Gyorgy Hajnoczky

List of Publications by Year
in descending order

124 papers	20,790 citations	18436 62 h-index	20307 116 g-index
130 all docs	130 docs citations	130 times ranked	22563 citing authors

#	Article	IF	Citations
1	Molecular mechanisms of cell death: recommendations of the Nomenclature Committee on Cell Death 2018. Cell Death and Differentiation, 2018, 25, 486-541.	5.0	4,036
2	Structural and functional features and significance of the physical linkage between ER and mitochondria. Journal of Cell Biology, 2006, 174, 915-921.	2.3	1,123
3	Decoding of cytosolic calcium oscillations in the mitochondria. Cell, 1995, 82, 415-424.	13.5	1,100
4	MAM: more than just a housekeeper. Trends in Cell Biology, 2009, 19, 81-88.	3.6	654
5	Imaging Interorganelle Contacts and Local Calcium Dynamics at the ER-Mitochondrial Interface. Molecular Cell, 2010, 39, 121-132.	4.5	630
6	Mitochondrial calcium signalling and cell death: Approaches for assessing the role of mitochondrial Ca2+ uptake in apoptosis. Cell Calcium, 2006, 40, 553-560.	1.1	531
7	Intracellular Ca2+ Sensing: Its Role in Calcium Homeostasis and Signaling. Molecular Cell, 2017, 66, 780-788.	4.5	499
8	Spatial and temporal aspects of cellular calcium signaling. FASEB Journal, 1996, 10, 1505-1517.	0.2	484
9	Bidirectional Ca ²⁺ -dependent control of mitochondrial dynamics by the Miro GTPase. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 20728-20733.	3.3	474
10	Apoptosis driven by IP3-linked mitochondrial calcium signals. EMBO Journal, 1999, 18, 6349-6361.	3.5	460
11	MCUR1 is an essential component of mitochondrial Ca2+ uptake that regulates cellular metabolism. Nature Cell Biology, 2012, 14, 1336-1343.	4.6	450
12	Coming together to define membrane contactÂsites. Nature Communications, 2019, 10, 1287.	5.8	435
13	Control of mitochondrial motility and distribution by the calcium signal. Journal of Cell Biology, 2004, 167, 661-672.	2.3	421
14	Calcium signaling and apoptosis. Biochemical and Biophysical Research Communications, 2003, 304, 445-454.	1.0	413
15	Mitochondrial dynamics in adaptive and maladaptive cellular stress responses. Nature Cell Biology, 2018, 20, 755-765.	4.6	401
16	MICU1 Controls Both the Threshold and Cooperative Activation of the Mitochondrial Ca2+ Uniporter. Cell Metabolism, 2013, 17, 976-987.	7.2	397
17	Endoplasmic Reticulumâ€“Mitochondrial Contactology: Structure and Signaling Functions. Trends in Cell Biology, 2018, 28, 523-540.	3.6	381
18	Loss of Omi mitochondrial protease activity causes the neuromuscular disorder of mnd2 mutant mice. Nature, 2003, 425, 721-727.	13.7	354

