David C Chan

List of Publications by Year
in descending order

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86 papers	29,321 citations	26567 56 h-index	53109 85 g-index
91 all docs	91 docs citations	91 times ranked	30521 citing authors

#	Article	IF	Citations
1	Guidelines for the use and interpretation of assays for monitoring autophagy. Autophagy, 2012, 8, 445-544.	4.3	3,122
2	Mitofusins Mfn1 and Mfn2 coordinately regulate mitochondrial fusion and are essential for embryonic development. Journal of Cell Biology, 2003, 160, 189-200.	2.3	2,081
3	Mitochondria: Dynamic Organelles in Disease, Aging, and Development. Cell, 2006, 125, 1241-1252.	13.5	1,722
4	Mitochondrial dynamics-fusion, fission, movement, and mitophagy-in neurodegenerative diseases. Human Molecular Genetics, 2009, 18, R169-R176.	1.4	1,235
5	Functions and dysfunctions of mitochondrial dynamics. Nature Reviews Molecular Cell Biology, 2007, 8, 870-879.	16.1	1,182
6	Disruption of Fusion Results in Mitochondrial Heterogeneity and Dysfunction. Journal of Biological Chemistry, 2005, 280, 26185-26192.	1.6	1,115
7	Mitochondrial Fusion Is Required for mtDNA Stability in Skeletal Muscle and Tolerance of mtDNA Mutations. Cell, 2010, 141, 280-289.	13.5	997
8	Fusion and Fission: Interlinked Processes Critical for Mitochondrial Health. Annual Review of Genetics, 2012, 46, 265-287.	3.2	987
9	Fis1, Mff, MiD49, and MiD51 mediate Drp1 recruitment in mitochondrial fission. Molecular Biology of the Cell, 2013, 24, 659-667.	0.9	928
10	Metabolic regulation of mitochondrial dynamics. Journal of Cell Biology, 2016, 212, 379-387.	2.3	859
11	Mitochondrial Fusion and Fission in Mammals. Annual Review of Cell and Developmental Biology, 2006, 22, 79-99.	4.0	855
12	Broad activation of the ubiquitinâ€“proteasome system by Parkin is critical for mitophagy. Human Molecular Genetics, 2011, 20, 1726-1737.	1.4	851
13	AMP-activated protein kinase mediates mitochondrial fission in response to energy stress. Science, 2016, 351, 275-281.	6.0	816
14	Mitochondrial Fusion Protects against Neurodegeneration in the Cerebellum. Cell, 2007, 130, 548-562.	13.5	796
15	Mitochondrial dynamics and inheritance during cell division, development and disease. Nature Reviews Molecular Cell Biology, 2014, 15, 634-646.	16.1	789
16	Structural Basis of Mitochondrial Tethering by Mitofusin Complexes. Science, 2004, 305, 858-862.	6.0	756
17	OPA1 processing controls mitochondrial fusion and is regulated by mRNA splicing, membrane potential, and Yme1L. Journal of Cell Biology, 2007, 178, 749-755.	2.3	696
18	Mitochondrial Dynamics and Its Involvement in Disease. Annual Review of Pathology: Mechanisms of Disease, 2020, 15, 235-259.	9.6	644

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19	SLP-2 is required for stress-induced mitochondrial hyperfusion. EMBO Journal, 2009, 28, 1589-1600.	3.5	639
20	Mitofusins and OPA1 Mediate Sequential Steps in Mitochondrial Membrane Fusion. Molecular Biology of the Cell, 2009, 20, 3525-3532.	0.9	470
21	Emerging functions of mammalian mitochondrial fusion and fission. Human Molecular Genetics, 2005, 14, R283-R289.	1.4	463
22	A common lipid links Mfn-mediated mitochondrial fusion and SNARE-regulated exocytosis. Nature Cell Biology, 2006, 8, 1255-1262.	4.6	402
23	Quantitation of mitochondrial dynamics by photolabeling of individual organelles shows that mitochondrial fusion is blocked during the Bax activation phase of apoptosis. Journal of Cell Biology, 2004, 164, 493-499.	2.3	393
24	Proteolytic Cleavage of Opa1 Stimulates Mitochondrial Inner Membrane Fusion and Couples Fusion to Oxidative Phosphorylation. Cell Metabolism, 2014, 19, 630-641.	7.2	362
25	SIRT3 Deacetylates and Activates OPA1 To Regulate Mitochondrial Dynamics during Stress. Molecular and Cellular Biology, 2014, 34, 807-819.	1.1	331
26	Mitochondrial Dynamics in Regulating the Unique Phenotypes of Cancer and Stem Cells. Cell Metabolism, 2017, 26, 39-48.	7.2	320
27	Complementation between mouse Mfn1 and Mfn2 protects mitochondrial fusion defects caused by CMT2A disease mutations. Journal of Cell Biology, 2007, 176, 405-414.	2.3	286
28	Elimination of paternal mitochondria in mouse embryos occurs through autophagic degradation dependent on PARKIN and MUL1. ELife, 2016, 5, .	2.8	251
29	The WD40 protein Caf4p is a component of the mitochondrial fission machinery and recruits Dnm1p to mitochondria. Journal of Cell Biology, 2005, 170, 237-248.	2.3	246
30	MFN1 structures reveal nucleotide-triggered dimerization critical for mitochondrial fusion. Nature, 2017, 542, 372-376.	13.7	234
31	The glutamate/cystine xCT antiporter antagonizes glutamine metabolism and reduces nutrient flexibility. Nature Communications, 2017, 8, 15074.	5.8	204
32	Crystal structure of the simian immunodeficiency virus (SIV) gp41 core: Conserved helical interactions underlie the broad inhibitory activity of gp41 peptides. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 9134-9139.	3.3	202
33	Critical dependence of neurons on mitochondrial dynamics. Current Opinion in Cell Biology, 2006, 18, 453-459.	2.6	202
34	OPA1 disease alleles causing dominant optic atrophy have defects in cardiolipin-stimulated GTP hydrolysis and membrane tubulation. Human Molecular Genetics, 2010, 19, 2113-2122.	1.4	190
35	Mitochondrial Dynamics Is a Distinguishing Feature of Skeletal Muscle Fiber Types and Regulates Organellar Compartmentalization. Cell Metabolism, 2015, 22, 1033-1044.	7.2	190
36	Distinct structural features of TFAM drive mitochondrial DNA packaging versus transcriptional activation. Nature Communications, 2014, 5, 3077.	5.8	186

