Muniswamy Madesh

List of Publications by Year
in descending order

95 papers	13,269 citations	44069 48 h-index	42399 92 g-index
96 all docs	96 docs citations	96 times ranked	23554 citing authors

#	Article	IF	Citations
1	Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). Autophagy, 2016, 12, 1-222.	9.1	4,701
2	STIM proteins: dynamic calcium signal transducers. Nature Reviews Molecular Cell Biology, 2012, 13, 549-565.	37.0	573
3	MICU1 Is an Essential Gatekeeper for MCU-Mediated Mitochondrial Ca2+ Uptake that Regulates Cell Survival. Cell, 2012, 151, 630-644.	28.9	543
4	VDAC-dependent permeabilization of the outer mitochondrial membrane by superoxide induces rapid and massive cytochrome c release. Journal of Cell Biology, 2001, 155, 1003-1016.	5.2	462
5	MCUR1 is an essential component of mitochondrial Ca2+ uptake that regulates cellular metabolism. Nature Cell Biology, 2012, 14, 1336-1343.	10.3	450
6	The endoplasmic reticulum gateway to apoptosis by Bcl-XL modulation of the InsP3R. Nature Cell Biology, 2005, 7, 1021-1028.	10.3	383
7	Simultaneous detection of apoptosis and mitochondrial superoxide production in live cells by flow cytometry and confocal microscopy. Nature Protocols, 2007, 2, 2295-2301.	12.0	324
8	The Mitochondrial Calcium Uniporter Matches Energetic Supply with Cardiac Workload during Stress and Modulates Permeability Transition. Cell Reports, 2015, 12, 23-34.	6.4	304
9	The mitochondrial Na+/Ca2+ exchanger is essential for Ca2+ homeostasis and viability. Nature, 2017, 545, 93-97.	27.8	294
10	S-glutathionylation activates STIM1 and alters mitochondrial homeostasis. Journal of Cell Biology, 2010, 190, 391-405.	5.2	201
11	Mitochondrial Reactive Oxygen Species Mediate Lysophosphatidylcholine-Induced Endothelial Cell Activation. Arteriosclerosis, Thrombosis, and Vascular Biology, 2016, 36, 1090-1100.	2.4	187
12	The machinery of local Ca 2+ signalling between sarcoâ€endoplasmic reticulum and mitochondria. Journal of Physiology, 2000, 529, 69-81.	2.9	185
13	Mitochondrial Ca2+ Uniporter Is a Mitochondrial Luminal Redox Sensor that Augments MCU Channel Activity. Molecular Cell, 2017, 65, 1014-1028.e7.	9.7	179
14	MCUR1 Is a Scaffold Factor for the MCU Complex Function and Promotes Mitochondrial Bioenergetics. Cell Reports, 2016, 15, 1673-1685.	6.4	170
15	Superoxide Flux in Endothelial Cells via the Chloride Channel-3 Mediates Intracellular Signaling. Molecular Biology of the Cell, 2007, 18, 2002-2012.	2.1	167
16	SPG7 Is an Essential and Conserved Component of the Mitochondrial Permeability Transition Pore. Molecular Cell, 2015, 60, 47-62.	9.7	165
17	Blockade of NOX2 and STIM1 signaling limits lipopolysaccharide-induced vascular inflammation. Journal of Clinical Investigation, 2013, 123, 887-902.	8.2	163
18	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

