

Muniswamy Madesh

List of Publications by Year in descending order

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95
papers

13,269
citations

43973

48
h-index

42291

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). <i>Autophagy</i> , 2016, 12, 1-222.	4.3	4,701
2	STIM proteins: dynamic calcium signal transducers. <i>Nature Reviews Molecular Cell Biology</i> , 2012, 13, 549-565.	16.1	573
3	MICU1 Is an Essential Gatekeeper for MCU-Mediated Mitochondrial Ca ²⁺ Uptake that Regulates Cell Survival. <i>Cell</i> , 2012, 151, 630-644.	13.5	543
4	VDAC-dependent permeabilization of the outer mitochondrial membrane by superoxide induces rapid and massive cytochrome c release. <i>Journal of Cell Biology</i> , 2001, 155, 1003-1016.	2.3	462
5	MCUR1 is an essential component of mitochondrial Ca ²⁺ uptake that regulates cellular metabolism. <i>Nature Cell Biology</i> , 2012, 14, 1336-1343.	4.6	450
6	The endoplasmic reticulum gateway to apoptosis by Bcl-XL modulation of the InsP3R. <i>Nature Cell Biology</i> , 2005, 7, 1021-1028.	4.6	383
7	Simultaneous detection of apoptosis and mitochondrial superoxide production in live cells by flow cytometry and confocal microscopy. <i>Nature Protocols</i> , 2007, 2, 2295-2301.	5.5	324
8	The Mitochondrial Calcium Uniporter Matches Energetic Supply with Cardiac Workload during Stress and Modulates Permeability Transition. <i>Cell Reports</i> , 2015, 12, 23-34.	2.9	304
9	The mitochondrial Na ⁺ /Ca ²⁺ exchanger is essential for Ca ²⁺ homeostasis and viability. <i>Nature</i> , 2017, 545, 93-97.	13.7	294
10	S-glutathionylation activates STIM1 and alters mitochondrial homeostasis. <i>Journal of Cell Biology</i> , 2010, 190, 391-405.	2.3	201
11	Mitochondrial Reactive Oxygen Species Mediate Lysophosphatidylcholine-Induced Endothelial Cell Activation. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2016, 36, 1090-1100.	1.1	187
12	The machinery of local Ca ²⁺ signalling between sarcoendoplasmic reticulum and mitochondria. <i>Journal of Physiology</i> , 2000, 529, 69-81.	1.3	185
13	Mitochondrial Ca ²⁺ Uniporter Is a Mitochondrial Luminal Redox Sensor that Augments MCU Channel Activity. <i>Molecular Cell</i> , 2017, 65, 1014-1028.e7.	4.5	179
14	MCUR1 Is a Scaffold Factor for the MCU Complex Function and Promotes Mitochondrial Bioenergetics. <i>Cell Reports</i> , 2016, 15, 1673-1685.	2.9	170
15	Superoxide Flux in Endothelial Cells via the Chloride Channel-3 Mediates Intracellular Signaling. <i>Molecular Biology of the Cell</i> , 2007, 18, 2002-2012.	0.9	167
16	SPG7 Is an Essential and Conserved Component of the Mitochondrial Permeability Transition Pore. <i>Molecular Cell</i> , 2015, 60, 47-62.	4.5	165
17	Blockade of NOX2 and STIM1 signaling limits lipopolysaccharide-induced vascular inflammation. <i>Journal of Clinical Investigation</i> , 2013, 123, 887-902.	3.9	163
18	Rapid Kinetics of tBid-induced Cytochrome c and Smac/DIABLO Release and Mitochondrial Depolarization. <i>Journal of Biological Chemistry</i> , 2002, 277, 5651-5659.	1.6	161

