Geoffrey W Abbott

List of Publications by Citations

129 papers	5,680 citations	34 h-index	73 g-index
144 ext. papers	6,348 ext. citations	6.1 avg, IF	6.01 L-index

#	Paper	IF	Citations
129	MiRP1 forms IKr potassium channels with HERG and is associated with cardiac arrhythmia. *Cell*, **1999**, 97, 175-87	56.2	1173
128	Human cardiovascular progenitor cells develop from a KDR+ embryonic-stem-cell-derived population. *Nature*, **2008**, 453, 524-8	50.4	1142
127	MiRP2 forms potassium channels in skeletal muscle with Kv3.4 and is associated with periodic paralysis. *Cell*, **2001**, 104, 217-31	56.2	264
126	The MinK-related peptides. *Neuropharmacology*, **2004**, 47, 787-821	5.5	224
125	The KCNE2 potassium channel ancillary subunit is essential for gastric acid secretion. *Journal of Biological Chemistry*, **2006**, 281, 23740-7	5.4	123
124	Kcne2 deletion uncovers its crucial role in thyroid hormone biosynthesis. *Nature Medicine*, **2009**, 15, 1186-94	30.5	102
123	A superfamily of small potassium channel subunits: form and function of the MinK-related peptides (MiRPs). *Quarterly Reviews of Biophysics*, **1998**, 31, 357-98	7	102
122	Targeted deletion of kcne2 impairs ventricular repolarization via disruption of I(K,slow1) and I(to,f). *FASEB Journal*, **2008**, 22, 3648-60	0.9	92
121	Interaction of KCNE subunits with the KCNQ1 K+ channel pore. *Journal of Physiology*, **2006**, 570, 455-67	3.9	86
120	The role of S4 charges in voltage-dependent and voltage-independent KCNQ1 potassium channel complexes. *Journal of General Physiology*, **2007**, 129, 121-33	3.4	85
119	Disease-associated mutations in KCNE potassium channel subunits (MiRPs) reveal promiscuous disruption of multiple currents and conservation of mechanism. *FASEB Journal*, **2002**, 16, 390-400	0.9	79
118	MinK-related peptide 2 modulates Kv2.1 and Kv3.1 potassium channels in mammalian brain. *Journal of Neuroscience*, **2003**, 23, 8077-91	6.6	77
117	Biology of the KCNQ1 Potassium Channel. *New Journal of Science*, **2014**, 2014, 1-26		66
116	Effects of electrical and structural remodeling on atrial fibrillation maintenance: a simulation study. *PLoS Computational Biology*, **2012**, 8, e1002390	5	64
115	RNA interference reveals that endogenous Xenopus MinK-related peptides govern mammalian K+ channel function in oocyte expression studies. *Journal of Biological Chemistry*, **2003**, 278, 11739-45	5.4	59
114	Targeted deletion of Kcne2 causes gastritis cystica profunda and gastric neoplasia. *PLoS ONE*, **2010**, 5, e11451	3.7	55
113	MinK, MiRP1, and MiRP2 diversify Kv3.1 and Kv3.2 potassium channel gating. *Journal of Biological Chemistry*, **2004**, 279, 7884-92	5.4	53