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19	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.	9.7	127
20	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.	3.4	120
21	SLC25A23 augments mitochondrial Ca²⁺uptake, interacts with MCU, and induces oxidative stressâ€“mediated cell death. Molecular Biology of the Cell, 2014, 25, 936-947.	2.1	118
22	MICU1 Motifs Define Mitochondrial Calcium Uniporter Binding and Activity. Cell Reports, 2013, 5, 1576-1588.	6.4	112
23	A Selective and Cell-Permeable Mitochondrial Calcium Uniporter (MCU) Inhibitor Preserves Mitochondrial Bioenergetics after Hypoxia/Reoxygenation Injury. ACS Central Science, 2019, 5, 153-166.	11.3	112
24	Selective role for superoxide in InsP3 receptorâ€“mediated mitochondrial dysfunction and endothelial apoptosis. Journal of Cell Biology, 2005, 170, 1079-1090.	5.2	104
25	Ca ²⁺ signals regulate mitochondrial metabolism by stimulating CREB-mediated expression of the mitochondrial Ca ²⁺ uniporter gene MCU. Science Signaling, 2015, 8, ra23.	3.6	102
26	Transient Receptor Potential Channels Contribute to Pathological Structural and Functional Remodeling After Myocardial Infarction. Circulation Research, 2014, 115, 567-580.	4.5	101
27	LETM1â€dependent mitochondrial Ca ²⁺ flux modulates cellular bioenergetics and proliferation. FASEB Journal, 2014, 28, 4936-4949.	0.5	99
28	Nitration of the mitochondrial complex I subunit NDUFB8 elicits RIP1- and RIP3-mediated necrosis. Free Radical Biology and Medicine, 2010, 48, 306-317.	2.9	98
29	Requirement of FADD, NEMO, and BAX/BAK for Aberrant Mitochondrial Function in Tumor Necrosis Factor Alpha-Induced Necrosis. Molecular and Cellular Biology, 2011, 31, 3745-3758.	2.3	97
30	The Proapoptotic Factors Bax and Bak Regulate T Cell Proliferation through Control of Endoplasmic Reticulum Ca2+ Homeostasis. Immunity, 2007, 27, 268-280.	14.3	92
31	Loss of Adult Cardiac Myocyte GSK-3 Leads to Mitotic Catastrophe Resulting in Fatal Dilated Cardiomyopathy. Circulation Research, 2016, 118, 1208-1222.	4.5	92
32	Molecular regulation of MCU: Implications in physiology and disease. Cell Calcium, 2018, 74, 86-93.	2.4	91
33	Lactate Elicits ER-Mitochondrial Mg2+ Dynamics to Integrate Cellular Metabolism. Cell, 2020, 183, 474-489.e17.	28.9	84
34	MIRO-1 Determines Mitochondrial Shape Transition upon GPCR Activation and Ca2+ Stress. Cell Reports, 2018, 23, 1005-1019.	6.4	80
35	TRPM2 Channels Protect against Cardiac Ischemia-Reperfusion Injury. Journal of Biological Chemistry, 2014, 289, 7615-7629.	3.4	78
36	Mitochondrial Ca2+ and membrane potential, an alternative pathway for Interleukin 6 to regulate CD4 cell effector function. ELife, 2015, 4, .	6.0	70

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37	Hyperhomocysteinemia and Hyperglycemia Induce and Potentiate Endothelial Dysfunction via Î¼-Calpain Activation. Diabetes, 2015, 64, 947-959.	0.6	66
38	Structural Insights into Mitochondrial Calcium Uniporter Regulation by Divalent Cations. Cell Chemical Biology, 2016, 23, 1157-1169.	5.2	65
39	An essential role for cardiolipin in the stability and function of the mitochondrial calcium uniporter. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 16383-16390.	7.1	63
40	Inhibition of the Cardiomyocyte-Specific Kinase TNNI3K Limits Oxidative Stress, Injury, and Adverse Remodeling in the Ischemic Heart. Science Translational Medicine, 2013, 5, 207ra141.	12.4	59
41	Intracoronary Cytoprotective Gene Therapy. Journal of the American College of Cardiology, 2015, 66, 139-153.	2.8	58
42	Depletion of the Human Ion Channel TRPM2 in Neuroblastoma Demonstrates Its Key Role in Cell Survival through Modulation of Mitochondrial Reactive Oxygen Species and Bioenergetics. Journal of Biological Chemistry, 2016, 291, 24449-24464.	3.4	58
43	Blockade of MCU-Mediated Ca2+ Uptake Perturbs Lipid Metabolism via PP4-Dependent AMPK Dephosphorylation. Cell Reports, 2019, 26, 3709-3725.e7.	6.4	58
44	Lung endothelial cell proliferation with decreased shear stress is mediated by reactive oxygen species. American Journal of Physiology - Cell Physiology, 2006, 290, C66-C76.	4.6	57
45	Ca²⁺entry via Trpm2 is essential for cardiac myocyte bioenergetics maintenance. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 308, H637-H650.	3.2	57
46	Association of Variants in BAG3 With Cardiomyopathy Outcomes in African American Individuals. JAMA Cardiology, 2018, 3, 929.	6.1	57
47	BAG3 regulates contractility and Ca2+ homeostasis in adult mouse ventricular myocytes. Journal of Molecular and Cellular Cardiology, 2016, 92, 10-20.	1.9	56
48	Caspase-1 mediates hyperlipidemia-weakened progenitor cell vessel repair. Frontiers in Bioscience - Landmark, 2016, 21, 178-191.	3.0	54
49	Molecular nature and physiological role of the mitochondrial calcium uniporter channel. American Journal of Physiology - Cell Physiology, 2021, 320, C465-C482.	4.6	54
50	Astrocytic metabolic switch is a novel etiology for Cocaine and HIV-1 Tat-mediated neurotoxicity. Cell Death and Disease, 2018, 9, 415.	6.3	50
51	pH-Sensitive Multiligand Gold Nanoplatform Targeting Carbonic Anhydrase IX Enhances the Delivery of Doxorubicin to Hypoxic Tumor Spheroids and Overcomes the Hypoxia-Induced Chemoresistance. ACS Applied Materials & Interfaces, 2018, 10, 17792-17808.	8.0	50
52	Mitochondrial pyruvate and fatty acid flux modulate MICU1-dependent control of MCU activity. Science Signaling, 2020, 13, .	3.6	48
53	xCT (SLC7A11) expression confers intrinsic resistance to physical plasma treatment in tumor cells. Redox Biology, 2020, 30, 101423.	9.0	47
54	Execution of Superoxide-Induced Cell Death by the Proapoptotic Bcl-2-Related Proteins Bid and Bak. Molecular and Cellular Biology, 2009, 29, 3099-3112.	2.3	46