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19	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.	4.5	127
20	Isoform- and Species-specific Control of Inositol 1,4,5-Trisphosphate (IP3) Receptors by Reactive Oxygen Species. <i>Journal of Biological Chemistry</i> , 2014, 289, 8170-8181.	1.6	120
21	SLC25A23 augments mitochondrial Ca ²⁺ uptake, interacts with MCU, and induces oxidative stress-mediated cell death. <i>Molecular Biology of the Cell</i> , 2014, 25, 936-947.	0.9	118
22	MICU1 Motifs Define Mitochondrial Calcium Uniporter Binding and Activity. <i>Cell Reports</i> , 2013, 5, 1576-1588.	2.9	112
23	A Selective and Cell-Permeable Mitochondrial Calcium Uniporter (MCU) Inhibitor Preserves Mitochondrial Bioenergetics after Hypoxia/Reoxygenation Injury. <i>ACS Central Science</i> , 2019, 5, 153-166.	5.3	112
24	Selective role for superoxide in InsP3 receptor-mediated mitochondrial dysfunction and endothelial apoptosis. <i>Journal of Cell Biology</i> , 2005, 170, 1079-1090.	2.3	104
25	Ca ²⁺ signals regulate mitochondrial metabolism by stimulating CREB-mediated expression of the mitochondrial Ca ²⁺ uniporter gene <i>MCU</i> . <i>Science Signaling</i> , 2015, 8, ra23.	1.6	102
26	Transient Receptor Potential Channels Contribute to Pathological Structural and Functional Remodeling After Myocardial Infarction. <i>Circulation Research</i> , 2014, 115, 567-580.	2.0	101
27	LETM1-dependent mitochondrial Ca ²⁺ flux modulates cellular bioenergetics and proliferation. <i>FASEB Journal</i> , 2014, 28, 4936-4949.	0.2	99
28	Nitration of the mitochondrial complex I subunit NDUFB8 elicits RIP1- and RIP3-mediated necrosis. <i>Free Radical Biology and Medicine</i> , 2010, 48, 306-317.	1.3	98
29	Requirement of FADD, NEMO, and BAX/BAK for Aberrant Mitochondrial Function in Tumor Necrosis Factor Alpha-Induced Necrosis. <i>Molecular and Cellular Biology</i> , 2011, 31, 3745-3758.	1.1	97
30	The Proapoptotic Factors Bax and Bak Regulate T Cell Proliferation through Control of Endoplasmic Reticulum Ca ²⁺ Homeostasis. <i>Immunity</i> , 2007, 27, 268-280.	6.6	92
31	Loss of Adult Cardiac Myocyte GSK-3 Leads to Mitotic Catastrophe Resulting in Fatal Dilated Cardiomyopathy. <i>Circulation Research</i> , 2016, 118, 1208-1222.	2.0	92
32	Molecular regulation of MCU: Implications in physiology and disease. <i>Cell Calcium</i> , 2018, 74, 86-93.	1.1	91
33	Lactate Elicits ER-Mitochondrial Mg ²⁺ Dynamics to Integrate Cellular Metabolism. <i>Cell</i> , 2020, 183, 474-489.e17.	13.5	84
34	MIRO-1 Determines Mitochondrial Shape Transition upon GPCR Activation and Ca ²⁺ Stress. <i>Cell Reports</i> , 2018, 23, 1005-1019.	2.9	80
35	TRPM2 Channels Protect against Cardiac Ischemia-Reperfusion Injury. <i>Journal of Biological Chemistry</i> , 2014, 289, 7615-7629.	1.6	78
36	Mitochondrial Ca ²⁺ and membrane potential, an alternative pathway for Interleukin 6 to regulate CD4 cell effector function. <i>ELife</i> , 2015, 4, .	2.8	70

