

Matthew D Hirschey

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

87
papers

10,772
citations

42
h-index

99
g-index

99
ext. papers

12,783
ext. citations

10.8
avg, IF

6.17
L-index

#	Paper	IF	Citations
87	SIRT3 regulates mitochondrial fatty-acid oxidation by reversible enzyme deacetylation. <i>Nature</i> , 2010 , 464, 121-5	50.4	1143
86	Mammalian Sir2 homolog SIRT3 regulates global mitochondrial lysine acetylation. <i>Molecular and Cellular Biology</i> , 2007 , 27, 8807-14	4.8	940
85	Calorie restriction reduces oxidative stress by SIRT3-mediated SOD2 activation. <i>Cell Metabolism</i> , 2010 , 12, 662-7	24.6	929
84	Suppression of oxidative stress by Ehydroxybutyrate, an endogenous histone deacetylase inhibitor. <i>Science</i> , 2013 , 339, 211-4	33.3	919
83	SIRT3 deficiency and mitochondrial protein hyperacetylation accelerate the development of the metabolic syndrome. <i>Molecular Cell</i> , 2011 , 44, 177-90	17.6	568
82	Lysine glutarylation is a protein posttranslational modification regulated by SIRT5. <i>Cell Metabolism</i> , 2014 , 19, 605-17	24.6	496
81	Sirtuin regulation of mitochondria: energy production, apoptosis, and signaling. <i>Trends in Biochemical Sciences</i> , 2010 , 35, 669-75	10.3	447
80	SIRT3 deacetylates mitochondrial 3-hydroxy-3-methylglutaryl CoA synthase 2 and regulates ketone body production. <i>Cell Metabolism</i> , 2010 , 12, 654-61	24.6	357
79	Sirtuin-3 (Sirt3) regulates skeletal muscle metabolism and insulin signaling via altered mitochondrial oxidation and reactive oxygen species production. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 14608-13	11.5	335
78	Metabolic Regulation by Lysine Malonylation, Succinylation, and Glutarylation. <i>Molecular and Cellular Proteomics</i> , 2015 , 14, 2308-15	7.6	240
77	Nonenzymatic protein acylation as a carbon stress regulated by sirtuin deacylases. <i>Molecular Cell</i> , 2014 , 54, 5-16	17.6	229
76	Dysregulated metabolism contributes to oncogenesis. <i>Seminars in Cancer Biology</i> , 2015 , 35 Suppl, S129-S150	15.0	189
75	SIRT4 Is a Lysine Deacylase that Controls Leucine Metabolism and Insulin Secretion. <i>Cell Metabolism</i> , 2017 , 25, 838-855.e15	24.6	188
74	Designing a broad-spectrum integrative approach for cancer prevention and treatment. <i>Seminars in Cancer Biology</i> , 2015 , 35 Suppl, S276-S304	12.7	179
73	Mitochondrial sirtuins. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2010 , 1804, 1645-51	4	178
72	Lipids Reprogram Metabolism to Become a Major Carbon Source for Histone Acetylation. <i>Cell Reports</i> , 2016 , 17, 1463-1472	10.6	172
71	Mitochondria, energetics, epigenetics, and cellular responses to stress. <i>Environmental Health Perspectives</i> , 2014 , 122, 1271-8	8.4	167

