Deborah M Muoio

List of Publications by Year
in descending order

127 papers	16,354 citations	62 h-index (18482)	121 g-index (17592)
128 all docs	128 docs citations	128 times ranked	21318 citing authors

#	Article	IF	Citations
1	Mitochondrial Overload and Incomplete Fatty Acid Oxidation Contribute to Skeletal Muscle Insulin Resistance. Cell Metabolism, 2008, 7, 45-56.	16.2	1,618
2	Molecular and metabolic mechanisms of insulin resistance and Î²-cell failure in type 2 diabetes. Nature Reviews Molecular Cell Biology, 2008, 9, 193-205.	37.0	1,006
3	Energy Metabolism in Uncoupling Protein 3 Gene Knockout Mice. Journal of Biological Chemistry, 2000, 275, 16258-16266.	3.4	592
4	The Failing Heart Relies on Ketone Bodies as a Fuel. Circulation, 2016, 133, 698-705.	1.6	506
5	Genome-wide Chromatin State Transitions Associated with Developmental and Environmental Cues. Cell, 2013, 152, 642-654.	28.9	473
6	Peroxisome Proliferator-activated Receptor-Î³ Co-activator 1Î±-mediated Metabolic Remodeling of Skeletal Myocytes Mimics Exercise Training and Reverses Lipid-induced Mitochondrial Inefficiency. Journal of Biological Chemistry, 2005, 280, 33588-33598.	3.4	416
7	Hepatic expression of malonyl-CoA decarboxylase reverses muscle, liver and whole-animal insulin resistance. Nature Medicine, 2004, 10, 268-274.	30.7	414
8	AMP-activated kinase reciprocally regulates triacylglycerol synthesis and fatty acid oxidation in liver and muscle: evidence that sn-glycerol-3-phosphate acyltransferase is a novel target. Biochemical Journal, 1999, 338, 783-791.	3.7	365
9	Fatty Acid Homeostasis and Induction of Lipid Regulatory Genes in Skeletal Muscles of Peroxisome Proliferator-activated Receptor (PPAR) Î± Knock-out Mice. Journal of Biological Chemistry, 2002, 277, 26089-26097.	3.4	360
10	Metabolomics Applied to Diabetes Research. Diabetes, 2009, 58, 2429-2443.	0.6	346
11	Understanding the Cellular and Molecular Mechanisms of Physical Activity-Induced Health Benefits. Cell Metabolism, 2015, 22, 4-11.	16.2	345
12	Elevated stearoyl-CoA desaturase-1 expression in skeletal muscle contributes to abnormal fatty acid partitioning in obese humans. Cell Metabolism, 2005, 2, 251-261.	16.2	326
13	SIRT4 Coordinates the Balance between Lipid Synthesis and Catabolism by Repressing Malonyl CoA Decarboxylase. Molecular Cell, 2013, 50, 686-698.	9.7	315
14	Obesity-Related Derangements in Metabolic Regulation. Annual Review of Biochemistry, 2006, 75, 367-401.	11.1	314
15	Muscle-Specific Deletion of Carnitine Acetyltransferase Compromises Glucose Tolerance and Metabolic Flexibility. Cell Metabolism, 2012, 15, 764-777.	16.2	307
16	Inhibition of De Novo Ceramide Synthesis Reverses Diet-Induced Insulin Resistance and Enhances Whole-Body Oxygen Consumption. Diabetes, 2010, 59, 2453-2464.	0.6	296
17	Lipid-Induced Mitochondrial Stress and Insulin Action in Muscle. Cell Metabolism, 2012, 15, 595-605.	16.2	294
18	Physiological and Nutritional Regulation of Enzymes of Triacylglycerol Synthesis. Annual Review of Nutrition, 2000, 20, 77-103.	10.1	293

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19	Metabolic Inflexibility: When Mitochondrial Indecision Leads to Metabolic Gridlock. Cell, 2014, 159, 1253-1262.	28.9	291
20	Adipose Acyl-CoA Synthetase-1 Directs Fatty Acids toward Î²-Oxidation and Is Required for Cold Thermogenesis. Cell Metabolism, 2010, 12, 53-64.	16.2	277
21	Carnitine Insufficiency Caused by Aging and Overnutrition Compromises Mitochondrial Performance and Metabolic Control. Journal of Biological Chemistry, 2009, 284, 22840-22852.	3.4	271