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37	Hyperhomocysteinemia and Hyperglycemia Induce and Potentiate Endothelial Dysfunction via $\hat{1}/4$ -Calpain Activation. <i>Diabetes</i> , 2015, 64, 947-959.	0.3	66
38	Structural Insights into Mitochondrial Calcium Uniporter Regulation by Divalent Cations. <i>Cell Chemical Biology</i> , 2016, 23, 1157-1169.	2.5	65
39	An essential role for cardiolipin in the stability and function of the mitochondrial calcium uniporter. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 16383-16390.	3.3	63
40	Inhibition of the Cardiomyocyte-Specific Kinase TNNI3K Limits Oxidative Stress, Injury, and Adverse Remodeling in the Ischemic Heart. <i>Science Translational Medicine</i> , 2013, 5, 207ra141.	5.8	59
41	Intracoronary Cytoprotective Gene Therapy. <i>Journal of the American College of Cardiology</i> , 2015, 66, 139-153.	1.2	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. <i>Journal of Biological Chemistry</i> , 2016, 291, 24449-24464.	1.6	58
43	Blockade of MCU-Mediated Ca^{2+} Uptake Perturbs Lipid Metabolism via PP4-Dependent AMPK Dephosphorylation. <i>Cell Reports</i> , 2019, 26, 3709-3725.e7.	2.9	58
44	Lung endothelial cell proliferation with decreased shear stress is mediated by reactive oxygen species. <i>American Journal of Physiology - Cell Physiology</i> , 2006, 290, C66-C76.	2.1	57
45	Ca^{2+} entry via Trpm2 is essential for cardiac myocyte bioenergetics maintenance. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2015, 308, H637-H650.	1.5	57
46	Association of Variants in <i>BAG3</i> With Cardiomyopathy Outcomes in African American Individuals. <i>JAMA Cardiology</i> , 2018, 3, 929.	3.0	57
47	BAG3 regulates contractility and Ca^{2+} homeostasis in adult mouse ventricular myocytes. <i>Journal of Molecular and Cellular Cardiology</i> , 2016, 92, 10-20.	0.9	56
48	Caspase-1 mediates hyperlipidemia-weakened progenitor cell vessel repair. <i>Frontiers in Bioscience - Landmark</i> , 2016, 21, 178-191.	3.0	54
49	Molecular nature and physiological role of the mitochondrial calcium uniporter channel. <i>American Journal of Physiology - Cell Physiology</i> , 2021, 320, C465-C482.	2.1	54
50	Astrocytic metabolic switch is a novel etiology for Cocaine and HIV-1 Tat-mediated neurotoxicity. <i>Cell Death and Disease</i> , 2018, 9, 415.	2.7	50
51	pH-Sensitive Multiligand Gold Nanoplatfom Targeting Carbonic Anhydrase IX Enhances the Delivery of Doxorubicin to Hypoxic Tumor Spheroids and Overcomes the Hypoxia-Induced Chemoresistance. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 17792-17808.	4.0	50
52	Mitochondrial pyruvate and fatty acid flux modulate MICU1-dependent control of MCU activity. <i>Science Signaling</i> , 2020, 13, .	1.6	48
53	xCT (SLC7A11) expression confers intrinsic resistance to physical plasma treatment in tumor cells. <i>Redox Biology</i> , 2020, 30, 101423.	3.9	47
54	Execution of Superoxide-Induced Cell Death by the Proapoptotic Bcl-2-Related Proteins Bid and Bak. <i>Molecular and Cellular Biology</i> , 2009, 29, 3099-3112.	1.1	46

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55	Mitochondrial dysfunction in human primary alveolar type II cells in emphysema. <i>EBioMedicine</i> , 2019, 46, 305-316.	2.7	46
56	G Protein-Coupled Receptor Ca ²⁺ -Linked Mitochondrial Reactive Oxygen Species Are Essential for Endothelial/Leukocyte Adherence. <i>Molecular and Cellular Biology</i> , 2007, 27, 7582-7593.	1.1	45
57	Transient receptor potential ion channel TRPM2 promotes AML proliferation and survival through modulation of mitochondrial function, ROS, and autophagy. <i>Cell Death and Disease</i> , 2020, 11, 247.	2.7	44
58	Bcl-2-associated athanogene 3 protects the heart from ischemia/reperfusion injury. <i>JCI Insight</i> , 2016, 1, e90931.	2.3	40
59	Mitochondrial Complex II Prevents Hypoxic but Not Calcium- and Proapoptotic Bcl-2 Protein-induced Mitochondrial Membrane Potential Loss. <i>Journal of Biological Chemistry</i> , 2010, 285, 26494-26505.	1.6	38
60	Sensing cellular stress through STIM proteins. <i>Nature Chemical Biology</i> , 2011, 7, 488-492.	3.9	37
61	Gamma Secretase-Activating Protein Is a Substrate for Caspase-3: Implications for Alzheimer's Disease. <i>Biological Psychiatry</i> , 2015, 77, 720-728.	0.7	34
62	Insulin resistance is mechanistically linked to hepatic mitochondrial remodeling in non-alcoholic fatty liver disease. <i>Molecular Metabolism</i> , 2021, 45, 101154.	3.0	33
63	Endothelial mitochondria regulate the intracellular Ca ²⁺ response to fluid shear stress. <i>American Journal of Physiology - Cell Physiology</i> , 2016, 310, C479-C490.	2.1	32
64	FOXD1-dependent MICU1 expression regulates mitochondrial activity and cell differentiation. <i>Nature Communications</i> , 2018, 9, 3449.	5.8	31
65	Chemically synthesized Secoisolariciresinol diglucoside (LGM2605) improves mitochondrial function in cardiac myocytes and alleviates septic cardiomyopathy. <i>Journal of Molecular and Cellular Cardiology</i> , 2019, 127, 232-245.	0.9	29
66	Micro RNA-195 controls MICU1 expression and tumor growth in ovarian cancer. <i>EMBO Reports</i> , 2020, 21, e48483.	2.0	29
67	BIRD-2, a BH4-domain-targeting peptide of Bcl-2, provokes Bax/Bak-independent cell death in B-cell cancers through mitochondrial Ca ²⁺ -dependent mPTP opening. <i>Cell Calcium</i> , 2021, 94, 102333.	1.1	28
68	The Ca ²⁺ export pump PMCA clears near-membrane Ca ²⁺ to facilitate store-operated Ca ²⁺ entry and NFAT activation. <i>Science Signaling</i> , 2019, 12, .	1.6	27
69	Restoring mitochondrial superoxide levels with elamipretide (MTP-131) protects db/db mice against progression of diabetic kidney disease. <i>Journal of Biological Chemistry</i> , 2020, 295, 7249-7260.	1.6	27
70	SARS-CoV-2 infection enhances mitochondrial PTP complex activity to perturb cardiac energetics. <i>IScience</i> , 2022, 25, 103722.	1.9	27
71	Regulation of the mitochondrial Ca ²⁺ uniporter by MICU1 and MICU2. <i>Biochemical and Biophysical Research Communications</i> , 2014, 449, 377-383.	1.0	26
72	Mitochondrial Ca ²⁺ transport in the endothelium: regulation by ions, redox signalling and mechanical forces. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170672.	1.5	25