112	KCNQ1, KCNE2, and Na+-coupled solute transporters form reciprocally regulating complexes that affect neuronal excitability. *Science Signaling*, **2014**, 7, ra22	8.8	52
111	Dynamical mechanism for subcellular alternans in cardiac myocytes. *Circulation Research*, **2009**, 105, 335-42	15.7	51
110	KCNE1 and KCNE3: The yin and yang of voltage-gated K(+) channel regulation. *Gene*, **2016**, 576, 1-13	3.8	50
109	Activation of mitochondrial ATP-sensitive potassium channels increases cell viability against rotenone-induced cell death. *Journal of Neurochemistry*, **2003**, 84, 1193-200	6	47
108	Regulation of the Kv2.1 potassium channel by MinK and MiRP1. *Journal of Membrane Biology*, **2009**, 228, 1-14	2.3	43
107	Impairment of hyperpolarization-activated, cyclic nucleotide-gated channel function by the intravenous general anesthetic propofol. *Journal of Pharmacology and Experimental Therapeutics*, **2005**, 315, 517-25	4.7	43
106	Do all voltage-gated potassium channels use MiRPs?. *Circulation Research*, **2001**, 88, 981-3	15.7	43
105	The KCNQ1-KCNE2 K+ channel is required for adequate thyroid I? uptake. *FASEB Journal*, **2012**, 26, 3252-9	0.9	42
104	Direct neurotransmitter activation of voltage-gated potassium channels. *Nature Communications*, **2018**, 9, 1847	17.4	40
103	Protein kinase C downregulates I(Ks) by stimulating KCNQ1-KCNE1 potassium channel endocytosis. *Heart Rhythm*, **2011**, 8, 1641-7	6.7	40
102	Impact of ancillary subunits on ventricular repolarization. *Journal of Electrocardiology*, **2007**, 40, S42-6	1.4	40
101	KCNE2 forms potassium channels with KCNA3 and KCNQ1 in the choroid plexus epithelium. *FASEB Journal*, **2011**, 25, 4264-73	0.9	39
100	Pharmacogenetic considerations in diseases of cardiac ion channels. *Journal of Pharmacology and Experimental Therapeutics*, **2003**, 307, 831-8	4.7	37
99	The KCNE2 K+ channel regulatory subunit: Ubiquitous influence, complex pathobiology. *Gene*, **2015**, 569, 162-72	3.8	36
98	MinK-dependent internalization of the IKs potassium channel. *Cardiovascular Research*, **2009**, 82, 430-8	9.9	36
97	Phosphorylation and protonation of neighboring MiRP2 sites: function and pathophysiology of MiRP2-Kv3.4 potassium channels in periodic paralysis. *FASEB Journal*, **2006**, 20, 293-301	0.9	35
96	Gabapentin Is a Potent Activator of KCNQ3 and KCNQ5 Potassium Channels. *Molecular Pharmacology*, **2018**, 94, 1155-1163	4.3	34
95	KCNE1 and KCNE2 inhibit forward trafficking of homomeric N-type voltage-gated potassium channels. *Biophysical Journal*, **2011**, 101, 1354-63	2.9	34

94	Kcne2 deletion creates a multisystem syndrome predisposing to sudden cardiac death. *Circulation: Cardiovascular Genetics*, **2014**, 7, 33-42		33
93	KCNE2 and the K (+) channel: the tail wagging the dog. *Channels*, **2012**, 6, 1-10	3	30
92	A KCNE2 mutation in a patient with cardiac arrhythmia induced by auditory stimuli and serum electrolyte imbalance. *Cardiovascular Research*, **2008**, 77, 98-106	9.9	29
91	The impact of ancillary subunits on small-molecule interactions with voltage-gated potassium channels. *Current Pharmaceutical Design*, **2006**, 12, 2285-302	3.3	28
90	Genetic dissection reveals unexpected influence of beta subunits on KCNQ1 K+ channel polarized trafficking in vivo. *FASEB Journal*, **2011**, 25, 727-36	0.9	27
89	KCNE Regulation of K(+) Channel Trafficking - a Sisyphean Task?. *Frontiers in Physiology*, **2012**, 3, 231	4.6	26
88	KCNE4 and KCNE5: K(+) channel regulation and cardiac arrhythmogenesis. *Gene*, **2016**, 593, 249-60	3.8	25
87	Ion channel-transporter interactions. *Critical Reviews in Biochemistry and Molecular Biology*, **2015**, 51, 257-67	8.7	24
86	KCNE1 and KCNE2 provide a checkpoint governing voltage-gated potassium channel subunit composition. *Biophysical Journal*, **2011**, 101, 1364-75	2.9	23
85	Pharmacogenetics and cardiac ion channels. *Vascular Pharmacology*, **2006**, 44, 90-106	5.9	23
84	Endogenous KCNE subunits govern Kv2.1 K+ channel activation kinetics in Xenopus oocyte studies. *Biophysical Journal*, **2006**, 90, 1223-31	2.9	23
83	Kcne4 Deletion Sex-Dependently Alters Vascular Reactivity. *Journal of Vascular Research*, **2016**, 53, 138-148	1.9	22
82	Kcne2 deletion attenuates acute post-ischaemia/reperfusion myocardial infarction. *Cardiovascular Research*, **2016**, 110, 227-37	9.9	22
81	deletion impairs insulin secretion and causes type 2 diabetes mellitus. *FASEB Journal*, **2017**, 31, 2674-2685	4.9	21
80	Emulsified isoflurane postconditioning produces cardioprotection against myocardial ischemia-reperfusion injury in rats. *Journal of Physiological Sciences*, **2013**, 63, 251-61	2.3	21
79	Synthetic putative transmembrane region of minimal potassium channel protein (minK) adopts an alpha-helical conformation in phospholipid membranes. *Biochemical Journal*, **1997**, 325 (Pt 2), 475-9	3.8	21
78	Ancient and modern anticonvulsants act synergistically in a KCNQ potassium channel binding pocket. *Nature Communications*, **2018**, 9, 3845	17.4	21
77	Arrhythmogenic KCNE gene variants: current knowledge and future challenges. *Frontiers in Genetics*, **2014**, 5, 3	4.5	20