22	SIRT4 Is a Lysine Deacylase that Controls Leucine Metabolism and Insulin Secretion. Cell Metabolism, 2017, 25, 838-855.e15.	16.2	259
23	Glucose sensing by MondoA:Mlx complexes: A role for hexokinases and direct regulation of thioredoxin-interacting protein expression. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 6912-6917.	7.1	238
24	Macrophage Metabolism of Apoptotic Cell-Derived Arginine Promotes Continual Efferocytosis and Resolution of Injury. Cell Metabolism, 2020, 31, 518-533.e10.	16.2	235
25	Energy Metabolic Reprogramming in the Hypertrophied and Early Stage Failing Heart. Circulation: Heart Failure, 2014, 7, 1022-1031.	3.9	233
26	The failing heart utilizes 3-hydroxybutyrate as a metabolic stress defense. JCI Insight, 2019, 4, .	5.0	218
27	Peroxisome Proliferator-Activated Receptor-Â Regulates Fatty Acid Utilization in Primary Human Skeletal Muscle Cells. Diabetes, 2002, 51, 901-909.	0.6	208
28	Liver-specific Loss of Long Chain Acyl-CoA Synthetase-1 Decreases Triacylglycerol Synthesis and Î²-Oxidation and Alters Phospholipid Fatty Acid Composition. Journal of Biological Chemistry, 2009, 284, 27816-27826.	3.4	188
29	A Role for Peroxisome Proliferator-Activated Receptor Î³ Coactivator-1 in the Control of Mitochondrial Dynamics During Postnatal Cardiac Growth. Circulation Research, 2014, 114, 626-636.	4.5	182
30	Mouse Cardiac Acyl Coenzyme A Synthetase 1 Deficiency Impairs Fatty Acid Oxidation and Induces Cardiac Hypertrophy. Molecular and Cellular Biology, 2011, 31, 1252-1262.	2.3	156
31	Peripheral metabolic actions of leptin. Best Practice and Research in Clinical Endocrinology and Metabolism, 2002, 16, 653-666.	4.7	147
32	Subsarcolemmal and intermyofibrillar mitochondria play distinct roles in regulating skeletal muscle fatty acid metabolism. American Journal of Physiology - Cell Physiology, 2005, 288, C1074-C1082.	4.6	135
33	Mitochondrial protein hyperacetylation in the failing heart. JCI Insight, 2016, 1, .	5.0	133
34	Intramuscular triacylglycerol and insulin resistance: Guilty as charged or wrongly accused?. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2010, 1801, 281-288.	2.4	125
35	Metabolite signatures of exercise training in human skeletal muscle relate to mitochondrial remodelling and cardiometabolic fitness. Diabetologia, 2014, 57, 2282-2295.	6.3	121
36	Electrical stimulation increases hypertrophy and metabolic flux in tissue-engineered human skeletal muscle. Biomaterials, 2019, 198, 259-269.	11.4	121

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37	Insulin-Stimulated Cardiac Glucose Oxidation Is Increased in High-Fat Dietâ€“Induced Obese Mice Lacking Malonyl CoA Decarboxylase. Diabetes, 2009, 58, 1766-1775.	0.6	116
38	Increased ketone body oxidation provides additional energy for the failing heart without improving cardiac efficiency. Cardiovascular Research, 2019, 115, 1606-1616.	3.8	114
39	Lactic Acidosis Triggers Starvation Response with Paradoxical Induction of TXNIP through MondoA. PLoS Genetics, 2010, 6, e1001093.	3.5	110
40	A Lipidomics Analysis of the Relationship Between Dietary Fatty Acid Composition and Insulin Sensitivity in Young Adults. Diabetes, 2013, 62, 1054-1063.	0.6	107
41	Skeletal muscle adaptation to fatty acid depends on coordinated actions of the PPARs and PGC1Î±: implications for metabolic disease. Applied Physiology, Nutrition and Metabolism, 2007, 32, 874-883.	1.9	103
