	3.3	11
98	Teamwork: Ion channels and transporters join forces in the brain. Neuropharmacology, 2019, 161, 107601.	4.1	11
99	Intergenerational trauma transmission is associated with brain metabotranscriptome remodeling and mitochondrial dysfunction. Communications Biology, 2021, 4, 783.	4.4	11
100	The MiRP2-Kv3.4 Potassium Channel: Muscling In on Alzheimer's Disease: Fig. 1.. Molecular Pharmacology, 2007, 72, 499-501.	2.3	10
101	Does hERG coassemble with a beta subunit? Evidence for roles of MinK and MiRP1. Novartis Foundation Symposium, 2005, 266, 100-12; discussion 112-7, 155-8.	1.1	10
102	1,4-Diazabicyclo[2.2.2]octane Derivatives: A Novel Class of Voltage-Gated Potassium Channel Blockers. Molecular Pharmacology, 2006, 69, 718-726.	2.3	9
103	In silico re-engineering of a neurotransmitter to activate KCNQ potassium channels in an isoform-specific manner. Communications Biology, 2019, 2, 401.	4.4	9
104	Regulation of human cardiac potassium channels by full-length KCNE3 and KCNE4. Scientific Reports, 2016, 6, 38412.	3.3	8
105	Î² Subunits Functionally Differentiate Human Kv4.3 Potassium Channel Splice Variants. Frontiers in Physiology, 2017, 8, 66.	2.8	8
106	Interaction between Soluble and Membrane-Embedded Potassium Channel Peptides Monitored by Fourier Transform Infrared Spectroscopy. PLoS ONE, 2012, 7, e49070.	2.5	7
107	Association of Myoinositol Transporters with Schizophrenia and Bipolar Disorder: Evidence from Human and Animal Studies. Molecular Neuropsychiatry, 2019, 5, 200-211.	2.9	7
108	The Amyloid Precursor Protein C99 Fragment Modulates Voltage-Gated Potassium Channels.. Cellular Physiology and Biochemistry, 2021, 55, 157-170.	1.6	7

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109	KCNQ and KCNE Isoform-Dependent Pharmacology Rationalizes Native American Dual Use of Specific Plants as Both Analgesics and Gastrointestinal Therapeutics. Frontiers in Physiology, 2021, 12, 777057.	2.8	7
110	Kv Channel Ancillary Subunits: Where Do We Go from Here?. Physiology, 2022, 37, 225-241.	3.1	7
111	Pharmacogenetics of drug-induced arrhythmias. Expert Review of Clinical Pharmacology, 2008, 1, 93-104.	3.1	6
112	The KCNE2 potassium channel Î² subunit is required for normal lung function and resilience to ischemia and reperfusion injury. FASEB Journal, 2019, 33, 9762-9774.	0.5	6
113	AKT and ERK1/2 activation via remote ischemic preconditioning prevents Kcne2 -dependent sudden cardiac death. Physiological Reports, 2019, 7, e13957.	1.7	6
114	Fluorescence Fluctuation Spectroscopy enables quantification of potassium channel subunit dynamics and stoichiometry. Scientific Reports, 2021, 11, 10719.	3.3	6
115	Kcne4 deletion sex-specifically predisposes to cardiac arrhythmia via testosterone-dependent impairment of RISK/SAFE pathway induction in aged mice. Scientific Reports, 2018, 8, 8258.	3.3	5
116	Kcne4 deletion sex dependently inhibits the RISK pathway response and exacerbates hepatic ischemia-reperfusion injury in mice. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2019, 316, R552-R562.	1.8	4
117	KCNQ1 rescues TMC1 plasma membrane expression but not mechanosensitive channel activity. Journal of Cellular Physiology, 2019, 234, 13361-13369.	4.1	4
118	Control of Biophysical and Pharmacological Properties of Potassium Channels by Ancillary Subunits. Handbook of Experimental Pharmacology, 2021, 267, 445-480.	1.8	4
119	Constitutively Activating GNAS Somatic Mutation in Right Ventricular Outflow Tract Tachycardia. Circulation: Arrhythmia and Electrophysiology, 2021, 14, e010082.	4.8	4
120	The focal adhesion protein Testin modulates KCNE2 potassium channel Î² subunit activity. Channels, 2021, 15, 229-238.	2.8	4
121	Channelâ€“transporter complexes: an emerging theme in cell signaling. Biochemical Journal, 2016, 473, 3759-3763.	3.7	3
122	Severe Patients With ARDS With COVID-19 Treated With Extracorporeal Membrane Oxygenation in China: A Retrospective Study. Frontiers in Medicine, 2021, 8, 699227.	2.6	3
123	Targeted deletion of Kcne3 impairs skeletal muscle function in mice. FASEB Journal, 2017, 31, 2937-2947.	0.5	2
124	Î² Subunits Control the Effects of Human Kv4.3 Potassium Channel Phosphorylation. Frontiers in Physiology, 2017, 8, 646.	2.8	2
125	Hypochlorhydria reduces mortality in heart failure caused by Kcne2 gene deletion. FASEB Journal, 2020, 34, 10699-10719.	0.5	2
126	NHE Isoform Switching and KChIP2 Upregulation in Aging Porcine Atria. PLoS ONE, 2013, 8, e82951.	2.5	2

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127	HERG biosynthesis: the positive influence of negative charge. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 296, H1211-H1212.	3.2	1
128	Antiarrhythmic Drugs. , 2013, , 426-444.		1
129	Antiarrhythmic Drugs. , 2019, , 556-574.		1
130	Protective effect of remote liver ischemic postconditioning on pulmonary ischemia and reperfusion injury in diabetic and non-diabetic rats. PLoS ONE, 2022, 17, e0268571.	2.5	1
131	Targeted Deletion of KCNE4 Impairs Ventricular Repolarization in Mice. Biophysical Journal, 2014, 106, 118a-119a.	0.5	0
132	Pharmacogenetic diversification by alternative translation initiation: background channels to the fore: Commentary on Kisselbach etâ€‰al., Br J Pharmacol 171: 5182â€“5194. British Journal of Pharmacology, 2015, 172, 4591-4593.	5.4	0
133	Molecular Mechanism Underlying a Traditional Anticonvulsant: Synergistic KCNQ2/3 Potassium Channel Activation by DUAL Components of Mallotus Oppositifolius Extract. Biophysical Journal, 2018, 114, 375a-376a.	0.5	0
134	Perchlorate Binding to a Cryptic Allosteric Site Changes the Mechanism of Iodide Transport by the Na+/Iâ^' Symporter (NIS). Biophysical Journal, 2019, 116, 553a.	0.5	0
135	Dynamic Characterization of KCNQ1 and its Regulatory Subunits Revealed by Fluorescence Fluctuation Techniques. Biophysical Journal, 2020, 118, 262a.	0.5	0
136	RNAi in Xenopus Laevis Oocytes. , 2004, , .		0
137	KCNE Regulation of KCNQ Channels. Physiology in Health and Disease, 2020, , 1011-1049.	0.3	0
138	Activation of SGK1.1 Upregulates the M-current in the Presence of Epilepsy Mutations. Frontiers in Molecular Neuroscience, 2021, 14, 798261.	2.9	0