70	Mitochondrial protein acetylation regulates metabolism. <i>Essays in Biochemistry</i> , 2012 , 52, 23-35	7.6	161
69	Dietary Restriction and AMPK Increase Lifespan via Mitochondrial Network and Peroxisome Remodeling. <i>Cell Metabolism</i> , 2017 , 26, 884-896.e5	24.6	156
68	The sirtuins, oxidative stress and aging: an emerging link. <i>Aging</i> , 2013 , 5, 144-50	5.6	155
67	Hepatic insulin signaling is required for obesity-dependent expression of SREBP-1c mRNA but not for feeding-dependent expression. <i>Cell Metabolism</i> , 2012 , 15, 873-84	24.6	141
66	SIRT3 regulates mitochondrial protein acetylation and intermediary metabolism. <i>Cold Spring Harbor Symposia on Quantitative Biology</i> , 2011 , 76, 267-77	3.9	138
65	Whole-organism screening for gluconeogenesis identifies activators of fasting metabolism. <i>Nature Chemical Biology</i> , 2013 , 9, 97-104	11.7	136
64	A Class of Reactive Acyl-CoA Species Reveals the Non-enzymatic Origins of Protein Acylation. <i>Cell Metabolism</i> , 2017 , 25, 823-837.e8	24.6	130
63	SIRT3 regulates progression and development of diseases of aging. <i>Trends in Endocrinology and Metabolism</i> , 2015 , 26, 486-492	8.8	124
62	Sirtuin 3 (SIRT3) protein regulates long-chain acyl-CoA dehydrogenase by deacetylating conserved lysines near the active site. <i>Journal of Biological Chemistry</i> , 2013 , 288, 33837-33847	5.4	123
61	Neuronal CRTC-1 governs systemic mitochondrial metabolism and lifespan via a catecholamine signal. <i>Cell</i> , 2015 , 160, 842-855	56.2	115
60	Role of NAD and mitochondrial sirtuins in cardiac and renal diseases. <i>Nature Reviews Nephrology</i> , 2017 , 13, 213-225	14.9	109
59	Mitochondrial acetylome analysis in a mouse model of alcohol-induced liver injury utilizing SIRT3 knockout mice. <i>Journal of Proteome Research</i> , 2012 , 11, 1633-43	5.6	101
58	Measurement of fatty acid oxidation rates in animal tissues and cell lines. <i>Methods in Enzymology</i> , 2014 , 542, 391-405	1.7	83
57	Metabolic control by sirtuins and other enzymes that sense NAD, NADH, or their ratio. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2017 , 1858, 991-998	4.6	82
56	Loss of SIRT3 leads to a compensatory shift in cellular metabolism promoting cancer cell growth. <i>Cancer & Metabolism</i> , 2014 , 2,	5.4	78
55	Old enzymes, new tricks: sirtuins are NAD(+)-dependent de-acylases. <i>Cell Metabolism</i> , 2011 , 14, 718-9	24.6	78
54	SIRT1 and SIRT3 deacetylate homologous substrates: AceCS1,2 and HMGCS1,2. <i>Aging</i> , 2011 , 3, 635-42	5.6	73
53	Investigating the Sensitivity of NAD+-dependent Sirtuin Deacetylation Activities to NADH. <i>Journal of Biological Chemistry</i> , 2016 , 291, 7128-41	5.4	71