42	Pyruvate dehydrogenase complex and nicotinamide nucleotide transhydrogenase constitute an energy-consuming redox circuit. Biochemical Journal, 2015, 467, 271-280.	3.7	103
43	Metabolic profiling of PPARÎ± ^{âˆ’/âˆ’} mice reveals defects in carnitine and amino acid homeostasis that are partially reversed by oral carnitine supplementation. FASEB Journal, 2009, 23, 586-604.	0.5	101
44	Carnitine revisited: potential use as adjunctive treatment in diabetes. Diabetologia, 2007, 50, 824-832.	6.3	99
45	Compartmentalized Acyl-CoA Metabolism in Skeletal Muscle Regulates Systemic Glucose Homeostasis. Diabetes, 2015, 64, 23-35.	0.6	97
46	AMP-activated kinase reciprocally regulates triacylglycerol synthesis and fatty acid oxidation in liver and muscle: evidence that sn-glycerol-3-phosphate acyltransferase is a novel target. Biochemical Journal, 1999, 338, 783.	3.7	96
47	Mitochondrial Glycerol-3-phosphate Acyltransferase-1 Is Essential inLiver for the Metabolism of ExcessAcyl-CoAs. Journal of Biological Chemistry, 2005, 280, 25629-25636.	3.4	91
48	PPARÎ³ coactivator-1Î± contributes to exercise-induced regulation of intramuscular lipid droplet programming in mice and humans. Journal of Lipid Research, 2013, 54, 522-534.	4.2	89
49	Mitochondrial Diagnostics: A Multiplexed Assay Platform for Comprehensive Assessment of Mitochondrial Energy Fluxes. Cell Reports, 2018, 24, 3593-3606.e10.	6.4	87
50	The STEDMAN Project: Biophysical, Biochemical and Metabolic Effects of a Behavioral Weight Loss Intervention during Weight Loss, Maintenance, and Regain. OMICS A Journal of Integrative Biology, 2009, 13, 21-35.	2.0	81
51	Metabolomic Quantitative Trait Loci (mQTL) Mapping Implicates the Ubiquitin Proteasome System in Cardiovascular Disease Pathogenesis. PLoS Genetics, 2015, 11, e1005553.	3.5	81
52	Obesity and lipid stress inhibit carnitine acetyltransferase activity. Journal of Lipid Research, 2014, 55, 635-644.	4.2	80
53	Carnitine Acetyltransferase Mitigates Metabolic Inertia and Muscle Fatigue during Exercise. Cell Metabolism, 2015, 22, 65-76.	16.2	78
54	Contraction of insulin-resistant muscle normalizes insulin action in association with increased mitochondrial activity and fatty acid catabolism. American Journal of Physiology - Cell Physiology, 2007, 292, C729-C739.	4.6	77

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55	Dietary intake of palmitate and oleate has broad impact on systemic and tissue lipid profiles in humans. American Journal of Clinical Nutrition, 2014, 99, 436-445.	4.7	77
56	The Acetyl Group Buffering Action of Carnitine Acetyltransferase Offsets Macronutrient-Induced Lysine Acetylation of Mitochondrial Proteins. Cell Reports, 2016, 14, 243-254.	6.4	77
57	A is for adipokine. Nature, 2005, 436, 337-338.	27.8	75
58	Systematic Dissection of the Metabolic-Apoptotic Interface in AML Reveals Heme Biosynthesis to Be a Regulator of Drug Sensitivity. Cell Metabolism, 2019, 29, 1217-1231.e7.	16.2	75
59	Nutritional modulation of heart failure in mitochondrial pyruvate carrierâ€“deficient mice. Nature Metabolism, 2020, 2, 1232-1247.	11.9	74
60	Leptin opposes insulinâ€™s effects on fatty acid partitioning in muscles isolated from obese <i>ob/ob</i>mice. American Journal of Physiology - Endocrinology and Metabolism, 1999, 276, E913-E921.	3.5	73
61	Glycerol-3-phosphate Acyltransferase (GPAT)-1, but Not GPAT4, Incorporates Newly Synthesized Fatty Acids into Triacylglycerol and Diminishes Fatty Acid Oxidation. Journal of Biological Chemistry, 2013, 288, 27299-27306.	3.4	72