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73	The role of DJ-1 in human primary alveolar type II cell injury induced by e-cigarette aerosol. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , 2019, 317, L475-L485.	1.3	23
74	Dysregulation of mitochondrial bioenergetics and quality control by HIV-1 Tat in cardiomyocytes. <i>Journal of Cellular Physiology</i> , 2018, 233, 748-758.	2.0	22
75	Cell-Free Mitochondrial DNA as a Potential Biomarker for Astronauts' Health. <i>Journal of the American Heart Association</i> , 2021, 10, e022055.	1.6	22
76	Yeast homologs of human MCUR1 regulate mitochondrial proline metabolism. <i>Nature Communications</i> , 2020, 11, 4866.	5.8	21
77	Complex I and II are required for normal mitochondrial Ca ²⁺ homeostasis. <i>Mitochondrion</i> , 2019, 49, 73-82.	1.6	19
78	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.	2.7	17
79	Methylene blue counteracts cyanide cardiotoxicity: cellular mechanisms. <i>Journal of Applied Physiology</i> , 2018, 124, 1164-1176.	1.2	17
80	The cytoprotective role of DJ-1 and p45 NFE2 against human primary alveolar type II cell injury and emphysema. <i>Scientific Reports</i> , 2018, 8, 3555.	1.6	15
81	Resolving macrophage polarization through distinct Ca ²⁺ entry channel that maintains intracellular signaling and mitochondrial bioenergetics. <i>IScience</i> , 2021, 24, 103339.	1.9	15
82	MYC Regulation of D2HGDH and L2HGDH Influences the Epigenome and Epitranscriptome. <i>Cell Chemical Biology</i> , 2020, 27, 538-550.e7.	2.5	14
83	Selective inhibition of arginase-2 in endothelial cells but not proximal tubules reduces renal fibrosis. <i>JCI Insight</i> , 2020, 5, .	2.3	14
84	Impaired non-homologous end joining in human primary alveolar type II cells in emphysema. <i>Scientific Reports</i> , 2019, 9, 920.	1.6	13
85	Regulation of Ca ²⁺ exchanges and signaling in mitochondria. <i>Current Opinion in Physiology</i> , 2020, 17, 197-206.	0.9	11
86	Chloride channel accessory 1 integrates chloride channel activity and mTORC1 in aging-related kidney injury. <i>Aging Cell</i> , 2021, 20, e13407.	3.0	11
87	MCU-complex-mediated mitochondrial calcium signaling is impaired in Barth syndrome. <i>Human Molecular Genetics</i> , 2022, 31, 376-385.	1.4	10
88	The relationship between DJ-1 and S100A8 in human primary alveolar type II cells in emphysema. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , 2019, 317, L791-L804.	1.3	8
89	Homoarginine ameliorates diabetic nephropathy independent of nitric oxide synthase-3. <i>Physiological Reports</i> , 2021, 9, e14766.	0.7	6
90	Spatial localization of SOCE channels and its modulators regulate neuronal physiology and contributes to pathology. <i>Current Opinion in Physiology</i> , 2020, 17, 50-62.	0.9	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.	0.2	3
92	Emergence of repurposed drugs as modulators of MCU channel for clinical therapeutics. Cell Calcium, 2021, 99, 102456.	1.1	1
93	Ethanol-Induced Mitochondrial Induction of Cell Death-Pathways Explored. , 0, , .		0
94	The effect of endothelial phenotype on superoxide-linked InsP ₃ mediated Ca ²⁺ signaling. FASEB Journal, 2007, 21, A256.	0.2	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.	0.2	0