

Metformin suppresses gluconeogenesis by inhibiting malic dehydrogenase

Nature

510, 542-546

DOI: [10.1038/nature13270](https://doi.org/10.1038/nature13270)

Citation Report

#	ARTICLE	IF	CITATIONS
2	Understanding the complexity of metformin action: limiting mitochondrial respiration to improve cancer therapy. <i>BMC Biology</i> , 2014, 12, 82.	1.7	80
4	Low Concentrations of Metformin Suppress Glucose Production in Hepatocytes through AMP-activated Protein Kinase (AMPK)*. <i>Journal of Biological Chemistry</i> , 2014, 289, 20435-20446.	1.6	141
6	The Proliferative Gene Cyclin D1 and Gluconeogenesis--Could Suppressing Glucose Production Also Promote Cancer?. <i>Diabetes</i> , 2014, 63, 3177-3179.	0.3	0
7	Role of islet β^2 cell autophagy in the pathogenesis of diabetes. <i>Trends in Endocrinology and Metabolism</i> , 2014, 25, 620-627.	3.1	72
8	Old drug, new trick: Repurposing metformin for gynecologic cancers?. <i>Gynecologic Oncology</i> , 2014, 135, 614-621.	0.6	63
9	Global metabolite profiling of mice with high-fat diet-induced obesity chronically treated with AMPK activators R118 or metformin reveals tissue-selective alterations in metabolic pathways. <i>BMC Research Notes</i> , 2014, 7, 674.	0.6	12
10	Pathophysiological role of enhanced bone marrow adipogenesis in diabetic complications. <i>Adipocyte</i> , 2014, 3, 263-272.	1.3	30
11	Serine Deprivation Enhances Antineoplastic Activity of Biguanides. <i>Cancer Research</i> , 2014, 74, 7521-7533.	0.4	113
12	Effects of metformin and other biguanides on oxidative phosphorylation in mitochondria. <i>Biochemical Journal</i> , 2014, 462, 475-487.	1.7	502
13	Metformin: From Mechanisms of Action to Therapies. <i>Cell Metabolism</i> , 2014, 20, 953-966.	7.2	1,019
14	OCT1 is a high-capacity thiamine transporter that regulates hepatic steatosis and is a target of metformin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 9983-9988.	3.3	203
15	Control of Gluconeogenesis by Metformin: Does Redox Trump Energy Charge?. <i>Cell Metabolism</i> , 2014, 20, 197-199.	7.2	57
16	The Target of Metformin in Type 2 Diabetes. <i>New England Journal of Medicine</i> , 2014, 371, 1547-1548.	13.9	113
17	Metformin directly acts on mitochondria to alter cellular bioenergetics. <i>Cancer & Metabolism</i> , 2014, 2, 12.	2.4	330
18	Niclosamide ethanolamine-induced mild mitochondrial uncoupling improves diabetic symptoms in mice. <i>Nature Medicine</i> , 2014, 20, 1263-1269.	15.2	230
19	Overcoming Drug Development Bottlenecks With Repurposing: Repurposing biguanides to target energy metabolism for cancer treatment. <i>Nature Medicine</i> , 2014, 20, 591-593.	15.2	95
20	Lactic acidosis and severe septic shock in metformin users: a cohort study. <i>Critical Care</i> , 2015, 20, 10.	2.5	47
21	Metformin prevents DMH-induced colorectal cancer in diabetic rats by reversing the warburg effect. <i>Cancer Medicine</i> , 2015, 4, 1730-1741.	1.3	41

#	ARTICLE	IF	CITATIONS
22	Interventions to Slow Aging in Humans: Are We Ready?. <i>Aging Cell</i> , 2015, 14, 497-510.	3.0	481
23	Metformin as an anticancer drug: A Commentary on the metabolic determinants of cancer cell sensitivity to glucose limitation and biguanides. <i>Journal of Diabetes Investigation</i> , 2015, 6, 516-518.	1.1	7
24	Type 2 diabetes mellitus. <i>Nature Reviews Disease Primers</i> , 2015, 1, 15019.	18.1	1,308
25	Metformin inhibits hepatocellular glucose, lipid and cholesterol biosynthetic pathways by transcriptionally suppressing steroid receptor coactivator 2 (SRC-2). <i>Scientific Reports</i> , 2015, 5, 16430.	1.6	41
26	Diabetic silkworms for evaluation of therapeutically effective drugs against type II diabetes. <i>Scientific Reports</i> , 2015, 5, 10722.	1.6	32
27	Metformin in type 1 diabetes. <i>Practical Diabetes</i> , 2015, 32, 186.	0.1	0
28	Metformin and sitagliptin in patients with impaired glucose tolerance and a recent TIA or minor ischemic stroke (MAAS): study protocol for a randomized controlled trial. <i>Trials</i> , 2015, 16, 332.	0.7	11
29	Childhood-onset Type 1 diabetes and cardiovascular disease. <i>Diabetes Management</i> , 2015, 5, 215-227.	0.5	0
30	Toxicity of a novel therapeutic agent targeting mitochondrial complex I. <i>Clinical Pharmacology and Therapeutics</i> , 2015, 98, 551-559.	2.3	12
31	Prevalence of Metformin Use and the Associated Risk of Metabolic Acidosis in US Diabetic Adults With CKD. <i>Medicine (United States)</i> , 2015, 94, e2175.	0.4	10
33	Targeting Mitochondrial Function to Treat Quiescent Tumor Cells in Solid Tumors. <i>International Journal of Molecular Sciences</i> , 2015, 16, 27313-27326.	1.8	53
34	Transcriptomic Analysis of Human Polarized Macrophages: More than One Role of Alternative Activation?. <i>PLoS ONE</i> , 2015, 10, e0119751.	1.1	70
35	Metformin and Inflammation: Its Potential Beyond Glucose-lowering Effect. <i>Endocrine, Metabolic and Immune Disorders - Drug Targets</i> , 2015, 15, 196-205.	0.6	336
36	Recent Advances in the Use of Metformin: Can Treating Diabetes Prevent Breast Cancer?. <i>BioMed Research International</i> , 2015, 2015, 1-13.	0.9	54
37	Steady-state pharmacokinetics of metformin is independent of the OCT1 genotype in healthy volunteers. <i>European Journal of Clinical Pharmacology</i> , 2015, 71, 691-697.	0.8	50
38	Metformin takes a new route to clinical efficacy. <i>Nature Reviews Endocrinology</i> , 2015, 11, 390-392.	4.3	14
39	Addition of a Gastrointestinal Microbiome Modulator to Metformin Improves Metformin Tolerance and Fasting Glucose Levels. <i>Journal of Diabetes Science and Technology</i> , 2015, 9, 808-814.	1.3	61
40	Targeting metabolism for lupus therapy. <i>Science Translational Medicine</i> , 2015, 7, 274fs5.	5.8	13

