Bence Hegyi

List of Publications by Year
in descending order

68 papers	1,255 citations	394286 19 h-index	395590 33 g-index
69 all docs	69 docs citations	69 times ranked	1596 citing authors

#	Article	IF	Citations
1	Metabolic Maturation Media Improve Physiological Function of Human iPSC-Derived Cardiomyocytes. Cell Reports, 2020, 32, 107925.	2.9	198
2	CaMKII signaling in heart diseases: Emerging role in diabetic cardiomyopathy. Journal of Molecular and Cellular Cardiology, 2019, 127, 246-259.	0.9	92
3	Dynamics of the late Na+ current during cardiac action potential and its contribution to afterdepolarizations. Journal of Molecular and Cellular Cardiology, 2013, 64, 59-68.	0.9	86
4	KCNJ15/Kir4.2 couples with polyamines to sense weak extracellular electric fields in galvanotaxis. Nature Communications, 2015, 6, 8532.	5.8	83
5	Complex electrophysiological remodeling in postinfarction ischemic heart failure. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3036-E3044.	3.3	72
6	Î2-adrenergic regulation of late Na+ current during cardiac action potential is mediated by both PKA and CaMKII. Journal of Molecular and Cellular Cardiology, 2018, 123, 168-179.	0.9	55
7	Hyperglycemia regulates cardiac K+ channels via O-GlcNAc-CaMKII and NOX2-ROS-PKC pathways. Basic Research in Cardiology, 2020, 115, 71.	2.5	43
8	Contribution of ion currents to beat-to-beat variability of action potential duration in canine ventricular myocytes. Pflugers Archiv European Journal of Physiology, 2015, 467, 1431-1443.	1.3	40
9	CaMKII Serine 280 O-GlcNAcylation Links Diabetic Hyperglycemia to Proarrhythmia. Circulation Research, 2021, 129, 98-113.	2.0	38
10	Cardiomyocyte Na+ and Ca2+ mishandling drives vicious cycle involving CaMKII, ROS, and ryanodine receptors. Basic Research in Cardiology, 2021, 116, 58.	2.5	33
11	Altered Repolarization Reserve in Failing Rabbit Ventricular Myocytes. Circulation: Arrhythmia and Electrophysiology, 2018, 11, e005852.	2.1	30
12	Enhanced Depolarization Drive in Failing Rabbit Ventricular Myocytes. Circulation: Arrhythmia and Electrophysiology, 2019, 12, e007061.	2.1	29
13	KN-93 inhibits IKr in mammalian cardiomyocytes. Journal of Molecular and Cellular Cardiology, 2015, 89, 173-176.	0.9	28
14	Empagliflozin Reverses Late Na ⁺ Current Enhancement and Cardiomyocyte Proarrhythmia in a Translational Murine Model of Heart Failure With Preserved Ejection Fraction. Circulation, 2022, 145, 1029-1031.	1.6	27
15	Two-hit mechanism of cardiac arrhythmias in diabetic hyperglycaemia: reduced repolarization reserve, neurohormonal stimulation, and heart failure exacerbate susceptibility. Cardiovascular Research, 2021, 117, 2781-2793.	1.8	26
16	Hypermuscular mice with mutation in the myostatin gene display altered calcium signalling. Journal of Physiology, 2014, 592, 1353-1365.	1.3	24
17	Action potential contour contributes to species differences in repolarization response to Î2-adrenergic stimulation. Europace, 2018, 20, 1543-1552.	0.7	22
18	Quantitative cross-species translators of cardiac myocyte electrophysiology: Model training, experimental validation, and applications. Science Advances, 2021, 7, eabg0927.	4.7	22