52	High-Resolution Metabolomics with Acyl-CoA Profiling Reveals Widespread Remodeling in Response to Diet. <i>Molecular and Cellular Proteomics</i> , 2015 , 14, 1489-500	7.6	68
51	Nicotinamide mononucleotide requires SIRT3 to improve cardiac function and bioenergetics in a Friedreich's ataxia cardiomyopathy model. <i>JCI Insight</i> , 2017 , 2,	9.9	60
50	Acetate metabolism and aging: An emerging connection. <i>Mechanisms of Ageing and Development</i> , 2010 , 131, 511-6	5.6	60
49	SnapShot: Mammalian Sirtuins. <i>Cell</i> , 2014 , 159, 956-956.e1	56.2	51
48	Sirtuin 5 is required for mouse survival in response to cardiac pressure overload. <i>Journal of Biological Chemistry</i> , 2017 , 292, 19767-19781	5.4	47
47	Acyl-CoA thioesterase-2 facilitates mitochondrial fatty acid oxidation in the liver. <i>Journal of Lipid Research</i> , 2014 , 55, 2458-70	6.3	46
46	Acetylation of mitochondrial proteins. <i>Methods in Enzymology</i> , 2009 , 457, 137-47	1.7	43
45	Imaging Escherichia coli using functionalized core/shell CdSe/CdS quantum dots. <i>Journal of Biological Inorganic Chemistry</i> , 2006 , 11, 663-9	3.7	41
44	NRF2 activation promotes the recurrence of dormant tumour cells through regulation of redox and nucleotide metabolism. <i>Nature Metabolism</i> , 2020 , 2, 318-334	14.6	40
43	Targeting sirtuins for the treatment of diabetes. <i>Diabetes Management</i> , 2013 , 3, 245-257	0	39
42	/FoxO promotes gluconeogenesis and trehalose synthesis during starvation to support survival. <i>ELife</i> , 2017 , 6,	8.9	38
41	SIRT6 Promotes Hepatic Beta-Oxidation via Activation of PPAR α . <i>Cell Reports</i> , 2019 , 29, 4127-4143.e8	10.6	35
40	Mechanism-Based Inhibitors of the Human Sirtuin 5 Deacylase: Structure-Activity Relationship, Biostructural, and Kinetic Insight. <i>Angewandte Chemie - International Edition</i> , 2017 , 56, 14836-14841	16.4	34
39	Ethanol metabolism modifies hepatic protein acylation in mice. <i>PLoS ONE</i> , 2013 , 8, e75868	3.7	34
38	Long-chain Acylcarnitines Reduce Lung Function by Inhibiting Pulmonary Surfactant. <i>Journal of Biological Chemistry</i> , 2015 , 290, 23897-904	5.4	32
37	Reactive Acyl-CoA Species Modify Proteins and Induce Carbon Stress. <i>Trends in Biochemical Sciences</i> , 2018 , 43, 369-379	10.3	31
36	From the Cover: Arsenite Uncouples Mitochondrial Respiration and Induces a Warburg-like Effect in <i>Caenorhabditis elegans</i> . <i>Toxicological Sciences</i> , 2016 , 152, 349-62	4.4	31
35	Deficiency of the lipid synthesis enzyme, DGAT1, extends longevity in mice. <i>Aging</i> , 2012 , 4, 13-27	5.6	29

34	Effect of aerobic training on the host systemic milieu in patients with solid tumours: an exploratory correlative study. <i>British Journal of Cancer</i> , 2015 , 112, 825-31	8.7	26
33	SIRT3 weighs heavily in the metabolic balance: a new role for SIRT3 in metabolic syndrome. <i>Journals of Gerontology - Series A Biological Sciences and Medical Sciences</i> , 2013 , 68, 105-7	6.4	24
32	Phosphoproteomic profiling of human myocardial tissues distinguishes ischemic from non-ischemic end stage heart failure. <i>PLoS ONE</i> , 2014 , 9, e104157	3.7	20
31	Proteomic Profiling Reveals Adaptive Responses to Surgical Myocardial Ischemia-Reperfusion in Hibernating Arctic Ground Squirrels Compared to Rats. <i>Anesthesiology</i> , 2016 , 124, 1296-310	4.3	19
30	Remodeling of the Acetylproteome by SIRT3 Manipulation Fails to Affect Insulin Secretion or β Cell Metabolism in the Absence of Overnutrition. <i>Cell Reports</i> , 2018 , 24, 209-223.e6	10.6	19
29	Ablation of in the postnatal mouse heart results in protein succinylation and normal survival in response to chronic pressure overload. <i>Journal of Biological Chemistry</i> , 2018 , 293, 10630-10645	5.4	18
28	In Vivo Determination of Mitochondrial Function Using Luciferase-Expressing <i>Caenorhabditis elegans</i> : Contribution of Oxidative Phosphorylation, Glycolysis, and Fatty Acid Oxidation to Toxicant-Induced Dysfunction. <i>Current Protocols in Toxicology / Editorial Board, Mahin D Maines (editor-in-chief) [et Al]</i> , 2016 , 69, 25.8.1-25.8.22	1	17
27	Cellular energetics and mitochondrial uncoupling in canine aging. <i>GeroScience</i> , 2019 , 41, 229-242	8.9	16
26	Chronic Ethanol Metabolism Inhibits Hepatic Mitochondrial Superoxide Dismutase via Lysine Acetylation. <i>Alcoholism: Clinical and Experimental Research</i> , 2017 , 41, 1705-1714	3.7	12
25	Oxygen flux analysis to understand the biological function of sirtuins. <i>Methods in Molecular Biology</i> , 2013 , 1077, 241-58	1.4	11
24	Loss of sirtuin 4 leads to elevated glucose- and leucine-stimulated insulin levels and accelerated age-induced insulin resistance in multiple murine genetic backgrounds. <i>Journal of Inherited Metabolic Disease</i> , 2018 , 41, 59-72	5.4	10
23	Progressive mitochondrial protein lysine acetylation and heart failure in a model of Friedreich's ataxia cardiomyopathy. <i>PLoS ONE</i> , 2017 , 12, e0178354	3.7	9
22	Fructose and glucose can regulate mammalian target of rapamycin complex 1 and lipogenic gene expression via distinct pathways. <i>Journal of Biological Chemistry</i> , 2018 , 293, 2006-2014	5.4	9
21	SIRT3 Directs Carbon Traffic in Muscle to Promote Glucose Control. <i>Diabetes</i> , 2015 , 64, 3058-60	0.9	8
20	Quantifying Competition among Mitochondrial Protein Acylation Events Induced by Ethanol Metabolism. <i>Journal of Proteome Research</i> , 2019 , 18, 1513-1531	5.6	8
19	Measuring fatty acid oxidation in tissue homogenates. <i>Protocol Exchange</i> ,		7
18	Discovering the landscape of protein modifications. <i>Molecular Cell</i> , 2021 , 81, 1868-1878	17.6	7
17	Investigating RNA expression profiles altered by nicotinamide mononucleotide therapy in a chronic model of alcoholic liver disease. <i>Human Genomics</i> , 2019 , 13, 65	6.8	7