76	Cardioprotective effect of histamine H3-receptor activation: pivotal role of G beta gamma-dependent inhibition of voltage-operated Ca2+ channels. *Journal of Pharmacology and Experimental Therapeutics*, **2008**, 326, 871-8	4.7	20
75	Targeted deletion of Kcne2 impairs HCN channel function in mouse thalamocortical circuits. *PLoS ONE*, **2012**, 7, e42756	3.7	20
74	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, 5889-903	5.4	19
73	Molecular mechanisms of cardiac voltage-gated potassium channelopathies. *Current Pharmaceutical Design*, **2006**, 12, 3631-44	3.3	19
72	Remote Liver Ischemic Preconditioning Protects against Sudden Cardiac Death via an ERK/GSK-3Dependent Mechanism. *PLoS ONE*, **2016**, 11, e0165123	3.7	19
71	KCNQ-SMIT complex formation facilitates ion channel-solute transporter cross talk. *FASEB Journal*, **2017**, 31, 2828-2838	0.9	18
70	KCNQs: Ligand- and Voltage-Gated Potassium Channels. *Frontiers in Physiology*, **2020**, 11, 583	4.6	18
69	Kcne4 deletion sex- and age-specifically impairs cardiac repolarization in mice. *FASEB Journal*, **2016**, 30, 360-9	0.9	18
68	KCNE genetics and pharmacogenomics in cardiac arrhythmias: much ado about nothing?. *Expert Review of Clinical Pharmacology*, **2013**, 6, 49-60	3.8	18
67	Prenatal one-carbon metabolism dysregulation programs schizophrenia-like deficits. *Molecular Psychiatry*, **2018**, 23, 282-294	15.1	18
66	SMIT1 Modifies KCNQ Channel Function and Pharmacology by Physical Interaction with the Pore. *Biophysical Journal*, **2017**, 113, 613-626	2.9	17
65	Cardiac arrhythmia and thyroid dysfunction: a novel genetic link. *International Journal of Biochemistry and Cell Biology*, **2010**, 42, 1767-70	5.6	17
64	Voltage-dependent C-type inactivation in a constitutively open K+ channel. *Biophysical Journal*, **2008**, 95, 2759-78	2.9	17
63	Allosteric regulation of mammalian Na/I symporter activity by perchlorate. *Nature Structural and Molecular Biology*, **2020**, 27, 533-539	17.6	17
62	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	11.5	16
61	Kcne2 deletion promotes atherosclerosis and diet-dependent sudden death. *Journal of Molecular and Cellular Cardiology*, **2015**, 87, 148-51	5.8	16
60	Kcne3 deletion initiates extracardiac arrhythmogenesis in mice. *FASEB Journal*, **2014**, 28, 935-45	0.9	16
59	A shared mechanism for lipid- and beta-subunit-coordinated stabilization of the activated K+ channel voltage sensor. *FASEB Journal*, **2010**, 24, 1518-24	0.9	16