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19	Mitochondrial â€˜kiss-and-runâ€™: interplay between mitochondrial motility and fusionâ€“fission dynamics. EMBO Journal, 2009, 28, 3074-3089.	3.5	300
20	SR/ERâ€“mitochondrial local communication: Calcium and ROS. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 1352-1362.	0.5	257
21	Mitochondria Suppress Local Feedback Activation of Inositol 1,4,5-Trisphosphate Receptors by Ca2+. Journal of Biological Chemistry, 1999, 274, 14157-14162.	1.6	241
22	Redox Nanodomains Are Induced by and Control Calcium Signaling at the ER-Mitochondrial Interface. Molecular Cell, 2016, 63, 240-248.	4.5	228
23	Calcium Signal Transmission between Ryanodine Receptors and Mitochondria. Journal of Biological Chemistry, 2000, 275, 15305-15313.	1.6	202
24	Sustained Down-regulation of the Epidermal Growth Factor Receptor by Decorin. Journal of Biological Chemistry, 2000, 275, 32879-32887.	1.6	195
25	IP3 receptor isoforms differently regulate ER-mitochondrial contacts and local calcium transfer. Nature Communications, 2019, 10, 3726.	5.8	187
26	Ca2+-dependent Control of the Permeability Properties of the Mitochondrial Outer Membrane and Voltage-dependent Anion-selective Channel (VDAC). Journal of Biological Chemistry, 2006, 281, 17347-17358.	1.6	186
27	The machinery of local Ca 2+ signalling between sarcoâ€endoplasmic reticulum and mitochondria. Journal of Physiology, 2000, 529, 69-81.	1.3	185
28	Loss of Miro1-directed mitochondrial movement results in a novel murine model for neuron disease. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E3631-40.	3.3	176
29	The inositol trisphosphate calcium channel is inactivated by inositol trisphosphate. Nature, 1994, 370, 474-477.	13.7	174
30	Interactions between sarco-endoplasmic reticulum and mitochondria in cardiac and skeletal muscle â€“ pivotal roles in Ca2+ and reactive oxygen species signaling. Journal of Cell Science, 2013, 126, 2965-78.	1.2	171
31	Rapid Kinetics of tBid-induced Cytochrome c and Smac/DIABLO Release and Mitochondrial Depolarization. Journal of Biological Chemistry, 2002, 277, 5651-5659.	1.6	161
32	MICU1 regulation of mitochondrial Ca2+ uptake dictates survival and tissue regeneration. Nature Communications, 2016, 7, 10955.	5.8	159
33	MTCH2/MIMP is a major facilitator of tBID recruitment to mitochondria. Nature Cell Biology, 2010, 12, 553-562.	4.6	154
34	Ca2+ marks: Miniature calcium signals in single mitochondria driven by ryanodine receptors. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 2380-2385.	3.3	146
35	IP3 receptors in cell survival and apoptosis: Ca2+ release and beyond. Apoptosis: an International Journal on Programmed Cell Death, 2007, 12, 951-968.	2.2	146
36	Tissue-Specific Mitochondrial Decoding of Cytoplasmic Ca2+ Signals Is Controlled by the Stoichiometry of MICU1/2 and MCU. Cell Reports, 2017, 18, 2291-2300.	2.9	145

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37	Trans-mitochondrial coordination of cristae at regulated membrane junctions. Nature Communications, 2015, 6, 6259.	5.8	143
38	Mitochondrial fusion is frequent in skeletal muscle and supports excitationâ€“contraction coupling. Journal of Cell Biology, 2014, 205, 179-195.	2.3	133
39	Physical Coupling Supports the Local Ca2+ Transfer between Sarcoplasmic Reticulum Subdomains and the Mitochondria in Heart Muscle. Journal of Biological Chemistry, 2008, 283, 32771-32780.	1.6	131
40	Mitochondria and Endoplasmic Reticulum: The Lethal Interorganelle Cross-Talk. Journal of Bioenergetics and Biomembranes, 2005, 37, 191-206.	1.0	130
41	Bad Targets the Permeability Transition Pore Independent of Bax or Bak to Switch between Ca2+-Dependent Cell Survival and Death. Molecular Cell, 2009, 33, 377-388.	4.5	127
42	High- and low-calcium-dependent mechanisms of mitochondrial calcium signalling. Cell Calcium, 2008, 44, 51-63.	1.1	126
43	Isoform- and Species-specific Control of Inositol 1,4,5-Trisphosphate (IP3) Receptors by Reactive Oxygen Species. Journal of Biological Chemistry, 2014, 289, 8170-8181.	1.6	120
44	Mitochondrial fusion dynamics is robust in the heart and depends on calcium oscillations and contractile activity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E859-E868.	3.3	120
45	Inositol Lipid Binding and Membrane Localization of Isolated Pleckstrin Homology (PH) Domains. Journal of Biological Chemistry, 2002, 277, 27412-27422.	1.6	111
46	Coupling between cytosolic and mitochondrial calcium oscillations: role in the regulation of hepatic metabolism. Biochimica Et Biophysica Acta - Bioenergetics, 1998, 1366, 17-32.	0.5	107
47	VDAC2 is required for truncated BIDâ€induced mitochondrial apoptosis by recruiting BAK to the mitochondria. EMBO Reports, 2009, 10, 1341-1347.	2.0	106
48	ROS Control Mitochondrial Motility through p38 and the Motor Adaptor Miro/Trak. Cell Reports, 2017, 21, 1667-1680.	2.9	100
49	Quantification of calcium signal transmission from sarcoâ€endoplasmic reticulum to the mitochondria. Journal of Physiology, 2000, 529, 553-564.	1.3	97
50	Ca2+-dependent regulation of mitochondrial dynamics by the Miroâ€“Milton complex. International Journal of Biochemistry and Cell Biology, 2009, 41, 1972-1976.	1.2	96
51	Mitochondrial Nanotunnels. Trends in Cell Biology, 2017, 27, 787-799.	3.6	95
52	Mitochondrial calcium exchange links metabolism with the epigenome to control cellular differentiation. Nature Communications, 2019, 10, 4509.	5.8	93
53	MICU1 Interacts with the D-Ring of the MCU Pore to Control Its Ca2+ Flux and Sensitivity to Ru360. Molecular Cell, 2018, 72, 778-785.e3.	4.5	92
54	Calcium Signal Transmission between Ryanodine Receptors and Mitochondria in Cardiac Muscle. Trends in Cardiovascular Medicine, 2001, 11, 269-275.	2.3	87