#	ARTICLE	IF	CITATIONS
41	Electrolyte and Acid-Base Disturbances in Diabetes Mellitus. <i>New England Journal of Medicine</i> , 2015, 373, 2481-2483.	13.9	2
42	Repurposing metformin: an old drug with new tricks in its binding pockets. <i>Biochemical Journal</i> , 2015, 471, 307-322.	1.7	224
43	Quantification of Low-Level Drug Effects Using Real-Time, <i>in vitro</i> Measurement of Oxygen Consumption Rate. <i>Toxicological Sciences</i> , 2015, 148, 594-602.	1.4	17
44	Glycerol 3-phosphate dehydrogenase 1 deficiency enhances exercise capacity due to increased lipid oxidation during strenuous exercise. <i>Biochemical and Biophysical Research Communications</i> , 2015, 457, 653-658.	1.0	13
45	Impact of Anti-hyperglycemic Medications on Bone Health. <i>Clinical Reviews in Bone and Mineral Metabolism</i> , 2015, 13, 43-52.	1.3	1
46	Isothiocyanate-rich <i>Moringa oleifera</i> extract reduces weight gain, insulin resistance, and hepatic gluconeogenesis in mice. <i>Molecular Nutrition and Food Research</i> , 2015, 59, 1013-1024.	1.5	124
47	Safety Considerations with Pharmacological Treatment of Gestational Diabetes Mellitus. <i>Drug Safety</i> , 2015, 38, 65-78.	1.4	25
48	Catabolic metabolism during cancer EMT. <i>Archives of Pharmacal Research</i> , 2015, 38, 313-320.	2.7	49
49	Metformin Action: Concentrations Matter. <i>Cell Metabolism</i> , 2015, 21, 159-162.	7.2	338
50	A pharmacogenetic association between a variation in calpain 10 (CAPN10) gene and the response to metformin treatment in patients with type 2 diabetes. <i>European Journal of Clinical Pharmacology</i> , 2015, 71, 59-63.	0.8	16
51	Metformin prevents ischemia reperfusion-induced oxidative stress in the fatty liver by attenuation of reactive oxygen species formation. <i>American Journal of Physiology - Renal Physiology</i> , 2015, 309, G100-G111.	1.6	86
52	Metformin and prostate cancer stem cells: a novel therapeutic target. <i>Prostate Cancer and Prostatic Diseases</i> , 2015, 18, 303-309.	2.0	65
53	Multidrug and toxin extrusion 1 and human organic cation transporter 1 polymorphisms in patients with castration-resistant prostate cancer receiving metformin (SAKK 08/09). <i>Prostate Cancer and Prostatic Diseases</i> , 2015, 18, 167-172.	2.0	12
54	Hyperlactatemia in type 2 diabetes: Can physical training help?. <i>Journal of Diabetes and Its Complications</i> , 2015, 29, 965-969.	1.2	17
55	Existing drugs and their application in drug discovery targeting cancer stem cells. <i>Archives of Pharmacal Research</i> , 2015, 38, 1617-1626.	2.7	21
56	Metformin ameliorates the proinflammatory state in patients with carotid artery atherosclerosis through sirtuin 1 induction. <i>Translational Research</i> , 2015, 166, 451-458.	2.2	44
57	Glucoregulatory Relevance of Small Intestinal Nutrient Sensing in Physiology, Bariatric Surgery, and Pharmacology. <i>Cell Metabolism</i> , 2015, 22, 367-380.	7.2	51
58	Metformin use and mortality in patients with advanced chronic kidney disease: national, retrospective, observational, cohort study. <i>Lancet Diabetes and Endocrinology</i> , 2015, 3, 605-614.	5.5	122

#	ARTICLE	IF	CITATIONS
59	Intake of <i>Schizandra chinensis</i> improves the glucose tolerance in healthy subjects who ingest metformin compared with metformin alone. <i>British Journal of Clinical Pharmacology</i> , 2015, 79, 298-306.	1.1	31
60	Pharmacological classes that extend lifespan of <i>Caenorhabditis elegans</i> . <i>Frontiers in Genetics</i> , 2015, 6, 77.	1.1	21
61	Effect of Insulin Sensitizer Therapy on Amino Acids and Their Metabolites. <i>Metabolism: Clinical and Experimental</i> , 2015, 64, 720-728.	1.5	77
62	Current efforts and trends in the treatment of NASH. <i>Journal of Hepatology</i> , 2015, 62, S65-S75.	1.8	228
63	The role of methylglyoxal and the glyoxalase system in diabetes and other age-related diseases. <i>Clinical Science</i> , 2015, 128, 839-861.	1.8	241
64	Genetics of Drug Response in Type 2 Diabetes. <i>Current Diabetes Reports</i> , 2015, 15, 43.	1.7	8
65	Predicting <i>Clostridium difficile</i> infection in diabetic patients and the effect of metformin therapy: a retrospective, case-control study. <i>European Journal of Clinical Microbiology and Infectious Diseases</i> , 2015, 34, 1201-1205.	1.3	23
66	Protonation-deprotonation and structural dynamics of antidiabetic drug metformin. <i>Journal of Pharmaceutical and Biomedical Analysis</i> , 2015, 114, 42-48.	1.4	41
68	A Comprehensive Review of Drug-Drug Interactions with Metformin. <i>Clinical Pharmacokinetics</i> , 2015, 54, 811-824.	1.6	65
69	A twin study of the trough plasma steady-state concentration of metformin. <i>Pharmacogenetics and Genomics</i> , 2015, 25, 259-262.	0.7	16
70	New mechanisms of metformin action: Focusing on mitochondria and the gut. <i>Journal of Diabetes Investigation</i> , 2015, 6, 600-609.	1.1	133
71	Metformin activates a duodenal AMPK-dependent pathway to lower hepatic glucose production in rats. <i>Nature Medicine</i> , 2015, 21, 506-511.	15.2	313
72	Lactic Acidosis in a Patient with Type 2 Diabetes Mellitus. <i>Clinical Journal of the American Society of Nephrology: CJASN</i> , 2015, 10, 1476-1483.	2.2	19
73	Deficiency in apolipoprotein A-I ablates the pharmacological effects of metformin on plasma glucose homeostasis and hepatic lipid deposition. <i>European Journal of Pharmacology</i> , 2015, 766, 76-85.	1.7	10
74	Modulation of Glucokinase Regulatory Protein: A Double-Edged Sword?. <i>Trends in Molecular Medicine</i> , 2015, 21, 583-594.	3.5	57
75	Chronic HMGR/HMG-CoA reductase inhibitor treatment contributes to dysglycemia by upregulating hepatic gluconeogenesis through autophagy induction. <i>Autophagy</i> , 2015, 11, 2089-2101.	4.3	47
76	Metformin improves endothelial function in aortic tissue and microvascular endothelial cells subjected to diabetic hyperglycaemic conditions. <i>Biochemical Pharmacology</i> , 2015, 98, 412-421.	2.0	40
77	Effects of anti-diabetic drugs on bone metabolism. <i>Expert Review of Endocrinology and Metabolism</i> , 2015, 10, 663-675.	1.2	13

