

Gyorgy Hajnoczky

List of Publications by Year in descending order

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124
papers

20,790
citations

18482
62
h-index

20358
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. <i>Cell Death and Differentiation</i> , 2018, 25, 486-541.	11.2	4,036
2	Structural and functional features and significance of the physical linkage between ER and mitochondria. <i>Journal of Cell Biology</i> , 2006, 174, 915-921.	5.2	1,123
3	Decoding of cytosolic calcium oscillations in the mitochondria. <i>Cell</i> , 1995, 82, 415-424.	28.9	1,100
4	MAM: more than just a housekeeper. <i>Trends in Cell Biology</i> , 2009, 19, 81-88.	7.9	654
5	Imaging Interorganelle Contacts and Local Calcium Dynamics at the ER-Mitochondrial Interface. <i>Molecular Cell</i> , 2010, 39, 121-132.	9.7	630
6	Mitochondrial calcium signalling and cell death: Approaches for assessing the role of mitochondrial Ca ²⁺ uptake in apoptosis. <i>Cell Calcium</i> , 2006, 40, 553-560.	2.4	531
7	Intracellular Ca ²⁺ Sensing: Its Role in Calcium Homeostasis and Signaling. <i>Molecular Cell</i> , 2017, 66, 780-788.	9.7	499
8	Spatial and temporal aspects of cellular calcium signaling. <i>FASEB Journal</i> , 1996, 10, 1505-1517.	0.5	484
9	Bidirectional Ca ²⁺ -dependent control of mitochondrial dynamics by the Miro GTPase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 20728-20733.	7.1	474
10	Apoptosis driven by IP3-linked mitochondrial calcium signals. <i>EMBO Journal</i> , 1999, 18, 6349-6361.	7.8	460
11	MCUR1 is an essential component of mitochondrial Ca ²⁺ uptake that regulates cellular metabolism. <i>Nature Cell Biology</i> , 2012, 14, 1336-1343.	10.3	450
12	Coming together to define membrane contact sites. <i>Nature Communications</i> , 2019, 10, 1287.	12.8	435
13	Control of mitochondrial motility and distribution by the calcium signal. <i>Journal of Cell Biology</i> , 2004, 167, 661-672.	5.2	421
14	Calcium signaling and apoptosis. <i>Biochemical and Biophysical Research Communications</i> , 2003, 304, 445-454.	2.1	413
15	Mitochondrial dynamics in adaptive and maladaptive cellular stress responses. <i>Nature Cell Biology</i> , 2018, 20, 755-765.	10.3	401
16	MICU1 Controls Both the Threshold and Cooperative Activation of the Mitochondrial Ca ²⁺ Uniporter. <i>Cell Metabolism</i> , 2013, 17, 976-987.	16.2	397
17	Endoplasmic Reticulum-Mitochondrial Contactology: Structure and Signaling Functions. <i>Trends in Cell Biology</i> , 2018, 28, 523-540.	7.9	381
18	Loss of Omi mitochondrial protease activity causes the neuromuscular disorder of mnd2 mutant mice. <i>Nature</i> , 2003, 425, 721-727.	27.8	354

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19	Mitochondrial “kiss-and-run”™: interplay between mitochondrial motility and fusion“fission dynamics. EMBO Journal, 2009, 28, 3074-3089.	7.8	300
20	SR/ER“mitochondrial local communication: Calcium and ROS. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 1352-1362.	1.0	257
21	Mitochondria Suppress Local Feedback Activation of Inositol 1,4,5-Trisphosphate Receptors by Ca ²⁺ . Journal of Biological Chemistry, 1999, 274, 14157-14162.	3.4	241
22	Redox Nanodomains Are Induced by and Control Calcium Signaling at the ER-Mitochondrial Interface. Molecular Cell, 2016, 63, 240-248.	9.7	228
23	Calcium Signal Transmission between Ryanodine Receptors and Mitochondria. Journal of Biological Chemistry, 2000, 275, 15305-15313.	3.4	202
24	Sustained Down-regulation of the Epidermal Growth Factor Receptor by Decorin. Journal of Biological Chemistry, 2000, 275, 32879-32887.	3.4	195
25	IP ₃ receptor isoforms differently regulate ER-mitochondrial contacts and local calcium transfer. Nature Communications, 2019, 10, 3726.	12.8	187
26	Ca ²⁺ -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.	3.4	186
27	The machinery of local Ca ²⁺ signalling between sarco“endoplasmic reticulum and mitochondria. Journal of Physiology, 2000, 529, 69-81.	2.9	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.	7.1	176
29	The inositol trisphosphate calcium channel is inactivated by inositol trisphosphate. Nature, 1994, 370, 474-477.	27.8	174
30	Interactions between sarco-endoplasmic reticulum and mitochondria in cardiac and skeletal muscle “pivotal roles in Ca ²⁺ and reactive oxygen species signaling. Journal of Cell Science, 2013, 126, 2965-78.	2.0	171
31	Rapid Kinetics of tBid-induced Cytochrome c and Smac/DIABLO Release and Mitochondrial Depolarization. Journal of Biological Chemistry, 2002, 277, 5651-5659.	3.4	161
32	MICU1 regulation of mitochondrial Ca ²⁺ uptake dictates survival and tissue regeneration. Nature Communications, 2016, 7, 10955.	12.8	159
33	MTCH2/MIMP is a major facilitator of tBID recruitment to mitochondria. Nature Cell Biology, 2010, 12, 553-562.	10.3	154
34	Ca ²⁺ 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.	7.1	146
35	IP ₃ receptors in cell survival and apoptosis: Ca ²⁺ release and beyond. Apoptosis: an International Journal on Programmed Cell Death, 2007, 12, 951-968.	4.9	146
36	Tissue-Specific Mitochondrial Decoding of Cytoplasmic Ca ²⁺ Signals Is Controlled by the Stoichiometry of MICU1/2 and MCU. Cell Reports, 2017, 18, 2291-2300.	6.4	145