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55	VDAC2-specific cellular functions and the underlying structure. Biochimica Et Biophysica Acta - Molecular Cell Research, 2016, 1863, 2503-2514.	1.9	83
56	Plasticity of Mitochondrial Calcium Signaling. Journal of Biological Chemistry, 2003, 278, 42273-42282.	1.6	81
57	tcBid promotes Ca2+ signal propagation to the mitochondria: control of Ca2+ permeation through the outer mitochondrial membrane. EMBO Journal, 2002, 21, 2198-2206.	3.5	79
58	Activation of the mitochondrial permeability transition pore modulates Ca2+ responses to physiological stimuli in adult neurons. European Journal of Neuroscience, 2011, 33, 831-842.	1.2	77
59	Increased mitochondrial nanotunneling activity, induced by calcium imbalance, affects intermitochondrial matrix exchanges. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E849-E858.	3.3	76
60	Biophysical properties of mitochondrial fusion events in pancreatic Î²-cells and cardiac cells unravel potential control mechanisms of its selectivity. American Journal of Physiology - Cell Physiology, 2010, 299, C477-C487.	2.1	75
61	Bid-induced mitochondrial membrane permeabilization waves propagated by local reactive oxygen species (ROS) signaling. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 4497-4502.	3.3	75
62	Dysregulation of Mitochondrial Ca2+ Uptake and Sarcolemma Repair Underlie Muscle Weakness and Wasting in Patients and Mice Lacking MICU1. Cell Reports, 2019, 29, 1274-1286.e6.	2.9	68
63	Mitochondrial Ca2+ uptake by the voltage-dependent anion channel 2 regulates cardiac rhythmicity. ELife, 2015, 4, .	2.8	67
64	Mitochondrial calcium signaling driven by the IP3 receptor. Journal of Bioenergetics and Biomembranes, 2000, 32, 15-25.	1.0	63
65	Motifs of VDAC2 required for mitochondrial Bak import and tBid-induced apoptosis. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5590-9.	3.3	63
66	Visualization of Binding and Transcytosis of Botulinum Toxin by Human Intestinal Epithelial Cells. Journal of Pharmacology and Experimental Therapeutics, 2005, 315, 1028-1035.	1.3	59
67	Alignment of sarcoplasmic reticulum-mitochondrial junctions with mitochondrial contact points. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 301, H1907-H1915.	1.5	56
68	Alcohol and Mitochondria in Cardiac Apoptosis: Mechanisms and Visualization. Alcoholism: Clinical and Experimental Research, 2005, 29, 693-701.	1.4	55
69	Mitochondrial morphology and dynamics in hepatocytes from normal and ethanol-fed rats. Pflugers Archiv European Journal of Physiology, 2012, 464, 101-109.	1.3	53
70	MSTO 1 is a cytoplasmic proâ€mitochondrial fusion protein, whose mutation induces myopathy and ataxia in humans. EMBO Molecular Medicine, 2017, 9, 967-984.	3.3	53
71	The mitochondrial phosphate carrier: Role in oxidative metabolism, calcium handling and mitochondrial disease. Biochemical and Biophysical Research Communications, 2015, 464, 369-375.	1.0	52
72	Calcium Signalling: Fishing Out Molecules of Mitochondrial Calcium Transport. Current Biology, 2010, 20, R888-R891.	1.8	50