58	The envelope protein of SARS-CoV-2 increases intra-Golgi pH and forms a cation channel that is regulated by pH. *Journal of Physiology*, **2021**, 599, 2851-2868	3.9	16
57	Involvement of glycogen synthase kinase-3 in liver ischemic conditioning induced cardioprotection against myocardial ischemia and reperfusion injury in rats. *Journal of Applied Physiology*, **2017**, 122, 1095-1105	3.7	15
56	Deconstruction of an African folk medicine uncovers a novel molecular strategy for therapeutic potassium channel activation. *Science Advances*, **2018**, 4, eaav0824	14.3	15
55	Remote ischemic preconditioning differentially attenuates post-ischemic cardiac arrhythmia in streptozotocin-induced diabetic versus nondiabetic rats. *Cardiovascular Diabetology*, **2017**, 16, 57	8.7	14
54	Deletion in mice of X-linked, Brugada syndrome- and atrial fibrillation-associated Kcne5 augments ventricular K currents and predisposes to ventricular arrhythmia. *FASEB Journal*, **2019**, 33, 2537-2552	0.9	14
53	Novel exon 1 protein-coding regions N-terminally extend human KCNE3 and KCNE4. *FASEB Journal*, **2016**, 30, 2959-69	0.9	12
52	Transcriptomic analysis reveals atrial KCNE1 down-regulation following lung lobectomy. *Journal of Molecular and Cellular Cardiology*, **2012**, 53, 350-3	5.8	12
51	Does hERG Coassemble with a subunit? Evidence for Roles of MinK and MiRP1. *Novartis Foundation Symposium*, **2008**, 100-117		12
50	Conformational changes in a mammalian voltage-dependent potassium channel inactivation peptide. *Biochemistry*, **1998**, 37, 1640-5	3.2	12
49	Cilantro leaf harbors a potent potassium channel-activating anticonvulsant. *FASEB Journal*, **2019**, 33, 11349-11363	0.9	11
48	Emerging concepts in the pharmacogenomics of arrhythmias: ion channel trafficking. *Expert Review of Cardiovascular Therapy*, **2010**, 8, 1161-73	2.5	11
47	Remote ischemic preconditioning STAT3-dependently ameliorates pulmonary ischemia/reperfusion injury. *PLoS ONE*, **2018**, 13, e0196186	3.7	10
46	Chansporter complexes in cell signaling. *FEBS Letters*, **2017**, 591, 2556-2576	3.8	10
45	The MiRP2-Kv3.4 potassium channel: muscling in on Alzheimer disease. *Molecular Pharmacology*, **2007**, 72, 499-501	4.3	10
44	Kcne2 deletion causes early-onset nonalcoholic fatty liver disease via iron deficiency anemia. *Scientific Reports*, **2016**, 6, 23118	4.9	10
43	The ubiquitous flavonoid quercetin is an atypical KCNQ potassium channel activator. *Communications Biology*, **2020**, 3, 356	6.7	9
42	1,4-Diazabicyclo[2.2.2]octane derivatives: a novel class of voltage-gated potassium channel blockers. *Molecular Pharmacology*, **2006**, 69, 718-26	4.3	9
41	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		9

40	Potassium channels act as chemosensors for solute transporters. *Communications Biology*, **2020**, 3, 90	6.7	8
39	M-Channel Activation Contributes to the Anticonvulsant Action of the Ketone Body -Hydroxybutyrate. *Journal of Pharmacology and Experimental Therapeutics*, **2020**, 372, 148-156	4.7	8
38	Isoform-Selective KCNA1 Potassium Channel Openers Built from Glycine. *Journal of Pharmacology and Experimental Therapeutics*, **2020**, 373, 391-401	4.7	8
37	Metabolomic and transcriptomic signatures of prenatal excessive methionine support nature rather than nurture in schizophrenia pathogenesis. *Communications Biology*, **2020**, 3, 409	6.7	8
36	Acetaminophen (Paracetamol) Metabolites Induce Vasodilation and Hypotension by Activating Kv7 Potassium Channels Directly and Indirectly. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2020**, 40, 1207-1219	9.4	7
35	Subunits Functionally Differentiate Human Kv4.3 Potassium Channel Splice Variants. *Frontiers in Physiology*, **2017**, 8, 66	4.6	6
34	Teamwork: Ion channels and transporters join forces in the brain. *Neuropharmacology*, **2019**, 161, 107601	5.5	5
33	AKT and ERK1/2 activation via remote ischemic preconditioning prevents Kcne2-dependent sudden cardiac death. *Physiological Reports*, **2019**, 7, e13957	2.6	5
32	In silico re-engineering of a neurotransmitter to activate KCNQ potassium channels in an isoform-specific manner. *Communications Biology*, **2019**, 2, 401	6.7	5
31	Empagliflozin protects the heart against ischemia/reperfusion-induced sudden cardiac death. *Cardiovascular Diabetology*, **2021**, 20, 199	8.7	5
30	Association of Myoinositol Transporters with Schizophrenia and Bipolar Disorder: Evidence from Human and Animal Studies. *Molecular Neuropsychiatry*, **2019**, 5, 200-211	4.9	5
29	Regulation of human cardiac potassium channels by full-length KCNE3 and KCNE4. *Scientific Reports*, **2016**, 6, 38412	4.9	4
28	Dynein regulates Kv7.4 channel trafficking from the cell membrane. *Journal of General Physiology*, **2021**, 153,	3.4	4
27	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	4.9	3
26	Interaction between soluble and membrane-embedded potassium channel peptides monitored by Fourier transform infrared spectroscopy. *PLoS ONE*, **2012**, 7, e49070	3.7	3
25	Pharmacogenetics of drug-induced arrhythmias. *Expert Review of Clinical Pharmacology*, **2008**, 1, 93-104	3.8	3
24	Fluorescence Fluctuation Spectroscopy enables quantification of potassium channel subunit dynamics and stoichiometry. *Scientific Reports*, **2021**, 11, 10719	4.9	3
23	KCNQ1 rescues TMC1 plasma membrane expression but not mechanosensitive channel activity. *Journal of Cellular Physiology*, **2019**, 234, 13361-13369	7	3