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37	Trans-mitochondrial coordination of cristae at regulated membrane junctions. <i>Nature Communications</i> , 2015, 6, 6259.	12.8	143
38	Mitochondrial fusion is frequent in skeletal muscle and supports excitation–contraction coupling. <i>Journal of Cell Biology</i> , 2014, 205, 179-195.	5.2	133
39	Physical Coupling Supports the Local Ca ²⁺ Transfer between Sarcoplasmic Reticulum Subdomains and the Mitochondria in Heart Muscle. <i>Journal of Biological Chemistry</i> , 2008, 283, 32771-32780.	3.4	131
40	Mitochondria and Endoplasmic Reticulum: The Lethal Interorganelle Cross-Talk. <i>Journal of Bioenergetics and Biomembranes</i> , 2005, 37, 191-206.	2.3	130
41	Bad Targets the Permeability Transition Pore Independent of Bax or Bak to Switch between Ca ²⁺ -Dependent Cell Survival and Death. <i>Molecular Cell</i> , 2009, 33, 377-388.	9.7	127
42	High- and low-calcium-dependent mechanisms of mitochondrial calcium signalling. <i>Cell Calcium</i> , 2008, 44, 51-63.	2.4	126
43	Isoform- and Species-specific Control of Inositol 1,4,5-Trisphosphate (IP ₃) Receptors by Reactive Oxygen Species. <i>Journal of Biological Chemistry</i> , 2014, 289, 8170-8181.	3.4	120
44	Mitochondrial fusion dynamics is robust in the heart and depends on calcium oscillations and contractile activity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E859-E868.	7.1	120
45	Inositol Lipid Binding and Membrane Localization of Isolated Pleckstrin Homology (PH) Domains. <i>Journal of Biological Chemistry</i> , 2002, 277, 27412-27422.	3.4	111
46	Coupling between cytosolic and mitochondrial calcium oscillations: role in the regulation of hepatic metabolism. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1998, 1366, 17-32.	1.0	107
47	VDAC2 is required for truncated BID-induced mitochondrial apoptosis by recruiting BAK to the mitochondria. <i>EMBO Reports</i> , 2009, 10, 1341-1347.	4.5	106
48	ROS Control Mitochondrial Motility through p38 and the Motor Adaptor Miro/Trak. <i>Cell Reports</i> , 2017, 21, 1667-1680.	6.4	100
49	Quantification of calcium signal transmission from sarco–endoplasmic reticulum to the mitochondria. <i>Journal of Physiology</i> , 2000, 529, 553-564.	2.9	97
50	Ca ²⁺ -dependent regulation of mitochondrial dynamics by the Miro–Milton complex. <i>International Journal of Biochemistry and Cell Biology</i> , 2009, 41, 1972-1976.	2.8	96
51	Mitochondrial Nanotunnels. <i>Trends in Cell Biology</i> , 2017, 27, 787-799.	7.9	95
52	Mitochondrial calcium exchange links metabolism with the epigenome to control cellular differentiation. <i>Nature Communications</i> , 2019, 10, 4509.	12.8	93
53	MICU1 Interacts with the D-Ring of the MCU Pore to Control Its Ca ²⁺ Flux and Sensitivity to Ru360. <i>Molecular Cell</i> , 2018, 72, 778-785.e3.	9.7	92
54	Calcium Signal Transmission between Ryanodine Receptors and Mitochondria in Cardiac Muscle. <i>Trends in Cardiovascular Medicine</i> , 2001, 11, 269-275.	4.9	87