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78	Effects of Metformin on Metabolite Profiles and LDL Cholesterol in Patients With Type 2 Diabetes. <i>Diabetes Care</i> , 2015, 38, 1858-1867.	4.3	97
79	Endogenous glucose production increases in response to metformin treatment in the glycogen-depleted state in humans: a randomised trial. <i>Diabetologia</i> , 2015, 58, 2494-2502.	2.9	26
80	Time course of postprandial hepatic phosphorus metabolites in lean, obese, and type 2 diabetes patients. <i>American Journal of Clinical Nutrition</i> , 2015, 102, 1051-1058.	2.2	30
81	Current management of diabetes mellitus and future directions in care. <i>Postgraduate Medical Journal</i> , 2015, 91, 612-621.	0.9	54
82	Postprandial Dysmetabolism and Oxidative Stress in Type 2 Diabetes: Pathogenetic Mechanisms and Therapeutic Strategies. <i>Medicinal Research Reviews</i> , 2015, 35, 968-1031.	5.0	43
83	Effects of metformin on mitochondrial function of leukocytes from polycystic ovary syndrome patients with insulin resistance. <i>European Journal of Endocrinology</i> , 2015, 173, 683-691.	1.9	37
84	Metformin and cancer: Between the bioenergetic disturbances and the antifolate activity. <i>Pharmacological Research</i> , 2015, 101, 102-108.	3.1	46
85	The Primary Glucose-Lowering Effect of Metformin Resides in the Gut, Not the Circulation: Results From Short-term Pharmacokinetic and 12-Week Dose-Ranging Studies. <i>Diabetes Care</i> , 2016, 39, 198-205.	4.3	240
86	The Cellular and Molecular Basis of Translational Immunometabolism. <i>Immunity</i> , 2015, 43, 421-434.	6.6	161
87	Hepatic Mitochondrial Pyruvate Carrier 1 Is Required for Efficient Regulation of Gluconeogenesis and Whole-Body Glucose Homeostasis. <i>Cell Metabolism</i> , 2015, 22, 669-681.	7.2	193
88	Quantitative Proteome Analysis Reveals Increased Content of Basement Membrane Proteins in Arteries From Patients With Type 2 Diabetes Mellitus and Lower Levels Among Metformin Users. <i>Circulation: Cardiovascular Genetics</i> , 2015, 8, 727-735.	5.1	38
89	Metformin: A Novel Biological Modifier of Tumor Response to Radiation Therapy. <i>International Journal of Radiation Oncology Biology Physics</i> , 2015, 93, 454-464.	0.4	94
90	Elevated oxygen consumption rate in response to acute low-glucose stress: Metformin restores rate to normal level. <i>Experimental Gerontology</i> , 2015, 70, 157-162.	1.2	5
91	Molecular pathophysiology of hepatic glucose production. <i>Molecular Aspects of Medicine</i> , 2015, 46, 21-33.	2.7	212
92	Calorie restriction mimetics: Can you have your cake and eat it, too?. <i>Ageing Research Reviews</i> , 2015, 20, 46-62.	5.0	130
93	Association of Organic Cation Transporter 1 With Intolerance to Metformin in Type 2 Diabetes: A GoDARTS Study. <i>Diabetes</i> , 2015, 64, 1786-1793.	0.3	188
94	Stratified medicine for the use of antidiabetic medication in treatment of type 2 diabetes and cancer: where do we go from here?. <i>Journal of Internal Medicine</i> , 2015, 277, 235-247.	2.7	28
95	Obesity, diabetes and cancer: insight into the relationship from a cohort with growth hormone receptor deficiency. <i>Diabetologia</i> , 2015, 58, 37-42.	2.9	43

#	ARTICLE	IF	CITATIONS
96	Metformin promotes irisin release from murine skeletal muscle independently of AMP-activated protein kinase activation. <i>Acta Physiologica</i> , 2015, 213, 711-721.	1.8	48
97	The Antitumor Effect of Metformin Is Mediated by miR-26a in Breast Cancer. <i>International Journal of Molecular Sciences</i> , 2016, 17, 1298.	1.8	35
98	Type 2 Diabetes Mellitus. , 2016, , 1385-1450.		9
99	Sodium–glucose cotransporter-2 inhibitor combination therapy to optimize glycemic control and tolerability in patients with type 2 diabetes: focus on dapagliflozin–metformin. <i>Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy</i> , 2016, 9, 71.	1.1	4
100	Quality measure attainment with dapagliflozin plus metformin extended-release as initial combination therapy in patients with type 2 diabetes: a post hoc pooled analysis of two clinical studies. <i>Risk Management and Healthcare Policy</i> , 2016, Volume 9, 231-241.	1.2	7
101	The role of lipids in the pathogenesis and treatment of type 2 diabetes and associated co-morbidities. <i>BMB Reports</i> , 2016, 49, 139-148.	1.1	57
102	Finding Ponce de Leon's Pill: Challenges in Screening for Anti-Aging Molecules. <i>F1000Research</i> , 2016, 5, 406.	0.8	20
103	The Impacts of <i>SLC22A1</i> rs594709 and <i>SLC47A1</i> rs2289669 Polymorphisms on Metformin Therapeutic Efficacy in Chinese Type 2 Diabetes Patients. <i>International Journal of Endocrinology</i> , 2016, 2016, 1-7.	0.6	46
104	The treatment of type 2 diabetes in the presence of renal impairment: what we should know about newer therapies. <i>Clinical Pharmacology: Advances and Applications</i> , 2016, 8, 61.	0.8	35
105	Urinary Metabolomic Profiling in Zucker Diabetic Fatty Rats with Type 2 Diabetes Mellitus Treated with Climepiride, Metformin, and Their Combination. <i>Molecules</i> , 2016, 21, 1446.	1.7	24
106	MATE2 Expression Is Associated with Cancer Cell Response to Metformin. <i>PLoS ONE</i> , 2016, 11, e0165214.	1.1	25
107	Pharmacometabolomic Assessment of Metformin in Non-diabetic, African Americans. <i>Frontiers in Pharmacology</i> , 2016, 7, 135.	1.6	28
108	Pharmacogenetics in type 2 diabetes: influence on response to oral hypoglycemic agents. <i>Pharmacogenomics and Personalized Medicine</i> , 2016, 9, 17.	0.4	16
109	Inhibiting stemness and invasive properties of glioblastoma tumorsphere by combined treatment with temozolomide and a newly designed biguanide (HL156A). <i>Oncotarget</i> , 2016, 7, 65643-65659.	0.8	35
110	Cinnamon intake reduces serum T3 level and modulates tissue-specific expression of thyroid hormone receptor and target genes in rats. <i>Journal of the Science of Food and Agriculture</i> , 2016, 96, 2889-2895.	1.7	11
111	Inhibition of Mitochondrial Complex II by the Anticancer Agent Lonidamine. <i>Journal of Biological Chemistry</i> , 2016, 291, 42-57.	1.6	132
112	Quercetin oppositely regulates insulin-mediated glucose disposal in skeletal muscle under normal and inflammatory conditions: The dual roles of AMPK activation. <i>Molecular Nutrition and Food Research</i> , 2016, 60, 551-565.	1.5	22
113	Insulin resistance, role of metformin and other non-insulin therapies in pediatric type 1 diabetes. <i>Pediatric Diabetes</i> , 2016, 17, 545-558.	1.2	29