16	Sirtuin 5 Is Regulated by the SCF Ubiquitin Ligase and Is Involved in Cell Cycle Control. <i>Molecular and Cellular Biology</i> , 2021 , 41,	4.8	5
15	A cell-nonautonomous mechanism of yeast chronological aging regulated by caloric restriction and one-carbon metabolism. <i>Journal of Biological Chemistry</i> , 2021 , 296, 100125	5.4	4
14	A Prob(e)able Route to Lysine Acylation. <i>Cell Chemical Biology</i> , 2017 , 24, 126-128	8.2	3
13	Deacetylation by SIRT3 Relieves Inhibition of Mitochondrial Protein Function 2016 , 105-138		3
12	Early-life mitochondrial DNA damage results in lifelong deficits in energy production mediated by redox signaling in <i>Caenorhabditis elegans</i> . <i>Redox Biology</i> , 2021 , 43, 102000	11.3	3
11	Multiple metabolic changes mediate the response of <i>Caenorhabditis elegans</i> to the complex I inhibitor rotenone. <i>Toxicology</i> , 2021 , 447, 152630	4.4	3
10	Deglutarylation of GCDH by SIRT5 controls lysine metabolism in mice		2
9	Sensing Mitochondrial Acetyl-CoA to Tune Respiration. <i>Trends in Endocrinology and Metabolism</i> , 2019 , 30, 1-3	8.8	2
8	Mechanism-Based Inhibitors of the Human Sirtuin 5 Deacylase: Structure-Activity Relationship, Biostructural, and Kinetic Insight. <i>Angewandte Chemie</i> , 2017 , 129, 15032-15037	3.6	1
7	Cell-specific ablation of sirtuin 4 does not affect nutrient-stimulated insulin secretion in mice. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2020 , 319, E805-E813	6	1
6	Deglutarylation of glutaryl-CoA dehydrogenase by deacylating enzyme SIRT5 promotes lysine oxidation in mice.. <i>Journal of Biological Chemistry</i> , 2022 , 101723	5.4	0
5	Statin therapy inhibits fatty acid synthase via dynamic protein modifications.. <i>Nature Communications</i> , 2022 , 13, 2542	17.4	0
4	Sirtuins 2015 , 374-384		
3	Generating mammalian sirtuin tools for protein-interaction analysis. <i>Methods in Molecular Biology</i> , 2013 , 1077, 69-78	1.4	
2	Sirtuin 4 controls leucine metabolism and insulin secretion by reversing effects of reactive metabolites. <i>FASEB Journal</i> , 2018 , 32, 670.23	0.9	
1	Reactive Acyl-CoA Species and Deacylation by the Mitochondrial Sirtuins 2018 , 83-93		