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55	VDAC2-specific cellular functions and the underlying structure. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2016, 1863, 2503-2514.	4.1	83
56	Plasticity of Mitochondrial Calcium Signaling. <i>Journal of Biological Chemistry</i> , 2003, 278, 42273-42282.	3.4	81
57	tcBid promotes Ca ²⁺ signal propagation to the mitochondria: control of Ca ²⁺ permeation through the outer mitochondrial membrane. <i>EMBO Journal</i> , 2002, 21, 2198-2206.	7.8	79
58	Activation of the mitochondrial permeability transition pore modulates Ca ²⁺ responses to physiological stimuli in adult neurons. <i>European Journal of Neuroscience</i> , 2011, 33, 831-842.	2.6	77
59	Increased mitochondrial nanotunneling activity, induced by calcium imbalance, affects intermitochondrial matrix exchanges. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E849-E858.	7.1	76
60	Biophysical properties of mitochondrial fusion events in pancreatic Î ² -cells and cardiac cells unravel potential control mechanisms of its selectivity. <i>American Journal of Physiology - Cell Physiology</i> , 2010, 299, C477-C487.	4.6	75
61	Bid-induced mitochondrial membrane permeabilization waves propagated by local reactive oxygen species (ROS) signaling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 4497-4502.	7.1	75
62	Dysregulation of Mitochondrial Ca ²⁺ Uptake and Sarcolemma Repair Underlie Muscle Weakness and Wasting in Patients and Mice Lacking MICU1. <i>Cell Reports</i> , 2019, 29, 1274-1286.e6.	6.4	68
63	Mitochondrial Ca ²⁺ uptake by the voltage-dependent anion channel 2 regulates cardiac rhythmicity. <i>ELife</i> , 2015, 4, .	6.0	67
64	Mitochondrial calcium signaling driven by the IP3 receptor. <i>Journal of Bioenergetics and Biomembranes</i> , 2000, 32, 15-25.	2.3	63
65	Motifs of VDAC2 required for mitochondrial Bak import and tBid-induced apoptosis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, E5590-9.	7.1	63
66	Visualization of Binding and Transcytosis of Botulinum Toxin by Human Intestinal Epithelial Cells. <i>Journal of Pharmacology and Experimental Therapeutics</i> , 2005, 315, 1028-1035.	2.5	59
67	Alignment of sarcoplasmic reticulum-mitochondrial junctions with mitochondrial contact points. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2011, 301, H1907-H1915.	3.2	56
68	Alcohol and Mitochondria in Cardiac Apoptosis: Mechanisms and Visualization. <i>Alcoholism: Clinical and Experimental Research</i> , 2005, 29, 693-701.	2.4	55
69	Mitochondrial morphology and dynamics in hepatocytes from normal and ethanol-fed rats. <i>Pflugers Archiv European Journal of Physiology</i> , 2012, 464, 101-109.	2.8	53
70	MSTO 1 is a cytoplasmic pro- α -mitochondrial fusion protein, whose mutation induces myopathy and ataxia in humans. <i>EMBO Molecular Medicine</i> , 2017, 9, 967-984.	6.9	53
71	The mitochondrial phosphate carrier: Role in oxidative metabolism, calcium handling and mitochondrial disease. <i>Biochemical and Biophysical Research Communications</i> , 2015, 464, 369-375.	2.1	52
72	Calcium Signalling: Fishing Out Molecules of Mitochondrial Calcium Transport. <i>Current Biology</i> , 2010, 20, R888-R891.	3.9	50