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114	Gentisic acid sodium salt, a phenolic compound, is superior to norepinephrine in reversing cardiovascular collapse, hepatic mitochondrial dysfunction and lactic acidemia in <i>Pseudomonas aeruginosa</i> septic shock in dogs. <i>Intensive Care Medicine Experimental</i> , 2016, 4, 24.	0.9	3
115	AMPK antagonizes hepatic glucagon-stimulated cyclic AMP signalling via phosphorylation-induced activation of cyclic nucleotide phosphodiesterase 4B. <i>Nature Communications</i> , 2016, 7, 10856.	5.8	117
116	Metformin versus placebo in combination with insulin analogues in patients with type 2 diabetes mellitus—the randomised, blinded Copenhagen Insulin and Metformin Therapy (CIMT) trial. <i>BMJ Open</i> , 2016, 6, e008376.	0.8	30
117	Metformin inhibits Branched Chain Amino Acid (BCAA) derived ketoacidosis and promotes metabolic homeostasis in MSUD. <i>Scientific Reports</i> , 2016, 6, 28775.	1.6	33
119	An Ancient, Unified Mechanism for Metformin Growth Inhibition in <i>C.Âlegans</i> and Cancer. <i>Cell</i> , 2016, 167, 1705-1718.e13.	13.5	181
120	Managing Recurring Obstetric Cholestasis With Metformin. <i>Obstetrics and Gynecology</i> , 2016, 128, 1320-1323.	1.2	7
121	Recent development of single preparations and fixed-dose combination tablets for the treatment of non-insulin-dependent diabetes mellitus. <i>Archives of Pharmacal Research</i> , 2016, 39, 731-746.	2.7	14
122	Mitochondria-Targeted Analogues of Metformin Exhibit Enhanced Antiproliferative and Radiosensitizing Effects in Pancreatic Cancer Cells. <i>Cancer Research</i> , 2016, 76, 3904-3915.	0.4	159
123	Once-daily delayed-release metformin lowers plasma glucose and enhances fasting and postprandial GLP-1 and PYY: results from two randomised trials. <i>Diabetologia</i> , 2016, 59, 1645-1654.	2.9	95
124	Metformina: stary lek w nowej aplikacji. <i>Acta Haematologica Polonica</i> , 2016, 47, 139-145.	0.1	1
125	Hypothalamic AMPK: a canonical regulator of whole-body energy balance. <i>Nature Reviews Endocrinology</i> , 2016, 12, 421-432.	4.3	227
126	Hepatic glucose and lipid metabolism. <i>Diabetologia</i> , 2016, 59, 1098-1103.	2.9	163
127	AMP-activated protein kinase and its multifaceted regulation of hepatic metabolism. <i>Current Opinion in Lipidology</i> , 2016, 27, 172-180.	1.2	20
128	Nuclear receptors and AMPK: can exercise mimetics cure diabetes?. <i>Journal of Molecular Endocrinology</i> , 2016, 57, R49-R58.	1.1	27
129	Modulation of Calcium Entry by Mitochondria. <i>Advances in Experimental Medicine and Biology</i> , 2016, 898, 405-421.	0.8	18
130	Metformin in pancreatic cancer treatment: from clinical trials through basic research to biomarker quantification. <i>Journal of Cancer Research and Clinical Oncology</i> , 2016, 142, 2159-2171.	1.2	23
131	Hyperglucagonemia Mitigates the Effect of Metformin on Glucose Production in Prediabetes. <i>Cell Reports</i> , 2016, 15, 1394-1400.	2.9	50
132	AMPK Activation by Metformin Suppresses Abnormal Extracellular Matrix Remodeling in Adipose Tissue and Ameliorates Insulin Resistance in Obesity. <i>Diabetes</i> , 2016, 65, 2295-2310.	0.3	132

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133	Mfn1 Deficiency in the Liver Protects Against Diet-Induced Insulin Resistance and Enhances the Hypoglycemic Effect of Metformin. <i>Diabetes</i> , 2016, 65, 3552-3560.	0.3	66
134	On the unexpected reproductive impacts of metformin: A need for support and new directions for the evaluation of the impacts of pharmaceuticals in the environment. <i>Chemosphere</i> , 2016, 165, 570-574.	4.2	11
135	Molecular features of biguanides required for targeting of mitochondrial respiratory complex I and activation of AMP-kinase. <i>BMC Biology</i> , 2016, 14, 65.	1.7	65
136	Biosynthesis of glycerol phosphate is associated with long-term potentiation in hippocampal neurons. <i>Metabolomics</i> , 2016, 12, 133.	1.4	10
137	Sequential cleavage of insulin receptor by calpain 2 and β -secretase impairs insulin signalling. <i>Diabetologia</i> , 2016, 59, 2711-2721.	2.9	25
138	Metformin. <i>Endocrinology and Metabolism Clinics of North America</i> , 2016, 45, 819-843.	1.2	26
139	Variation in the glucose transporter gene SLC2A2 is associated with glycemic response to metformin. <i>Nature Genetics</i> , 2016, 48, 1055-1059.	9.4	165
140	MicroRNA-451 Negatively Regulates Hepatic Glucose Production and Glucose Homeostasis by Targeting Glycerol Kinase-mediated Gluconeogenesis. <i>Diabetes</i> , 2016, 65, 3276-3288.	0.3	54
141	Anti-aging pharmacology: Promises and pitfalls. <i>Ageing Research Reviews</i> , 2016, 31, 9-35.	5.0	118
142	Targeting hepatic glucose metabolism in the treatment of type 2 diabetes. <i>Nature Reviews Drug Discovery</i> , 2016, 15, 786-804.	21.5	254
143	Pharmacokinetic/Pharmacodynamic Analysis of Metformin using Different Models in Diabetic Rats. <i>Drug Research</i> , 2016, 66, 547-554.	0.7	5
144	The Pathogenesis of Polycystic Ovary Syndrome (PCOS): The Hypothesis of PCOS as Functional Ovarian Hyperandrogenism Revisited. <i>Endocrine Reviews</i> , 2016, 37, 467-520.	8.9	863
145	Metformin-mediated increase in DICER1 regulates microRNA expression and cellular senescence. <i>Aging Cell</i> , 2016, 15, 572-581.	3.0	153
146	Recessive mutations in the cancer gene Ataxia Telangiectasia Mutated (ATM), at a locus previously associated with metformin response, cause dysglycaemia and insulin resistance. <i>Diabetic Medicine</i> , 2016, 33, 371-375.	1.2	22
147	Diabetes propels the risk for cardiovascular disease: sweet monocytes becoming aggressive?. <i>Cellular and Molecular Life Sciences</i> , 2016, 73, 4675-4684.	2.4	49
148	Novel drugs that target the metabolic reprogramming in renal cell cancer. <i>Cancer & Metabolism</i> , 2016, 4, 14.	2.4	64
149	Extreme Basicity of Biguanide Drugs in Aqueous Solutions: Ion Transfer Voltammetry and DFT Calculations. <i>Journal of Physical Chemistry A</i> , 2016, 120, 7344-7350.	1.1	20
150	Assessment of Metformin-Induced Changes in Cardiac and Hepatic Redox State Using Hyperpolarized [1-13C]Pyruvate. <i>Diabetes</i> , 2016, 65, 3544-3551.	0.3	43