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19	Tetrodotoxin blocks L-type Ca2+ channels in canine ventricular cardiomyocytes. Pflugers Archiv European Journal of Physiology, 2012, 464, 167-174.	1.3	21
20	The Janus Face of Adenosine: Antiarrhythmic and Proarrhythmic Actions. Current Pharmaceutical Design, 2014, 21, 965-976.	0.9	21
21	Sarcolemmal Ca 2+ -entry through L-type Ca 2+ channels controls the profile of Ca 2+ -activated Cl âˆ’ current in canine ventricular myocytes. Journal of Molecular and Cellular Cardiology, 2016, 97, 125-139.	0.9	20
22	Role of action potential configuration and the contribution of Ca²⁺ and K⁺ currents to isoprenalineâ€induced changes in canine ventricular cells. British Journal of Pharmacology, 2012, 167, 599-611.	2.7	19
23	Transient receptor potential melastatin 4 channel inhibitor 9-phenanthrol inhibits K⁺ but not Ca²⁺ currents in canine ventricular myocytes. Canadian Journal of Physiology and Pharmacology, 2018, 96, 1022-1029.	0.7	19
24	Ca2+-activated Clâˆ’ current is antiarrhythmic by reducing both spatial and temporal heterogeneity of cardiac repolarization. Journal of Molecular and Cellular Cardiology, 2017, 109, 27-37.	0.9	18
25	Balance Between Rapid Delayed Rectifier K ⁺ Current and Late Na ⁺ Current on Ventricular Repolarization. Circulation: Arrhythmia and Electrophysiology, 2020, 13, e008130.	2.1	16
26	Asynchronous activation of calcium and potassium currents by isoproterenol in canine ventricular myocytes. Naunyn-Schmiedeberg's Archives of Pharmacology, 2014, 387, 457-467.	1.4	15
27	Mechanoelectric coupling and arrhythmogenesis in cardiomyocytes contracting under mechanical afterload in a 3D viscoelastic hydrogel. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2108484118.	3.3	14
28	Cytosolic calcium changes affect the incidence of early afterdepolarizations in canine ventricular myocytes. Canadian Journal of Physiology and Pharmacology, 2015, 93, 527-534.	0.7	13
29	Electrophysiological Determination of Submembrane Na + Concentration in Cardiac Myocytes. Biophysical Journal, 2016, 111, 1304-1315.	0.2	12
30	Selectivity Problems with Drugs Acting on Cardiac Na⁺ and Ca²⁺ Channels. Current Medicinal Chemistry, 2013, 20, 2552-2571.	1.2	12
31	Chemistry, Physiology, and Pharmacology of β.-Adrenergic Mechanisms in the Heart. Why are .β-Blocker Antiarrhythmics Superior?. Current Pharmaceutical Design, 2014, 21, 1030-1041.	0.9	12
32	Tetrodotoxin Blockade on Canine Cardiac L-Type Ca2+ Channels Depends on pH and Redox Potential. Marine Drugs, 2013, 11, 2140-2153.	2.2	10
33	9â€“Anthracene carboxylic acid is more suitable than DIDS for characterization of calcium-activated chloride current during canine ventricular action potential. Naunyn-Schmiedeberg's Archives of Pharmacology, 2015, 388, 87-100.	1.4	9
34	Mechanical Load Regulates Excitation-Ca ²⁺ Signaling-Contraction in Cardiomyocyte. Circulation Research, 2021, 128, 772-774.	2.0	9
35	Class IV Antiarrhythmic Agents: New Compounds Using an Old Strategy. Current Pharmaceutical Design, 2014, 21, 977-1010.	0.9	9
36	Oxidative shift in tissue redox potential increases beat-to-beat variability of action potential duration. Canadian Journal of Physiology and Pharmacology, 2015, 93, 563-568.	0.7	7