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73	Calcium transport across the inner mitochondrial membrane: Molecular mechanisms and pharmacology. <i>Molecular and Cellular Endocrinology</i> , 2012, 353, 109-113.	3.2	49
74	Distribution and Apoptotic Function of Outer Membrane Proteins Depend on Mitochondrial Fusion. <i>Molecular Cell</i> , 2014, 54, 870-878.	9.7	48
75	CELL SIGNALING: Mitochondrial Longevity Pathways. <i>Science</i> , 2007, 315, 607-609.	12.6	46
76	Recessive mutations in <i>MSTO1</i> cause mitochondrial dynamics impairment, leading to myopathy and ataxia. <i>Human Mutation</i> , 2017, 38, 970-977.	2.5	44
77	Uncoupling of ER-mitochondrial calcium communication by transforming growth factor- β . <i>American Journal of Physiology - Renal Physiology</i> , 2008, 295, F1303-F1312.	2.7	43
78	Reliance of ER-mitochondrial calcium signaling on mitochondrial EF-hand Ca^{2+} binding proteins: Miros, MICUs, LETM1 and solute carriers. <i>Current Opinion in Cell Biology</i> , 2014, 29, 133-141.	5.4	42
79	Redox regulation of type-I inositol trisphosphate receptors in intact mammalian cells. <i>Journal of Biological Chemistry</i> , 2018, 293, 17464-17476.	3.4	42
80	Oxidative bursts of single mitochondria mediate retrograde signaling toward the ER. <i>Molecular Cell</i> , 2021, 81, 3866-3876.e2.	9.7	41
81	Calcium, mitochondria and apoptosis studied by fluorescence measurements. <i>Methods</i> , 2008, 46, 213-223.	3.8	40
82	Redox regulation of ER and mitochondrial Ca^{2+} signaling in cell survival and death. <i>Cell Calcium</i> , 2019, 79, 89-97.	2.4	39
83	Control of Calcium Signal Propagation to the Mitochondria by Inositol 1,4,5-Trisphosphate-binding Proteins. <i>Journal of Biological Chemistry</i> , 2005, 280, 12820-12832.	3.4	35
84	Perturbed mitochondria-ER contacts in live neurons modelling Alzheimer's disease amyloid pathology. <i>Journal of Cell Science</i> , 2019, 132, .	2.0	35
85	Mitochondrial Ca^{2+} Signaling and Cardiac Apoptosis. <i>NeuroSignals</i> , 2001, 10, 200-223.	0.9	33
86	Proliferative Signaling by Store-Operated Calcium Channels Opposes Colon Cancer Cell Cytostasis Induced by Bacterial Enterotoxins. <i>Journal of Pharmacology and Experimental Therapeutics</i> , 2005, 314, 1013-1022.	2.5	31
87	Switch from ER-mitochondrial to SR-mitochondrial calcium coupling during muscle differentiation. <i>Cell Calcium</i> , 2012, 52, 355-365.	2.4	29
88	Angiotensin II exerts its effect on aldosterone production and potassium permeability through receptor subtype AT1 in rat adrenal glomerulosa cells. <i>Biochemical Pharmacology</i> , 1992, 43, 1009-1012.	4.4	28
89	Pharmacological inhibition of the mitochondrial Ca^{2+} uniporter: Relevance for pathophysiology and human therapy. <i>Journal of Molecular and Cellular Cardiology</i> , 2021, 151, 135-144.	1.9	28
90	MICU1 Confers Protection from MCU-Dependent Manganese Toxicity. <i>Cell Reports</i> , 2018, 25, 1425-1435.e7.	6.4	26