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73	Calcium transport across the inner mitochondrial membrane: Molecular mechanisms and pharmacology. Molecular and Cellular Endocrinology, 2012, 353, 109-113.	1.6	49
74	Distribution and Apoptotic Function of Outer Membrane Proteins Depend on Mitochondrial Fusion. Molecular Cell, 2014, 54, 870-878.	4.5	48
75	CELL SIGNALING: Mitochondrial Longevity Pathways. Science, 2007, 315, 607-609.	6.0	46
76	Recessive mutations in MSTO1 cause mitochondrial dynamics impairment, leading to myopathy and ataxia. Human Mutation, 2017, 38, 970-977.	1.1	44
77	Uncoupling of ER-mitochondrial calcium communication by transforming growth factor-Î². American Journal of Physiology - Renal Physiology, 2008, 295, F1303-F1312.	1.3	43
78	Reliance of ERâ€“mitochondrial calcium signaling on mitochondrial EF-hand Ca2+ binding proteins: Miros, MICUs, LETM1 and solute carriers. Current Opinion in Cell Biology, 2014, 29, 133-141.	2.6	42
79	Redox regulation of type-I inositol trisphosphate receptors in intact mammalian cells. Journal of Biological Chemistry, 2018, 293, 17464-17476.	1.6	42
80	Oxidative bursts of single mitochondria mediate retrograde signaling toward the ER. Molecular Cell, 2021, 81, 3866-3876.e2.	4.5	41
81	Calcium, mitochondria and apoptosis studied by fluorescence measurements. Methods, 2008, 46, 213-223.	1.9	40
82	Redox regulation of ER and mitochondrial Ca2+ signaling in cell survival and death. Cell Calcium, 2019, 79, 89-97.	1.1	39
83	Control of Calcium Signal Propagation to the Mitochondria by Inositol 1,4,5-Trisphosphate-binding Proteins. Journal of Biological Chemistry, 2005, 280, 12820-12832.	1.6	35
84	Perturbed mitochondria-ER contacts in live neurons modelling Alzheimer's disease amyloid pathology. Journal of Cell Science, 2019, 132, .	1.2	35
85	Mitochondrial Ca²⁺ Signaling and Cardiac Apoptosis. NeuroSignals, 2001, 10, 200-223.	0.5	33
86	Proliferative Signaling by Store-Operated Calcium Channels Opposes Colon Cancer Cell Cytostasis Induced by Bacterial Enterotoxins. Journal of Pharmacology and Experimental Therapeutics, 2005, 314, 1013-1022.	1.3	31
87	Switch from ER-mitochondrial to SR-mitochondrial calcium coupling during muscle differentiation. Cell Calcium, 2012, 52, 355-365.	1.1	29
88	Angiotensin II exerts its effect on aldosterone production and potassium permeability through receptor subtype AT1 in rat adrenal glomerulosa cells. Biochemical Pharmacology, 1992, 43, 1009-1012.	2.0	28
89	Pharmacological inhibition of the mitochondrial Ca2+ uniporter: Relevance for pathophysiology and human therapy. Journal of Molecular and Cellular Cardiology, 2021, 151, 135-144.	0.9	28
90	MICU1 Confers Protection from MCU-Dependent Manganese Toxicity. Cell Reports, 2018, 25, 1425-1435.e7.	2.9	26