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37	Concept of relative variability of cardiac action potential duration and its test under various experimental conditions. General Physiology and Biophysics, 2016, 35, 55-62.	0.4	7
38	Effects of tacrolimus on action potential configuration and transmembrane ion currents in canine ventricular cells. Naunyn-Schmiedeberg's Archives of Pharmacology, 2013, 386, 239-246.	1.4	6
39	Effects of pioglitazone on cardiac ion currents and action potential morphology in canine ventricular myocytes. European Journal of Pharmacology, 2013, 710, 10-19.	1.7	6
40	Altered K+ current profiles underlie cardiac action potential shortening in hyperkalemia and Î²-adrenergic stimulation. Canadian Journal of Physiology and Pharmacology, 2019, 97, 773-780.	0.7	6
41	A viscoelastic Eshelby inclusion model and analysis of the Cell-in-Gel system. International Journal of Engineering Science, 2021, 165, 103489.	2.7	6
42	Recording of Ionic Currents Under Physiological Conditions: Action Potential-Clamp and â€˜Onion-Peelingâ€™ Techniques. , 2017, , 31-48.		6
43	Diabetic Hyperglycemia Regulates Potassium Channels and Arrhythmias in the Heart via Autonomous CaMKII Activation by O-Linked Glycosylation. Biophysical Journal, 2019, 116, 98a.	0.2	5
44	Interaction between <scp>C</scp>a²⁺ channel blockers and isoproterenol on <scp>L</scp>â€type <scp>C</scp>a²⁺ current in canine ventricular cardiomyocytes. Acta Physiologica, 2012, 206, 42-50.	1.8	3
45	Emergence of Mechano-Sensitive Contraction Autoregulation in Cardiomyocytes. Life, 2021, 11, 503.	1.1	2
46	Modified cAMP Derivatives: Powerful Tools in Heart Research. Current Medicinal Chemistry, 2011, 18, 3729-3736.	1.2	2
47	Calcium Activated Chloride Current in Mammalian Ventricular Myocytes. Biophysical Journal, 2017, 112, 36a.	0.2	1
48	Mechanical Load Effects on Cardiomyocyte Action Potential, Cacium Transient, and Contraction Revealed by using a Novel Patch-Clamp-in-Gel Technology. Biophysical Journal, 2018, 114, 620a.	0.2	1
49	Myostatin Deficient Mice Display Altered Calcium Signaling. Biophysical Journal, 2013, 104, 289a.	0.2	0
50	Action Potential Shape Differences Set Species-Dependent Î²-Adrenergic-Stimulation Response. Biophysical Journal, 2014, 106, 119a.	0.2	0
51	Determination of the Upper Bound of Intracellular [Na+] by Electrophysiological Method: Probing the Subsarcolemmal [Na+]. Biophysical Journal, 2016, 110, 587a.	0.2	0
52	CaMKII Inhibitor KN-93 Directly Blocks IKr in Cardiac Myocytes. Biophysical Journal, 2016, 110, 273a.	0.2	0
53	Mechano-Chemo-Transduction in Rabbit Cardiomyocytes Mediated by no Signaling. Biophysical Journal, 2016, 110, 600a.	0.2	0
54	Ionic Current Changes during Action Potentials in Porcine Post-MI Heart Failure Model. Biophysical Journal, 2017, 112, 402a.	0.2	0

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55	Mechano-chemo-transduction is attenuated in a rabbit model of heart failure. Journal of Molecular and Cellular Cardiology, 2017, 112, 147.	0.9	0
56	Identification of cardiomyocytes' characteristics responsible for dynamical changes in calcium profile in response to mechano-chemo transduction. Journal of Molecular and Cellular Cardiology, 2017, 112, 168.	0.9	0
57	Mechanotransduction via No Signaling Auto-Regulates Cardiomyocyte Contractility. Biophysical Journal, 2018, 114, 620a.	0.2	0
58	A Mathematical Model of a Pig Ventricular Myocyte. Biophysical Journal, 2018, 114, 471a.	0.2	0
59	Mechanical Load Effects on Cardiac Action Potential and Arrhythmogenic Ca2+Activitiesrevealed by a Novel Patch-Clamp-In-Gel Technology. Biophysical Journal, 2019, 116, 97a.	0.2	0
60	Quantitative In Silico Analysis of the Arrhythmogenic CaMKII-Sodium-Calcium-CaMKII Feedback in the Failing Rabbit Ventricular Myocyte. Biophysical Journal, 2019, 116, 94a-95a.	0.2	0
61	Mechanical Load on Cardiomyocyte Activates Mechano-Chemo-Transduction to Autoregulate Ca2+ Signaling and Contractility. Biophysical Journal, 2020, 118, 409a.	0.2	0
62	Increased SR Calcium Leak is Promoted by O-GlcNAcylation of CaMKII in Diabetes and Hyperglycemia. Biophysical Journal, 2020, 118, 253a.	0.2	0
63	O-Glycosylation of Camkii at Serine 280 Promotes Cardiac Arrhythmias in Diabetic Hyperglycemia. Biophysical Journal, 2020, 118, 103a.	0.2	0
64	Arrhythmogenic Crosstalk of Sodium, Calcium, Reactive Oxygen Species and Camkii Signaling in the Failing Rabbit Ventricular Myocyte - Insights from a Computational Study. Biophysical Journal, 2021, 120, 239a.	0.2	0
65	Autoregulation of excitation-Ca2+ signaling-contraction in cardiomyocyte under mechanical load. Biophysical Journal, 2022, 121, 155a.	0.2	0
66	Initiation and maintenance of arrhythmogenic action potential waves near the infarct zone in heart failure. Biophysical Journal, 2022, 121, 89a-90a.	0.2	0
67	Fixing a current problem in the cardiac Na channel. , 2022, 1, 408-409.		0
68	Modeling cardiomyocyte mechanics and autoregulation of contractility by mechano-chemo-transduction feedback. IScience, 2022, 25, 104667.	1.9	0