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151	Mechanism of antineoplastic activity of lonidamine. <i>Biochimica Et Biophysica Acta: Reviews on Cancer</i> , 2016, 1866, 151-162.	3.3	107
152	Metformin in women with type 2 diabetes in pregnancy (MiTy): a multi-center randomized controlled trial. <i>BMC Pregnancy and Childbirth</i> , 2016, 16, 173.	0.9	49
153	NHX-5, an Endosomal Na ⁺ /H ⁺ Exchanger, Is Associated with Metformin Action. <i>Journal of Biological Chemistry</i> , 2016, 291, 18591-18599.	1.6	21
154	Targeting the gastrointestinal tract to treat type 2 diabetes. <i>Journal of Endocrinology</i> , 2016, 230, R95-R113.	1.2	21
155	Once daily administration of the SGLT2 inhibitor, empagliflozin, attenuates markers of renal fibrosis without improving albuminuria in diabetic db/db mice. <i>Scientific Reports</i> , 2016, 6, 26428.	1.6	119
156	Hyperpolarized ¹³ C Magnetic Resonance Treatment Response Monitoring: A New Paradigm for Multiorgan Metabolic Assessment of Pharmacological Interventions?. <i>Diabetes</i> , 2016, 65, 3529-3531.	0.3	3
157	Anti-Inflammatory Effects of Metformin Irrespective of Diabetes Status. <i>Circulation Research</i> , 2016, 119, 652-665.	2.0	498
158	Skeletal muscle mitochondria as a target to prevent or treat type 2 diabetes mellitus. <i>Nature Reviews Endocrinology</i> , 2016, 12, 633-645.	4.3	186
159	Pharmacogenomics in type 2 diabetes: oral antidiabetic drugs. <i>Pharmacogenomics Journal</i> , 2016, 16, 399-410.	0.9	16
160	Activation of AMP-activated Protein Kinase by Metformin Induces Protein Acetylation in Prostate and Ovarian Cancer Cells. <i>Journal of Biological Chemistry</i> , 2016, 291, 25154-25166.	1.6	71
161	Metformin Targets Central Carbon Metabolism and Reveals Mitochondrial Requirements in Human Cancers. <i>Cell Metabolism</i> , 2016, 24, 728-739.	7.2	192
162	Environment Dictates Dependence on Mitochondrial Complex I for NAD ⁺ and Aspartate Production and Determines Cancer Cell Sensitivity to Metformin. <i>Cell Metabolism</i> , 2016, 24, 716-727.	7.2	269
163	Glycerol-3-phosphate dehydrogenase 1 deficiency induces compensatory amino acid metabolism during fasting in mice. <i>Metabolism: Clinical and Experimental</i> , 2016, 65, 1646-1656.	1.5	30
164	Entada phaseoloides extract suppresses hepatic gluconeogenesis via activation of the AMPK signaling pathway. <i>Journal of Ethnopharmacology</i> , 2016, 193, 691-699.	2.0	17
165	Metabolic characterization of the natural progression of chronic hepatitis B. <i>Genome Medicine</i> , 2016, 8, 64.	3.6	67
166	Second-Line Agents for the Treatment of Type 2 Diabetes and Prevention of CKD. <i>Clinical Journal of the American Society of Nephrology: CJASN</i> , 2016, 11, 2104-2106.	2.2	1
167	An Oral Load of [¹³ C]Glycerol and Blood NMR Analysis Detect Fatty Acid Esterification, Pentose Phosphate Pathway, and Glycerol Metabolism through the Tricarboxylic Acid Cycle in Human Liver. <i>Journal of Biological Chemistry</i> , 2016, 291, 19031-19041.	1.6	19
168	Mitochondrial Targeting of Metformin Enhances Its Activity against Pancreatic Cancer. <i>Molecular Cancer Therapeutics</i> , 2016, 15, 2875-2886.	1.9	65

#	ARTICLE	IF	CITATIONS
169	Divergent targets of glycolysis and oxidative phosphorylation result in additive effects of metformin and starvation in colon and breast cancer. <i>Scientific Reports</i> , 2016, 6, 19569.	1.6	43
170	Activation of the metabolic sensor AMP-activated protein kinase inhibits aquaporin-2 function in kidney principal cells. <i>American Journal of Physiology - Renal Physiology</i> , 2016, 311, F890-F900.	1.3	19
171	Reprogramming metabolic pathways in vivo with CRISPR/Cas9 genome editing to treat hereditary tyrosinaemia. <i>Nature Communications</i> , 2016, 7, 12642.	5.8	119
172	Metformin Uniquely Prevents Thrombosis by Inhibiting Platelet Activation and mtDNA Release. <i>Scientific Reports</i> , 2016, 6, 36222.	1.6	91
173	AMP-activated Protein Kinase. <i>Exs</i> , 2016, , .	1.4	10
174	AMPK as a Pro-longevity Target. <i>Exs</i> , 2016, 107, 227-256.	1.4	31
175	The potent, indirect adenosine monophosphate-activated protein kinase activator R419 attenuates mitogen-activated protein kinase signaling, inhibits nociceptor excitability, and reduces pain hypersensitivity in mice. <i>Pain Reports</i> , 2016, 1, e562.	1.4	12
176	TCDD modulation of gut microbiome correlated with liver and immune toxicity in streptozotocin (STZ)-induced hyperglycemic mice. <i>Toxicology and Applied Pharmacology</i> , 2016, 304, 48-58.	1.3	60
177	Skeletal muscle lactate overproduction during metformin intoxication: An animal study with reverse microdialysis. <i>Toxicology Letters</i> , 2016, 255, 43-46.	0.4	8
179	Enhancement of anti-proliferative activities of Metformin, when combined with Celecoxib, without increasing DNA damage. <i>Environmental Toxicology and Pharmacology</i> , 2016, 45, 227-234.	2.0	9
180	Pharmacology and therapeutic implications of current drugs for type 2 diabetes mellitus. <i>Nature Reviews Endocrinology</i> , 2016, 12, 566-592.	4.3	292
181	Argininosuccinate synthetase regulates hepatic AMPK linking protein catabolism and ureagenesis to hepatic lipid metabolism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E3423-30.	3.3	45
182	Metformin increases hepatic leptin receptor and decreases steatosis in mice. <i>Journal of Endocrinology</i> , 2016, 230, 227-237.	1.2	46
183	Case-control study of oral glucose-lowering drugs in combination with long-acting insulin and the risks of incident myocardial infarction and incident stroke. <i>Pharmacoepidemiology and Drug Safety</i> , 2016, 25, 151-160.	0.9	8
184	Conceptual approaches for treatment of phosgene inhalation-induced lung injury. <i>Toxicology Letters</i> , 2016, 244, 8-20.	0.4	84
185	Epithelialâ€“mesenchymal transition: a new target in anticancer drug discovery. <i>Nature Reviews Drug Discovery</i> , 2016, 15, 311-325.	21.5	290
186	Lrp5 Has a Wnt-Independent Role in Glucose Uptake and Growth for Mammary Epithelial Cells. <i>Molecular and Cellular Biology</i> , 2016, 36, 871-885.	1.1	22
187	Current understanding of metformin effect on the control of hyperglycemia in diabetes. <i>Journal of Endocrinology</i> , 2016, 228, R97-R106.	1.2	162