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91	Subcellular ROS imaging methods: Relevance for the study of calcium signaling. Cell Calcium, 2016, 60, 65-73.	1.1	22
92	Choosing proper fluorescent dyes, proteins, and imaging techniques to study mitochondrial dynamics in mammalian cells. Biophysics Reports, 2017, 3, 64-72.	0.2	21
93	Calcium Signalling and Mitochondrial Motility. Novartis Foundation Symposium, 2007, 287, 105-121.	1.2	20
94	Natural and Induced Mitochondrial Phosphate Carrier Loss. Journal of Biological Chemistry, 2016, 291, 26126-26137.	1.6	18
95	Uncontrolled mitochondrial calcium uptake underlies the pathogenesis of neurodegeneration in MICU1-deficient mice and patients. Science Advances, 2022, 8, eabj4716.	4.7	18
96	Mitochondrial fusion and Bid-mediated mitochondrial apoptosis are perturbed by alcohol with distinct dependence on its metabolism. Cell Death and Disease, 2018, 9, 1028.	2.7	17
97	Reduced ERâ€“mitochondria connectivity promotes neuroblastoma multidrug resistance. EMBO Journal, 2022, 41, e108272.	3.5	16
98	Molecular pathophysiology of human MICU1 deficiency. Neuropathology and Applied Neurobiology, 2021, 47, 840-855.	1.8	15
99	OPA1 Modulates Mitochondrial Ca2+ Uptake Through ER-Mitochondria Coupling. Frontiers in Cell and Developmental Biology, 2021, 9, 774108.	1.8	15
100	Spatio-Temporal Organization of the Mitochondrial Phase of Apoptosis. IUBMB Life, 2001, 52, 237-245.	1.5	13
101	Fluorometric Methods for Detection of Mitochondrial Membrane Permeabilization in Apoptosis. Methods in Molecular Biology, 2009, 559, 173-190.	0.4	12
102	Metabolic adaptation to the chronic loss of Ca2+ signaling induced by KO of IP3 receptors or the mitochondrial Ca2+Âuniporter. Journal of Biological Chemistry, 2022, 298, 101436.	1.6	11
103	Altered composition of the mitochondrial Ca2+uniporter in the failing human heart. Cell Calcium, 2022, 105, 102618.	1.1	10
104	Dysregulation of RyR Calcium Channel Causes the Onset of Mitochondrial Retrograde Signaling. IScience, 2020, 23, 101370.	1.9	8
105	Subcellular Organization of Calcium Signalling in Hepatocytes and the Intact Liver. Novartis Foundation Symposium, 1995, 188, 18-49.	1.2	8
106	Mitochondrial Calcium Uniporter Affects Neutrophil Bactericidal Activity during Staphylococcus aureus Infection. Infection and Immunity, 2022, 90, IAI0055121.	1.0	5
107	The Isoform Specific N Terminus of VDAC2 is Dispensable for tBid Induced Cytochrome C Release. Biophysical Journal, 2012, 102, 437a.	0.2	3
108	How do MICUs gate the mitochondrial calcium uniporter?. Cell Calcium, 2021, 100, 102497.	1.1	3

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109	Fluorescence imaging detection of nanodomain redox signaling events at organellar contacts. STAR Protocols, 2022, 3, 101119.	0.5	3
110	OPA1 GTPase and GE Domain-Specific Mutations Differentially Alter Mitochondrial Fusion Dynamics and Calcium Homeostasis. Biophysical Journal, 2020, 118, 184a.	0.2	2
111	Mitochondrial Ca2+ Uptake in OPA1 Cells is Upregulated through Functional ER-Mitochondria Coupling. Biophysical Journal, 2021, 120, 348a-349a.	0.2	2
112	Fluorescent protein transgenic mice for the study of Ca2+ and redox signaling. Free Radical Biology and Medicine, 2022, 181, 241-241.	1.3	2
113	Mitochondrial fusion-fission dynamics during hypoxia/reoxygenation. Biophysical Journal, 2009, 96, 533a.	0.2	1
114	“Mitochondrial remodeling” in coronary heart disease. Research Reports in Clinical Cardiology, 2014, , 111.	0.2	1
115	Dynamic Measurement of Ca2+-Induced Changes in Organelle-Specific Redox Microdomains. Biophysical Journal, 2013, 104, 216a.	0.2	0
116	Mitochondrial Fusion Dynamics in Skeletal Muscle of Healthy and Diseased Rat. Biophysical Journal, 2013, 104, 656a.	0.2	0
117	Regulation of Mitochondrial Outer and Inner Membrane Fusion Coupling. Biophysical Journal, 2014, 106, 591a-592a.	0.2	0
118	Calcium-Induced Redox Microdimains at the ER-Mitochondrial Interface. Biophysical Journal, 2014, 106, 114a.	0.2	0
119	Mitochondrial Dynamics in Neonatal and Adult Cardiomyocytes. Biophysical Journal, 2014, 106, 592a.	0.2	0
120	Reactive Oxygen Species (ROS) Suppress Mitochondrial Motility. Biophysical Journal, 2015, 108, 610a.	0.2	0
121	Techniques for Quantitative Analysis of Mitochondrial Dynamics. Biophysical Journal, 2016, 110, 472a.	0.2	0
122	Mitochondrial Calcium Uptake and Matrix Calcium Buffering in Skeletal Muscle. Biophysical Journal, 2017, 112, 130a-131a.	0.2	0
123	Discrete Roles of Inositol 1,4,5â€Trisphosphate Receptor Type 1 and 2 in ROSâ€Mediated Ca2+ Signaling.. FASEB Journal, 2006, 20, A1181.	0.2	0
124	Fineâ€tuning of hepatocyte calcium signaling and liver regeneration by the mitochondrial calcium uniporter. FASEB Journal, 2018, 32, 536.10.	0.2	0