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91	Subcellular ROS imaging methods: Relevance for the study of calcium signaling. <i>Cell Calcium</i> , 2016, 60, 65-73.	2.4	22
92	Choosing proper fluorescent dyes, proteins, and imaging techniques to study mitochondrial dynamics in mammalian cells. <i>Biophysics Reports</i> , 2017, 3, 64-72.	0.8	21
93	Calcium Signalling and Mitochondrial Motility. <i>Novartis Foundation Symposium</i> , 2007, 287, 105-121.	1.1	20
94	Natural and Induced Mitochondrial Phosphate Carrier Loss. <i>Journal of Biological Chemistry</i> , 2016, 291, 26126-26137.	3.4	18
95	Uncontrolled mitochondrial calcium uptake underlies the pathogenesis of neurodegeneration in MICU1-deficient mice and patients. <i>Science Advances</i> , 2022, 8, eabj4716.	10.3	18
96	Mitochondrial fusion and Bid-mediated mitochondrial apoptosis are perturbed by alcohol with distinct dependence on its metabolism. <i>Cell Death and Disease</i> , 2018, 9, 1028.	6.3	17
97	Reduced ER-mitochondria connectivity promotes neuroblastoma multidrug resistance. <i>EMBO Journal</i> , 2022, 41, e108272.	7.8	16
98	Molecular pathophysiology of human MICU1 deficiency. <i>Neuropathology and Applied Neurobiology</i> , 2021, 47, 840-855.	3.2	15
99	OPA1 Modulates Mitochondrial Ca ²⁺ Uptake Through ER-Mitochondria Coupling. <i>Frontiers in Cell and Developmental Biology</i> , 2021, 9, 774108.	3.7	15
100	Spatio-Temporal Organization of the Mitochondrial Phase of Apoptosis. <i>IUBMB Life</i> , 2001, 52, 237-245.	3.4	13
101	Fluorometric Methods for Detection of Mitochondrial Membrane Permeabilization in Apoptosis. <i>Methods in Molecular Biology</i> , 2009, 559, 173-190.	0.9	12
102	Metabolic adaptation to the chronic loss of Ca ²⁺ signaling induced by KO of IP3 receptors or the mitochondrial Ca ²⁺ uniporter. <i>Journal of Biological Chemistry</i> , 2022, 298, 101436.	3.4	11
103	Altered composition of the mitochondrial Ca ²⁺ uniporter in the failing human heart. <i>Cell Calcium</i> , 2022, 105, 102618.	2.4	10
104	Dysregulation of RyR Calcium Channel Causes the Onset of Mitochondrial Retrograde Signaling. <i>IScience</i> , 2020, 23, 101370.	4.1	8
105	Subcellular Organization of Calcium Signalling in Hepatocytes and the Intact Liver. <i>Novartis Foundation Symposium</i> , 1995, 188, 18-49.	1.1	8
106	Mitochondrial Calcium Uniporter Affects Neutrophil Bactericidal Activity during <i>Staphylococcus aureus</i> Infection. <i>Infection and Immunity</i> , 2022, 90, IA10055121.	2.2	5
107	The Isoform Specific N Terminus of VDAC2 is Dispensable for tBid Induced Cytochrome C Release. <i>Biophysical Journal</i> , 2012, 102, 437a.	0.5	3
108	How do MICUs gate the mitochondrial calcium uniporter?. <i>Cell Calcium</i> , 2021, 100, 102497.	2.4	3

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109	Fluorescence imaging detection of nanodomain redox signaling events at organellar contacts. STAR Protocols, 2022, 3, 101119.	1.2	3
110	OPA1 GTPase and GE Domain-Specific Mutations Differentially Alter Mitochondrial Fusion Dynamics and Calcium Homeostasis. Biophysical Journal, 2020, 118, 184a.	0.5	2
111	Mitochondrial Ca ²⁺ Uptake in OPA1 Cells is Upregulated through Functional ER-Mitochondria Coupling. Biophysical Journal, 2021, 120, 348a-349a.	0.5	2
112	Fluorescent protein transgenic mice for the study of Ca ²⁺ and redox signaling. Free Radical Biology and Medicine, 2022, 181, 241-241.	2.9	2
113	Mitochondrial fusion-fission dynamics during hypoxia/reoxygenation. Biophysical Journal, 2009, 96, 533a.	0.5	1
114	"Mitochondrial remodeling" in coronary heart disease. Research Reports in Clinical Cardiology, 2014, , 111.	0.2	1
115	Dynamic Measurement of Ca ²⁺ -Induced Changes in Organelle-Specific Redox Microdomains. Biophysical Journal, 2013, 104, 216a.	0.5	0
116	Mitochondrial Fusion Dynamics in Skeletal Muscle of Healthy and Diseased Rat. Biophysical Journal, 2013, 104, 656a.	0.5	0
117	Regulation of Mitochondrial Outer and Inner Membrane Fusion Coupling. Biophysical Journal, 2014, 106, 591a-592a.	0.5	0
118	Calcium-Induced Redox Microdomains at the ER-Mitochondrial Interface. Biophysical Journal, 2014, 106, 114a.	0.5	0
119	Mitochondrial Dynamics in Neonatal and Adult Cardiomyocytes. Biophysical Journal, 2014, 106, 592a.	0.5	0
120	Reactive Oxygen Species (ROS) Suppress Mitochondrial Motility. Biophysical Journal, 2015, 108, 610a.	0.5	0
121	Techniques for Quantitative Analysis of Mitochondrial Dynamics. Biophysical Journal, 2016, 110, 472a.	0.5	0
122	Mitochondrial Calcium Uptake and Matrix Calcium Buffering in Skeletal Muscle. Biophysical Journal, 2017, 112, 130a-131a.	0.5	0
123	Discrete Roles of Inositol 1,4,5-Trisphosphate Receptor Type 1 and 2 in ROS-Mediated Ca ²⁺ Signaling.. FASEB Journal, 2006, 20, A1181.	0.5	0
124	Fine-tuning of hepatocyte calcium signaling and liver regeneration by the mitochondrial calcium uniporter. FASEB Journal, 2018, 32, 536.10.	0.5	0