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55	Mitochondrial dysfunction in human primary alveolar type II cells in emphysema. EBioMedicine, 2019, 46, 305-316.	6.1	46
56	G Protein-Coupled Receptor Ca²⁺-Linked Mitochondrial Reactive Oxygen Species Are Essential for Endothelial/Leukocyte Adherence. Molecular and Cellular Biology, 2007, 27, 7582-7593.	2.3	45
57	Transient receptor potential ion channel TRPM2 promotes AML proliferation and survival through modulation of mitochondrial function, ROS, and autophagy. Cell Death and Disease, 2020, 11, 247.	6.3	44
58	Bcl-2â€“associated athanogene 3 protects the heart from ischemia/reperfusion injury. JCI Insight, 2016, 1, e90931.	5.0	40
59	Mitochondrial Complex II Prevents Hypoxic but Not Calcium- and Proapoptotic Bcl-2 Protein-induced Mitochondrial Membrane Potential Loss. Journal of Biological Chemistry, 2010, 285, 26494-26505.	3.4	38
60	Sensing cellular stress through STIM proteins. Nature Chemical Biology, 2011, 7, 488-492.	8.0	37
61	Gamma Secretase-Activating Protein Is a Substrate for Caspase-3: Implications for Alzheimerâ€™s Disease. Biological Psychiatry, 2015, 77, 720-728.	1.3	34
62	Insulin resistance is mechanistically linked to hepatic mitochondrial remodeling in non-alcoholic fatty liver disease. Molecular Metabolism, 2021, 45, 101154.	6.5	33
63	Endothelial mitochondria regulate the intracellular Ca²⁺ response to fluid shear stress. American Journal of Physiology - Cell Physiology, 2016, 310, C479-C490.	4.6	32
64	FOXD1-dependent MICU1 expression regulates mitochondrial activity and cell differentiation. Nature Communications, 2018, 9, 3449.	12.8	31
65	Chemically synthesized Secoisolariciresinol diglucoside (LGM2605) improves mitochondrial function in cardiac myocytes and alleviates septic cardiomyopathy. Journal of Molecular and Cellular Cardiology, 2019, 127, 232-245.	1.9	29
66	Micro <scp>RNA</scp> â€195 controls <scp>MICU</scp> 1 expression and tumor growth in ovarian cancer. EMBO Reports, 2020, 21, e48483.	4.5	29
67	BIRD-2, a BH4-domain-targeting peptide of Bcl-2, provokes Bax/Bak-independent cell death in B-cell cancers through mitochondrial Ca2+-dependent mPTP opening. Cell Calcium, 2021, 94, 102333.	2.4	28
68	The Ca ²⁺ export pump PMCA clears near-membrane Ca ²⁺ to facilitate store-operated Ca ²⁺ entry and NFAT activation. Science Signaling, 2019, 12, .	3.6	27
69	Restoring mitochondrial superoxide levels with elamipretide (MTP-131) protects db/db mice against progression of diabetic kidney disease. Journal of Biological Chemistry, 2020, 295, 7249-7260.	3.4	27
70	SARS-CoV-2 infection enhances mitochondrial PTP complex activity to perturb cardiac energetics. IScience, 2022, 25, 103722.	4.1	27
71	Regulation of the mitochondrial Ca2+ uniporter by MICU1 and MICU2. Biochemical and Biophysical Research Communications, 2014, 449, 377-383.	2.1	26
72	Mitochondrial Ca ²⁺ transport in the endothelium: regulation by ions, redox signalling and mechanical forces. Journal of the Royal Society Interface, 2017, 14, 20170672.	3.4	25