62	Lipid Partitioning, Incomplete Fatty Acid Oxidation, and Insulin Signal Transduction in Primary Human Muscle Cells: Effects of Severe Obesity, Fatty Acid Incubation, and Fatty Acid Translocase/CD36 Overexpression. Journal of Clinical Endocrinology and Metabolism, 2010, 95, 3400-3410.	3.6	71
63	TXNIP Links Redox Circuitry to Glucose Control. Cell Metabolism, 2007, 5, 412-414.	16.2	67
64	Evidence of a malonyl-CoA-insensitive carnitine palmitoyltransferase I activity in red skeletal muscle. American Journal of Physiology - Endocrinology and Metabolism, 2002, 282, E1014-E1022.	3.5	65
65	Receptor-Selective Coactivators as Tools to Define the Biology of Specific Receptor-Coactivator Pairs. Molecular Cell, 2006, 24, 797-803.	9.7	65
66	Molecular alterations in skeletal muscle in rheumatoid arthritis are related to disease activity, physical inactivity, and disability. Arthritis Research and Therapy, 2017, 19, 12.	3.5	63
67	Fatty Acid Oxidation and Insulin Action. Diabetes, 2008, 57, 1455-1456.	0.6	62
68	A High-Fat Diet Elicits Differential Responses in Genes Coordinating Oxidative Metabolism in Skeletal Muscle of Lean and Obese Individuals. Journal of Clinical Endocrinology and Metabolism, 2011, 96, 775-781.	3.6	62
69	Metabolic Catastrophe in Mice Lacking Transferrin Receptor in Muscle. EBioMedicine, 2015, 2, 1705-1717.	6.1	62
70	Substituting dietary monounsaturated fat for saturated fat is associated with increased daily physical activity and resting energy expenditure and with changes in mood. American Journal of Clinical Nutrition, 2013, 97, 689-697.	4.7	61
71	Alterations in Skeletal Muscle Fatty Acid Handling Predisposes Middle-Aged Mice to Diet-Induced Insulin Resistance. Diabetes, 2010, 59, 1366-1375.	0.6	60
72	Peroxisome Proliferatorâ€“Activated Receptor-Î³ Coactivator-1Î± Overexpression Increases Lipid Oxidation in Myocytes From Extremely Obese Individuals. Diabetes, 2010, 59, 1407-1415.	0.6	55

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73	Targeted Metabolomics Connects Thioredoxin-interacting Protein (TXNIP) to Mitochondrial Fuel Selection and Regulation of Specific Oxidoreductase Enzymes in Skeletal Muscle. Journal of Biological Chemistry, 2014, 289, 8106-8120.	3.4	55
74	Shortâ€Term Effects of Dietary Fatty Acids on Muscle Lipid Composition and Serum Acylcarnitine Profile in Human Subjects. Obesity, 2011, 19, 305-311.	3.0	54
75	Extreme Acetylation of the Cardiac Mitochondrial Proteome Does Not Promote Heart Failure. Circulation Research, 2020, 127, 1094-1108.	4.5	54
76	Longâ€"echo time MR spectroscopy for skeletal muscle acetylcarnitine detection. Journal of Clinical Investigation, 2014, 124, 4915-4925.	8.2	54
77	Metabolomic analysis reveals altered skeletal muscle amino acid and fatty acid handling in obese humans. Obesity, 2015, 23, 981-988.	3.0	53
78	Muscle-Liver Trafficking of BCAA-Derived Nitrogen Underlies Obesity-Related Glycine Depletion. Cell Reports, 2020, 33, 108375.	6.4	49
79	Carnitine supplementation improves metabolic flexibility and skeletal muscle acetylcarnitine formation in volunteers with impaired glucose tolerance: A randomised controlled trial. EBioMedicine, 2019, 49, 318-330.	6.1	48
80	Distinct roles of specific fatty acids in cellular processes: implications for interpreting and reporting experiments. American Journal of Physiology - Endocrinology and Metabolism, 2012, 302, E1-E3.	3.5	46
81	Downregulation of Carnitine Acyl-Carnitine Translocase by miRNAs 132 and 212 Amplifies Glucose-Stimulated Insulin Secretion. Diabetes, 2014, 63, 3805-3814.	0.6	45