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37	Mouse lines with photoâ€activatable mitochondria to study mitochondrial dynamics. Genesis, 2012, 50, 833-843.	0.8	176
38	OPA1 Isoforms in the Hierarchical Organization of Mitochondrial Functions. Cell Reports, 2017, 19, 2557-2571.	2.9	158
39	Mitochondrial Dynamics in Mammals. Current Topics in Developmental Biology, 2004, 59, 119-144.	1.0	152
40	MitoTALEN: A General Approach to Reduce Mutant mtDNA Loads and Restore Oxidative Phosphorylation Function in Mitochondrial Diseases. Molecular Therapy, 2015, 23, 1592-1599.	3.7	149
41	The mitochondrial fission receptor Mff selectively recruits oligomerized Drp1. Molecular Biology of the Cell, 2015, 26, 4466-4477.	0.9	146
42	Loss of Mfn2 results in progressive, retrograde degeneration of dopaminergic neurons in the nigrostriatal circuit. Human Molecular Genetics, 2012, 21, 4817-4826.	1.4	144
43	Reconstructing hominid Y evolution: X-homologous block, created by X-Y transposition, was disrupted by Yp inversion through LINE--LINE recombination. Human Molecular Genetics, 1998, 7, 1-11.	1.4	131
44	Titration of mitochondrial fusion rescues Mff-deficient cardiomyopathy. Journal of Cell Biology, 2015, 211, 795-805.	2.3	131
45	Structural basis for recruitment of mitochondrial fission complexes by Fis1. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18526-18530.	3.3	125
46	Hindlimb gait defects due to motor axon loss and reduced distal muscles in a transgenic mouse model of Charcotâ€“Marieâ€“Tooth type 2A. Human Molecular Genetics, 2008, 17, 367-375.	1.4	125
47	A novel de novo dominant negative mutation in DNM1L impairs mitochondrial fission and presents as childhood epileptic encephalopathy. American Journal of Medical Genetics, Part A, 2016, 170, 2002-2011.	0.7	106
48	Mitochondrial DNA: Impacting Central and Peripheral Nervous Systems. Neuron, 2014, 84, 1126-1142.	3.8	100
49	Structural insights of human mitofusin-2 into mitochondrial fusion and CMT2A onset. Nature Communications, 2019, 10, 4914.	5.8	95
50	Mitochondrial Dynamics in Disease. New England Journal of Medicine, 2007, 356, 1707-1709.	13.9	88
51	Sam50 Regulates PINK1-Parkin-Mediated Mitophagy by Controlling PINK1 Stability and Mitochondrial Morphology. Cell Reports, 2018, 23, 2989-3005.	2.9	86
52	Solving neurodegeneration: common mechanisms and strategies for new treatments. Molecular Neurodegeneration, 2022, 17, 23.	4.4	83
53	MIRO-1 Determines Mitochondrial Shape Transition upon GPCR Activation and Ca2+ Stress. Cell Reports, 2018, 23, 1005-1019.	2.9	80
54	The Mitochondrial Fission Receptor MiD51 Requires ADP as a Cofactor. Structure, 2014, 22, 367-377.	1.6	79