#	ARTICLE	IF	CITATIONS
188	Does Metformin Reduce Cancer Risks? Methodologic Considerations. <i>Current Diabetes Reports</i> , 2016, 16, 4.	1.7	15
189	Mechanism of Metformin: A Tale of Two Sites. <i>Diabetes Care</i> , 2016, 39, 187-189.	4.3	131
190	Novel mitochondrial complex I inhibitors restore glucose-handling abilities of high-fat fed mice. <i>Journal of Molecular Endocrinology</i> , 2016, 56, 261-271.	1.1	7
191	Metformin Revisited. <i>Diabetes Technology and Therapeutics</i> , 2016, 18, 113-114.	2.4	2
192	The Emerging Role of Sirtuin 1 in Cellular Metabolism, Diabetes Mellitus, Diabetic Kidney Disease and Hypertension. <i>Experimental and Clinical Endocrinology and Diabetes</i> , 2016, 124, 131-139.	0.6	27
193	A novel mechanism of action for salidroside to alleviate diabetic albuminuria: effects on albumin transcytosis across glomerular endothelial cells. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2016, 310, E225-E237.	1.8	41
194	Repurposing Drugs to Target the Diabetes Epidemic. <i>Trends in Pharmacological Sciences</i> , 2016, 37, 379-389.	4.0	38
195	Metformin and the gastrointestinal tract. <i>Diabetologia</i> , 2016, 59, 426-435.	2.9	472
196	Methylisoidindigo preferentially kills cancer stem cells by interfering cell metabolism via inhibition of LKB1 and activation of AMPK in PDACs. <i>Molecular Oncology</i> , 2016, 10, 806-824.	2.1	43
197	Enhanced ADAM17 expression is associated with cardiac remodeling in rats with acute myocardial infarction. <i>Life Sciences</i> , 2016, 151, 61-69.	2.0	16
198	Metformin improves hepatic IRS2/PI3K/Akt signaling in insulin-resistant rats of NASH and cirrhosis. <i>Journal of Endocrinology</i> , 2016, 229, 133-144.	1.2	90
199	Metformin: A Hopeful Promise in Aging Research. <i>Cold Spring Harbor Perspectives in Medicine</i> , 2016, 6, a025932.	2.9	116
200	HL271, a novel chemical compound derived from metformin, differs from metformin in its effects on the circadian clock and metabolism. <i>Biochemical and Biophysical Research Communications</i> , 2016, 469, 783-789.	1.0	3
201	Identification of a mammalian glycerol-3-phosphate phosphatase: Role in metabolism and signaling in pancreatic β -cells and hepatocytes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E430-9.	3.3	88
202	The tuberous sclerosis complex model Eker (TSC2+/ Δ^+) rat exhibits hyperglycemia and hyperketonemia due to decreased glycolysis in the liver. <i>Archives of Biochemistry and Biophysics</i> , 2016, 590, 48-55.	1.4	8
203	Molecular Interplay between microRNA-34a and Sirtuin1 in Hyperglycemia-Mediated Impaired Angiogenesis in Endothelial Cells: Effects of Metformin. <i>Journal of Pharmacology and Experimental Therapeutics</i> , 2016, 356, 314-323.	1.3	78
204	Metformin-associated lactic acidosis: Current perspectives on causes and risk. <i>Metabolism: Clinical and Experimental</i> , 2016, 65, 20-29.	1.5	382
205	(Ir)relevance of Metformin Treatment in Patients with Metastatic Pancreatic Cancer: An Open-Label, Randomized Phase II Trial. <i>Clinical Cancer Research</i> , 2016, 22, 1076-1085.	3.2	146

#	ARTICLE	IF	CITATIONS
207	The Antidiabetic Drug Metformin Stimulates Glycolytic Lactate Production in Cultured Primary Rat Astrocytes. <i>Neurochemical Research</i> , 2017, 42, 294-305.	1.6	40
208	Metformin Improves Functional Recovery After Spinal Cord Injury via Autophagy Flux Stimulation. <i>Molecular Neurobiology</i> , 2017, 54, 3327-3341.	1.9	114
209	Metformin is not just an antihyperglycaemic drug but also has protective effects on the vascular endothelium. <i>Acta Physiologica</i> , 2017, 219, 138-151.	1.8	83
210	An update on the assessment and management of metabolic syndrome, a growing medical emergency in paediatric populations. <i>Pharmacological Research</i> , 2017, 119, 99-117.	3.1	47
211	Metformin; a review of its history and future: from lilac to longevity. <i>Pediatric Diabetes</i> , 2017, 18, 10-16.	1.2	109
212	Employing Metabolism to Improve the Diagnosis and Treatment of Pancreatic Cancer. <i>Cancer Cell</i> , 2017, 31, 5-19.	7.7	309
213	Metformin prevents metabolic side effects during systemic glucocorticoid treatment. <i>European Journal of Endocrinology</i> , 2017, 176, 349-358.	1.9	35
214	Metformin: New Preparations and Nonglycemic Benefits. <i>Current Diabetes Reports</i> , 2017, 17, 5.	1.7	67
215	The emerging role of metformin in gestational diabetes mellitus. <i>Diabetes, Obesity and Metabolism</i> , 2017, 19, 765-772.	2.2	33
216	Treatment of Metformin Intoxication Complicated by Lactic Acidosis and Acute Kidney Injury: The Role of Prolonged Intermittent Hemodialysis. <i>American Journal of Kidney Diseases</i> , 2017, 70, 290-296.	2.1	18
217	Opposite effects of a glucokinase activator and metformin on glucose-regulated gene expression in hepatocytes. <i>Diabetes, Obesity and Metabolism</i> , 2017, 19, 1078-1087.	2.2	21
218	Resistance training to improve type 2 diabetes: working toward a prescription for the future. <i>Nutrition and Metabolism</i> , 2017, 14, 24.	1.3	74
219	In vivo assessment of intracellular redox state in rat liver using hyperpolarized [¹³ C]Alanine. <i>Magnetic Resonance in Medicine</i> , 2017, 77, 1741-1748.	1.9	23
220	Transcriptomic effects of metformin in skeletal muscle arteries of obese insulin-resistant rats. <i>Experimental Biology and Medicine</i> , 2017, 242, 617-624.	1.1	3
221	Prognostic value of plasma lactate levels in a retrospective cohort presenting at a university hospital emergency department. <i>BMJ Open</i> , 2017, 7, e011450.	0.8	26
222	Should metformin be included in fertility treatment of PCOS patients?. <i>Medical Hypotheses</i> , 2017, 100, 54-58.	0.8	12
223	Dynamic population pharmacokinetic-pharmacodynamic modelling and simulation supports similar efficacy in glycosylated haemoglobin response with once or twice daily dosing of canagliflozin. <i>British Journal of Clinical Pharmacology</i> , 2017, 83, 1072-1081.	1.1	9
224	Metformin effects on head and neck squamous carcinoma microenvironment: Window of opportunity trial. <i>Laryngoscope</i> , 2017, 127, 1808-1815.	1.1	51