82	Acyl-CoAs are functionally channeled in liver: potential role of acyl-CoA synthetase. American Journal of Physiology - Endocrinology and Metabolism, 2000, 279, E1366-E1373.	3.5	44
83	Lipid-Induced Metabolic Dysfunction in Skeletal Muscle. Novartis Foundation Symposium, 2007, 286, 24-46.	1.1	43
84	Disruption of Acetyl-Lysine Turnover in Muscle Mitochondria Promotes Insulin Resistance and Redox Stress without Overt Respiratory Dysfunction. Cell Metabolism, 2020, 31, 131-147.e11.	16.2	41
85	Metabolic Remodeling of Human Skeletal Myocytes by Cocultured Adipocytes Depends on the Lipolytic State of the System. Diabetes, 2011, 60, 1882-1893.	0.6	40
86	Muscle-Specific Overexpression of PGC-1Î± Does Not Augment Metabolic Improvements in Response to Exercise and Caloric Restriction. Diabetes, 2015, 64, 1532-1543.	0.6	40
87	BIOMEDICINE: Insulin Resistance Takes a Trip Through the ER. Science, 2004, 306, 425-426.	12.6	39
88	Respiratory Phenomics across Multiple Models of Protein Hyperacylation in Cardiac Mitochondria Reveals a Marginal Impact on Bioenergetics. Cell Reports, 2019, 26, 1557-1572.e8.	6.4	39
89	Revisiting the connection between intramyocellular lipids and insulin resistance: a long and winding road. Diabetologia, 2012, 55, 2551-2554.	6.3	38
90	Skeletal muscle lipid metabolism: A frontier for new insights into fuel homeostasis. Journal of Nutritional Biochemistry, 1997, 8, 228-245.	4.2	37

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91	Identification of a novel malonyl-CoA IC50 for CPT-I: implications for predicting <i>inÂvivo</i> fatty acid oxidation rates. Biochemical Journal, 2012, 448, 13-20.	3.7	36
92	ACLY and ACC1 Regulate Hypoxia-Induced Apoptosis by Modulating ETV4 via Î±-ketoglutarate. PLoS Genetics, 2015, 11, e1005599.	3.5	36
93	Propionate-induced changes in cardiac metabolism, notably CoA trapping, are not altered by<scp>l</scp>-carnitine. American Journal of Physiology - Endocrinology and Metabolism, 2018, 315, E622-E633.	3.5	36
94	Metabolomic analysis of insulin resistance across different mouse strains and diets. Journal of Biological Chemistry, 2017, 292, 19135-19145.	3.4	36
95	Re-patterning of Skeletal Muscle Energy Metabolism by Fat Storage-inducing Transmembrane Protein 2. Journal of Biological Chemistry, 2011, 286, 42188-42199.	3.4	28
96	Ectopic lipid deposition and the metabolic profile of skeletal muscle in ovariectomized mice. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2013, 304, R206-R217.	1.8	27
97	Creation of versatile cloning platforms for transgene expression and dCas9-based epigenome editing. Nucleic Acids Research, 2019, 47, e23-e23.	14.5	27
98	Increased Insulin Sensitivity in Mice Lacking Collectrin, a Downstream Target of HNF-1Î±. Molecular Endocrinology, 2009, 23, 881-892.	3.7	24
99	Rejuvenation of Neutrophil Functions in Association With Reduced Diabetes Risk Following Ten Weeks of Low-Volume High Intensity Interval Walking in Older Adults With Prediabetes â€“ A Pilot Study. Frontiers in Immunology, 2020, 11, 729.	4.8	23
100	Comprehensive metabolic modeling of multiple¹³C-isotopomer data sets to study metabolism in perfused working hearts. American Journal of Physiology - Heart and Circulatory Physiology, 2016, 311, H881-H891.	3.2	20
101	Metabolic profiling of muscle contraction in lean compared with obese rodents. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2010, 299, R926-R934.	1.8	18
102	Treatment with the 3-Ketoacyl-CoA Thiolase Inhibitor Trimetazidine Does Not Exacerbate Whole-Body Insulin Resistance in Obese Mice. Journal of Pharmacology and Experimental Therapeutics, 2014, 349, 487-496.	2.5	17