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55	Lysocardiolipin acyltransferase 1 (ALCAT1) controls mitochondrial DNA fidelity and biogenesis through modulation of MFN2 expression. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6975-6980.	3.3	74
56	Dissecting Mitochondrial Fusion. Developmental Cell, 2006, 11, 592-594.	3.1	67
57	Valosin-containing protein (VCP/p97) inhibitors relieve Mitofusin-dependent mitochondrial defects due to VCP disease mutants. ELife, 2017, 6, .	2.8	63
58	Hierarchical and stage-specific regulation of murine cardiomyocyte maturation by serum response factor. Nature Communications, 2018, 9, 3837.	5.8	63
59	Domain Interactions within Fzo1 Oligomers Are Essential for Mitochondrial Fusion. Journal of Biological Chemistry, 2006, 281, 16599-16606.	1.6	58
60	LONP1 and mtHSP70 cooperate to promote mitochondrial protein folding. Nature Communications, 2021, 12, 265.	5.8	58
61	Mitochondrial fusion is required for spermatogonial differentiation and meiosis. ELife, 2019, 8, .	2.8	58
62	Genome-Wide Analysis Reveals Coating of the Mitochondrial Genome by TFAM. PLoS ONE, 2013, 8, e74513.	1.1	57
63	Molecular mechanism of mitochondrial membrane fusion. Biochimica Et Biophysica Acta - Molecular Cell Research, 2006, 1763, 482-489.	1.9	55
64	Mitochondrial dynamics during spermatogenesis. Journal of Cell Science, 2020, 133, .	1.2	52
65	Metabolic Stress-Induced Phosphorylation of KAP1 Ser473 Blocks Mitochondrial Fusion in Breast Cancer Cells. Cancer Research, 2016, 76, 5006-5018.	0.4	50
66	New insights into mitochondrial fusion. FEBS Letters, 2007, 581, 2168-2173.	1.3	49
67	Crystal structure and functional analysis of MiD49, a receptor for the mitochondrial fission protein Drp1. Protein Science, 2015, 24, 386-394.	3.1	43
68	Parkin uses the UPS to ship off dysfunctional mitochondria. Autophagy, 2011, 7, 771-772.	4.3	40
69	Evidence for Site-Specific Occupancy of the Mitochondrial Genome by Nuclear Transcription Factors. PLoS ONE, 2014, 9, e84713.	1.1	38
70	Identification of new OPA1 cleavage site reveals that short isoforms regulate mitochondrial fusion. Molecular Biology of the Cell, 2021, 32, 157-168.	0.9	38
71	Deciphering OPA1 mutations pathogenicity by combined analysis of human, mouse and yeast cell models. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2018, 1864, 3496-3514.	1.8	36
72	Drp1 Tubulates the ER in a GTPase-Independent Manner. Molecular Cell, 2020, 80, 621-632.e6.	4.5	35

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73	OPA1 and cardiolipin team up for mitochondrial fusion. Nature Cell Biology, 2017, 19, 760-762.	4.6	33
74	Eliminating Mitochondrial DNA from Sperm. Developmental Cell, 2012, 22, 469-470.	3.1	28
75	Degradation of the Deubiquitinating Enzyme USP33 Is Mediated by p97 and the Ubiquitin Ligase HERC2. Journal of Biological Chemistry, 2014, 289, 19789-19798.	1.6	26
76	De Novo DNM1L Variant in a Teenager With Progressive Paroxysmal Dystonia and Lethal Super-refractory Myoclonic Status Epilepticus. Journal of Child Neurology, 2018, 33, 651-658.	0.7	25
77	Crystal Structure of Mitochondrial Fission Complex Reveals Scaffolding Function for Mitochondrial Division 1 (Mdv1) Coiled Coil. Journal of Biological Chemistry, 2012, 287, 9855-9861.	1.6	22
78	miR-379 deletion ameliorates features of diabetic kidney disease by enhancing adaptive mitophagy via FIS1. Communications Biology, 2021, 4, 30.	2.0	20
79	Clueless/CLUH regulates mitochondrial fission by promoting recruitment of Drp1 to mitochondria. Nature Communications, 2022, 13, 1582.	5.8	20
80	Fis1 ablation in the male germline disrupts mitochondrial morphology and mitophagy, and arrests spermatid maturation. Development (Cambridge), 2021, 148, .	1.2	15
81	Mitochondrial fission factor (Mff) is required for organization of the mitochondrial sheath in spermatids. Biochimica Et Biophysica Acta - General Subjects, 2021, 1865, 129845.	1.1	14
82	Removal of the Mitochondrial Fission Factor Mff Exacerbates Neuronal Loss and Neurological Phenotypes in a Huntington's Disease Mouse Model. PLOS Currents, 2018, 10, .	1.4	7
83	ER-associated CTRP1 regulates mitochondrial fission via interaction with DRP1. Experimental and Molecular Medicine, 2021, 53, 1769-1780.	3.2	7
84	Analyzing Mitochondrial Dynamics in Mouse Organotypic Slice Cultures. Methods in Enzymology, 2014, 547, 111-129.	0.4	6
85	Fis1, Mff, MiD49 and MiD51 facilitate Drp1 recruitment for mitochondrial fission. FASEB Journal, 2013, 27, 582.2.	0.2	0
86	Mitochondrial Respiratory Measurements in Patient-derived Fibroblasts. Bio-protocol, 2019, 9, e3446.	0.2	0