#	ARTICLE	IF	CITATIONS
225	Metformin-associated lactic acidosis (<sc>MALA</sc>): <sc>M</sc>oving towards a new paradigm. Diabetes, Obesity and Metabolism, 2017, 19, 1502-1512.	2.2	94
226	Combination of metformin and curcumin targets breast cancer in mice by angiogenesis inhibition, immune system modulation and induction of p53 independent apoptosis. Therapeutic Advances in Medical Oncology, 2017, 9, 235-252.	1.4	76
227	Macrophage functions in lean and obese adipose tissue. Metabolism: Clinical and Experimental, 2017, 72, 120-143.	1.5	220
228	Metformin effects on the heart and the cardiovascular system: A review of experimental and clinical data. Nutrition, Metabolism and Cardiovascular Diseases, 2017, 27, 657-669.	1.1	167
229	Response to Comment on Adam et al. Metformin Effect on Nontargeted Metabolite Profiles in Patients With Type 2 Diabetes and in Multiple Murine Tissues. Diabetes 2016;65:3776-3785. Diabetes, 2017, 66, e3-e4.	0.3	1
230	Metformin causes a futile intestinal-hepatic cycle which increases energy expenditure and slows down development of a type 2 diabetes-like state. Molecular Metabolism, 2017, 6, 737-747.	3.0	24
231	Activation of Skeletal Muscle AMPK Promotes Glucose Disposal and Glucose Lowering in Non-human Primates and Mice. Cell Metabolism, 2017, 25, 1147-1159.e10.	7.2	205
232	Diabetes, Pancreatogenic Diabetes, and Pancreatic Cancer. Diabetes, 2017, 66, 1103-1110.	0.3	311
233	Allosteric Modulation of AMPK Enzymatic Activity. Methods in Enzymology, 2017, 587, 481-509.	0.4	3
234	Regulation of organelle function by metformin. IUBMB Life, 2017, 69, 459-469.	1.5	39
235	Metformin, the aspirin of the 21st century: its role in gestational diabetes mellitus, prevention of preeclampsia and cancer, and the promotion of longevity. American Journal of Obstetrics and Gynecology, 2017, 217, 282-302.	0.7	183
236	AMPK: Mechanisms of Cellular Energy Sensing and Restoration of Metabolic Balance. Molecular Cell, 2017, 66, 789-800.	4.5	1,206
237	Metformin alters the gut microbiome of individuals with treatment-naive type 2 diabetes, contributing to the therapeutic effects of the drug. Nature Medicine, 2017, 23, 850-858.	15.2	1,165
238	Synergistic target combination prediction from curated signaling networks: Machine learning meets systems biology and pharmacology. Methods, 2017, 129, 60-80.	1.9	16
239	Modulatory effects of metformin on mutagenicity and epithelial tumor incidence in doxorubicin-treated Drosophila melanogaster. Food and Chemical Toxicology, 2017, 106, 283-291.	1.8	13
240	Metformin: clinical topics and new mechanisms of action. Diabetology International, 2017, 8, 4-6.	0.7	8
241	Mining the Genome for Therapeutic Targets. Diabetes, 2017, 66, 1770-1778.	0.3	14
242	Targeting Oxygen-Sensing Prolyl Hydroxylase for Metformin-Associated Lactic Acidosis Treatment. Molecular and Cellular Biology, 2017, 37, .	1.1	14

#	ARTICLE	IF	CITATIONS
243	Sulforaphane reduces hepatic glucose production and improves glucose control in patients with type 2 diabetes. <i>Science Translational Medicine</i> , 2017, 9, .	5.8	240
244	Dissecting the role of AMP-activated protein kinase in human diseases. <i>Acta Pharmaceutica Sinica B</i> , 2017, 7, 249-259.	5.7	61
245	Selective Chemical Inhibition of PGC-1 α Gluconeogenic Activity Ameliorates Type 2 Diabetes. <i>Cell</i> , 2017, 169, 148-160.e15.	13.5	153
246	Transfer of dysbiotic gut microbiota has beneficial effects on host liver metabolism. <i>Molecular Systems Biology</i> , 2017, 13, 921.	3.2	43
247	Metformin-like antidiabetic, cardio-protective and non-glycemic effects of naringenin: Molecular and pharmacological insights. <i>European Journal of Pharmacology</i> , 2017, 803, 103-111.	1.7	68
248	The antidiabetic drug metformin decreases mitochondrial respiration and tricarboxylic acid cycle activity in cultured primary rat astrocytes. <i>Journal of Neuroscience Research</i> , 2017, 95, 2307-2320.	1.3	22
249	Metformin reduces glycometabolism of papillary thyroid carcinoma in vitro and in vivo. <i>Journal of Molecular Endocrinology</i> , 2017, 58, 15-23.	1.1	22
250	Which treatment for type 2 diabetes associated with non-alcoholic fatty liver disease?. <i>Digestive and Liver Disease</i> , 2017, 49, 235-240.	0.4	35
251	A story of metformin-butyrate synergism to control various pathological conditions as a consequence of gut microbiome modification: Genesis of a wonder drug?. <i>Pharmacological Research</i> , 2017, 117, 103-128.	3.1	55
252	Metformin in adults with type 1 diabetes: <sc>D</sc>esign and methods of <sc>REducing</sc> with <sc>MetfOrmin V</sc>ascular <sc>A</sc>iverse <sc>L</sc>esions (<sc>REMOVAL</sc>): <sc>A</sc>n international multicentre trial. <i>Diabetes, Obesity and Metabolism</i> , 2017, 19, 509-516.	2.2	32
253	Multidrug and toxin extrusion protein 1-mediated interaction of metformin and <i>Scutellariae radix</i> in rats. <i>Xenobiotica</i> , 2017, 47, 998-1007.	0.5	11
254	Mitochondrial Adaptation in Nonalcoholic Fatty Liver Disease: Novel Mechanisms and Treatment Strategies. <i>Trends in Endocrinology and Metabolism</i> , 2017, 28, 250-260.	3.1	228
255	New insights into the anti-diabetic actions of metformin: from the liver to the gut. <i>Expert Review of Gastroenterology and Hepatology</i> , 2017, 11, 157-166.	1.4	38
256	Ethanol extract of <i>Atractylodis macrocephalae</i> Rhizoma ameliorates insulin resistance and gut microbiota in type 2 diabetic db/db mice. <i>Journal of Functional Foods</i> , 2017, 39, 139-151.	1.6	22
257	AMPK is not required for the effect of metformin on the inhibition of BMP6-induced hepcidin gene expression in hepatocytes. <i>Scientific Reports</i> , 2017, 7, 12679.	1.6	12
258	Exercise training and metformin, but not exercise training alone, decreases insulin production and increases insulin clearance in adults with prediabetes. <i>Journal of Applied Physiology</i> , 2017, 123, 243-248.	1.2	18
259	Identification of the signals for glucose-induced insulin secretion in INS1 (832/13) β -cells using metformin-induced metabolic deceleration as a model. <i>Journal of Biological Chemistry</i> , 2017, 292, 19458-19468.	1.6	19
260	Lactate Levels with Chronic Metformin Use: A Narrative Review. <i>Clinical Drug Investigation</i> , 2017, 37, 991-1007.	1.1	16