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73	The role of DJ-1 in human primary alveolar type II cell injury induced by e-cigarette aerosol. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2019, 317, L475-L485.	2.9	23
74	Dysregulation of mitochondrial bioenergetics and quality control by HIVâ€1 Tat in cardiomyocytes. Journal of Cellular Physiology, 2018, 233, 748-758.	4.1	22
75	Cellâ€Free Mitochondrial DNA as a Potential Biomarker for Astronauts' Health. Journal of the American Heart Association, 2021, 10, e022055.	3.7	22
76	Yeast homologs of human MCUR1 regulate mitochondrial proline metabolism. Nature Communications, 2020, 11, 4866.	12.8	21
77	Complex I and II are required for normal mitochondrial Ca2+ homeostasis. Mitochondrion, 2019, 49, 73-82.	3.4	19
78	Mitochondrial fusion and Bid-mediated mitochondrial apoptosis are perturbed by alcohol with distinct dependence on its metabolism. Cell Death and Disease, 2018, 9, 1028.	6.3	17
79	Methylene blue counteracts cyanide cardiotoxicity: cellular mechanisms. Journal of Applied Physiology, 2018, 124, 1164-1176.	2.5	17
80	The cytoprotective role of DJ-1 and p45 NFE2 against human primary alveolar type II cell injury and emphysema. Scientific Reports, 2018, 8, 3555.	3.3	15
81	Resolving macrophage polarization through distinct Ca2+ entry channel that maintains intracellular signaling and mitochondrial bioenergetics. IScience, 2021, 24, 103339.	4.1	15
82	MYC Regulation of D2HGDH and L2HGDH Influences the Epigenome and Epitranscriptome. Cell Chemical Biology, 2020, 27, 538-550.e7.	5.2	14
83	Selective inhibition of arginase-2 in endothelial cells but not proximal tubules reduces renal fibrosis. JCI Insight, 2020, 5, .	5.0	14
84	Impaired non-homologous end joining in human primary alveolar type II cells in emphysema. Scientific Reports, 2019, 9, 920.	3.3	13
85	Regulation of Ca2+ exchanges and signaling in mitochondria. Current Opinion in Physiology, 2020, 17, 197-206.	1.8	11
86	Chloride channel accessory 1 integrates chloride channel activity and mTORC1 in agingâ€related kidney injury. Aging Cell, 2021, 20, e13407.	6.7	11
87	MCU-complex-mediated mitochondrial calcium signaling is impaired in Barth syndrome. Human Molecular Genetics, 2022, 31, 376-385.	2.9	10
88	The relationship between DJ-1 and S100A8 in human primary alveolar type II cells in emphysema. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2019, 317, L791-L804.	2.9	8
89	Homoarginine ameliorates diabetic nephropathy independent of nitric oxide synthaseâ€3. Physiological Reports, 2021, 9, e14766.	1.7	6
90	Spatial localization of SOCE channels and its modulators regulate neuronal physiology and contributes to pathology. Current Opinion in Physiology, 2020, 17, 50-62.	1.8	4

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91	SPG7 is an Essential and Conserved Component of the Mitochondrial Permeability transition Pore. Biophysical Journal, 2016, 110, 309a-310a.	0.5	3
92	Emergence of repurposed drugs as modulators of MCU channel for clinical therapeutics. Cell Calcium, 2021, 99, 102456.	2.4	1
93	Ethanol-Induced Mitochondrial Induction of Cell Death-Pathways Explored. , 0, , .		0
94	The effect of endothelial phenotype on superoxideâ€linked InsP ₃ â€mediated Ca ²⁺ signaling. FASEB Journal, 2007, 21, A256.	0.5	0
95	MJ33, an inhibitor of the phospholipase A 2 activity of peroxiredoxin 6, reduces reactive oxygen species production in a model of endotoxin induced lung inflammation. FASEB Journal, 2012, 26, 1137.2.	0.5	0