22	The KCNE2 potassium channel subunit is required for normal lung function and resilience to ischemia and reperfusion injury. *FASEB Journal*, **2019**, 33, 9762-9774	0.9	2
21	Channel-transporter complexes: an emerging theme in cell signaling. *Biochemical Journal*, **2016**, 473, 3759-3763	3.8	2
20	Intergenerational trauma transmission is associated with brain metabotranscriptome remodeling and mitochondrial dysfunction. *Communications Biology*, **2021**, 4, 783	6.7	2
19	Targeted deletion of impairs skeletal muscle function in mice. *FASEB Journal*, **2017**, 31, 2937-2947	0.9	1
18	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	3.2	1
17	subunits Control the Effects of Human Kv4.3 Potassium Channel Phosphorylation. *Frontiers in Physiology*, **2017**, 8, 646	4.6	1
16	NHE isoform switching and KChIP2 upregulation in aging porcine atria. *PLoS ONE*, **2013**, 8, e82951	3.7	1
15	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	4.6	1
14	KCNQ5 Potassium Channel Activation Underlies Vasodilation by Tea. *Cellular Physiology and Biochemistry*, **2021**, 55, 46-64	3.9	1
13	Intergenerational Stress Transmission is Associated with Brain Metabotranscriptome Remodeling and Mitochondrial Dysfunction		1
12	The Amyloid Precursor Protein C99 Fragment Modulates Voltage-Gated Potassium Channels. *Cellular Physiology and Biochemistry*, **2021**, 55, 157-170	3.9	1
11	Antiarrhythmic Drugs **2019**, 556-574		1
10	The focal adhesion protein Testin modulates KCNE2 potassium channel subunit activity. *Channels*, **2021**, 15, 229-238	3	1
9	Antiarrhythmic Drugs **2013**, 426-444		0
8	Severe Patients With ARDS With COVID-19 Treated With Extracorporeal Membrane Oxygenation in China: A Retrospective Study. *Frontiers in Medicine*, **2021**, 8, 699227	4.9	0
7	Hypochlorhydria reduces mortality in heart failure caused by Kcne2 gene deletion. *FASEB Journal*, **2020**, 34, 10699-10719	0.9	0
6	Control of Biophysical and Pharmacological Properties of Potassium Channels by Ancillary Subunits. *Handbook of Experimental Pharmacology*, **2021**, 267, 445-480	3.2	0
5	Constitutively Activating GNAS Somatic Mutation in Right Ventricular Outflow Tract Tachycardia. *Circulation: Arrhythmia and Electrophysiology*, **2021**, 14, e010082	6.4	0

List of Publications

4	Pharmacogenetic diversification by alternative translation initiation: background channels to the fore: Commentary on Kisselbach et al., Br J Pharmacol 171: 5182-5194. *British Journal of Pharmacology*, **2015**, 172, 4591-4593	8.6
3	Activation of SGK1.1 Upregulates the M-current in the Presence of Epilepsy Mutations.. *Frontiers in Molecular Neuroscience*, **2021**, 14, 798261	6.1
2	KCNE Regulation of KCNQ Channels. *Physiology in Health and Disease*, **2020**, 1011-1049	0.2
1	Protective effect of remote liver ischemic postconditioning on pulmonary ischemia and reperfusion injury in diabetic and non-diabetic rats. *PLoS ONE*, **2022**, 17, e0268571	3.7