103	Plasma acylcarnitines during insulin stimulation in humans are reflective of age-related metabolic dysfunction. Biochemical and Biophysical Research Communications, 2016, 479, 868-874.	2.1	16
104	The good in fat. Nature, 2014, 516, 49-50.	27.8	12
105	Myocardial Lipin 1 knockout in mice approximates cardiac effects of human LPIN1 mutations. JCI Insight, 2021, 6, .	5.0	12
106	Desmin interacts with STIM1 and coordinates Ca2+ signaling in skeletal muscle. JCI Insight, 2021, 6, .	5.0	12
107	Metabolism and Vascular Fatty Acid Transport. New England Journal of Medicine, 2010, 363, 291-293.	27.0	11
108	Highlights of the 2012 Research Workshop. Journal of Parenteral and Enteral Nutrition, 2013, 37, 190-200.	2.6	11

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109	Bicarbonate alters cellular responses in respiration assays. Biochemical and Biophysical Research Communications, 2017, 489, 399-403.	2.1	11
110	Nicotinamide riboside supplementation confers marginal metabolic benefits in obese mice without remodeling the muscle acetyl-proteome. IScience, 2022, 25, 103635.	4.1	11
111	Harnessing the Power of Integrated Mitochondrial Biology and Physiology. Circulation Research, 2015, 117, 234-238.	4.5	9
112	Rheumatoid arthritis T cell and muscle oxidative metabolism associate with exercise-induced changes in cardiorespiratory fitness. Scientific Reports, 2022, 12, 7450.	3.3	9
113	Glucose Uptake in Muscle Cell Cultures from Endurance-Trained Men. Medicine and Science in Sports and Exercise, 2005, 37, 579-584.	0.4	8
114	SIRT3 Directs Carbon Traffic in Muscle to Promote Glucose Control. Diabetes, 2015, 64, 3058-3060.	0.6	8
115	Physiological mechanisms of sustained fumagillin-induced weight loss. JCI Insight, 2018, 3, .	5.0	8
116	Disruption of STIM1-mediated Ca2+ sensing and energy metabolism in adult skeletal muscle compromises exercise tolerance, proteostasis, and lean mass. Molecular Metabolism, 2022, 57, 101429.	6.5	6
117	Increased palmitate intake: higher acylcarnitine concentrations without impaired progression of Î²-oxidation. Journal of Lipid Research, 2015, 56, 1795-1807.	4.2	4
118	Proteomics and phosphoproteomics datasets of a muscle-specific STIM1 loss-of-function mouse model. Data in Brief, 2022, 42, 108051.	1.0	3
119	HDAC3 sets the timer on muscle fuel switching. Nature Medicine, 2017, 23, 148-150.	30.7	1
120	Regulation of FAT/CD36 expression in human skeletal muscle. FASEB Journal, 2007, 21, A1302.	0.5	1
121	Metabolic Mechanisms of Muscle Insulin Resistance. , 2008, , 35-47.		1
122	Mitochondrial lysine acylation and cardiometabolic stress: Truth or consequence?. Current Opinion in Physiology, 2022, , 100551.	1.8	1
123	Fatty acid transporter expression in human myocytes. FASEB Journal, 2008, 22, 936.12.	0.5	0
124	Mitochondrial stress and metabolic dysfunction in skeletal muscle. FASEB Journal, 2012, 26, 221.2.	0.5	0
125	Caloric restriction, aerobic exercise or a combination improves metabolic profiles following dietâ€induced obesity. FASEB Journal, 2012, 26, 1142.19.	0.5	0
126	Substituting dietary monounsaturated fat for saturated fat is associated with increased daily physical activity and resting energy expenditure and with changes in mood. FASEB Journal, 2013, 27, 1068.1.	0.5	0

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127	Abstract P284: The Chemotherapeutic Agent Docetaxel Disrupts Mitochondrial Energetics in 3D Human Bioengineered Myobundles. Circulation, 2019, 139, .	1.6	0