#	ARTICLE	IF	CITATIONS
261	Evidence-based prioritisation and enrichment of genes interacting with metformin in type 2 diabetes. <i>Diabetologia</i> , 2017, 60, 2231-2239.	2.9	4
262	Phosphoenolpyruvate Carboxykinase Maintains Glycolysis-driven Growth in <i>Drosophila</i> Tumors. <i>Scientific Reports</i> , 2017, 7, 11531.	1.6	10
263	Heme Binding Biguanides Target Cytochrome P450-Dependent Cancer Cell Mitochondria. <i>Cell Chemical Biology</i> , 2017, 24, 1259-1275.e6.	2.5	35
264	Combined transcriptome and metabolome analyses of metformin effects reveal novel links between metabolic networks in steroidogenic systems. <i>Scientific Reports</i> , 2017, 7, 8652.	1.6	16
265	Metformin: oxidative and proliferative parameters in-vitro and in-vivo models of murine melanoma. <i>Melanoma Research</i> , 2017, 27, 536-544.	0.6	12
266	Results from 11C-metformin-PET scans, tissue analysis and cellular drug-sensitivity assays questions the view that biguanides affects tumor respiration directly. <i>Scientific Reports</i> , 2017, 7, 9436.	1.6	25
267	Regulation of hepatic glucose metabolism in health and disease. <i>Nature Reviews Endocrinology</i> , 2017, 13, 572-587.	4.3	718
268	Is It Time to Change the Type 2 Diabetes Treatment Paradigm? No! Metformin Should Remain the Foundation Therapy for Type 2 Diabetes. <i>Diabetes Care</i> , 2017, 40, 1128-1132.	4.3	32
269	Anti-aging pharmacology in cutaneous wound healing: effects of metformin, resveratrol, and rapamycin by local application. <i>Aging Cell</i> , 2017, 16, 1083-1093.	3.0	157
270	Metformin treatment significantly enhances intestinal glucose uptake in patients with type 2 diabetes: Results from a randomized clinical trial. <i>Diabetes Research and Clinical Practice</i> , 2017, 131, 208-216.	1.1	62
271	Impact of diabetes in the Friedreich ataxia clinical outcome measures study. <i>Annals of Clinical and Translational Neurology</i> , 2017, 4, 622-631.	1.7	16
272	The mechanisms of action of metformin. <i>Diabetologia</i> , 2017, 60, 1577-1585.	2.9	1,421
273	Metformin and ageing: improving ageing outcomes beyond glycaemic control. <i>Diabetologia</i> , 2017, 60, 1630-1638.	2.9	112
274	New Evidence for the Mechanism of Action of a Type-2 Diabetes Drug Using a Magnetic Bead-Based Automated Biosensing Platform. <i>ACS Sensors</i> , 2017, 2, 1329-1336.	4.0	7
275	Metformin: new insights into an archetypal cardiometabolic drug. <i>Cardiovascular Endocrinology</i> , 2017, 6, 92-94.	0.8	0
276	The thermodynamic basis of glucose-stimulated insulin release: a model of the core mechanism. <i>Physiological Reports</i> , 2017, 5, e13327.	0.7	16
277	Growth factor, energy and nutrient sensing signalling pathways in metabolic ageing. <i>Biogerontology</i> , 2017, 18, 913-929.	2.0	32
278	The effects of metformin on gut microbiota and the immune system as research frontiers. <i>Diabetologia</i> , 2017, 60, 1662-1667.	2.9	79

#	ARTICLE	IF	CITATIONS
279	Immediate reduction of serum citrulline but no change of steroid profile after initiation of metformin in individuals with type 2 diabetes. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2017, 174, 114-119.	1.2	15
280	A Structural Basis for Biguanide Activity. <i>Biochemistry</i> , 2017, 56, 4786-4798.	1.2	20
281	Hypoglycemia and severe lactic acidosis in a dog following metformin exposure. <i>Clinical Case Reports (discontinued)</i> , 2017, 5, 2097-2104.	0.2	3
282	Synergistic Chemopreventive and Therapeutic Effects of Co-drug UA-Met: Implication in Tumor Metastasis. <i>Journal of Agricultural and Food Chemistry</i> , 2017, 65, 10973-10983.	2.4	12
283	H19 lncRNA alters methylation and expression of Hnf4 β in the liver of metformin-exposed fetuses. <i>Cell Death and Disease</i> , 2017, 8, e3175-e3175.	2.7	41
284	Expression profile analysis of long non-coding RNAs involved in the metformin-inhibited gluconeogenesis of primary mouse hepatocytes. <i>International Journal of Molecular Medicine</i> , 2017, 41, 302-310.	1.8	10
285	Health benefits of late-onset metformin treatment every other week in mice. <i>Npj Aging and Mechanisms of Disease</i> , 2017, 3, 16.	4.5	49
286	Ludwigia octovalvis extract improves glycemic control and memory performance in diabetic mice. <i>Journal of Ethnopharmacology</i> , 2017, 207, 211-219.	2.0	19
287	Targeting the energy guardian AMPK: another avenue for treating cardiomyopathy?. <i>Cellular and Molecular Life Sciences</i> , 2017, 74, 1413-1429.	2.4	40
288	Metformin Attenuates A β ² Pathology Mediated Through Levamisole Sensitive Nicotinic Acetylcholine Receptors in a <i>C. elegans</i> Model of Alzheimer's Disease. <i>Molecular Neurobiology</i> , 2017, 54, 5427-5439.	1.9	43
289	Pharmacogenetic Factors That Affect Drug Metabolism and Efficacy in Type 2 Diabetes Mellitus. , 2017, , 157-179.		2
290	Effects of metformin on survival outcomes of pancreatic cancer patients with diabetes: A meta-analysis. <i>Molecular and Clinical Oncology</i> , 2018, 8, 483-488.	0.4	25
291	Metformin Suppresses Proliferation and Viability of Rat Pheochromocytoma Cells. <i>Medical Science Monitor</i> , 2017, 23, 3253-3260.	0.5	6
292	Does eating less make you live longer and better? An update on calorie restriction. <i>Clinical Interventions in Aging</i> , 2017, Volume 12, 1887-1902.	1.3	40
293	Nutrients in Energy and One-Carbon Metabolism: Learning from Metformin Users. <i>Nutrients</i> , 2017, 9, 121.	1.7	33
294	2017 update on the relationship between diabetes and colorectal cancer: epidemiology, potential molecular mechanisms and therapeutic implications. <i>Oncotarget</i> , 2017, 8, 18456-18485.	0.8	134
295	Pleiotropic Effects of Biguanides on Mitochondrial Reactive Oxygen Species Production. <i>Oxidative Medicine and Cellular Longevity</i> , 2017, 2017, 1-11.	1.9	17
296	To Use or Not to Use Metformin in Cerebral Ischemia: A Review of the Application of Metformin in Stroke Rodents. <i>Stroke Research and Treatment</i> , 2017, 2017, 1-13.	0.5	30

#	ARTICLE	IF	CITATIONS
297	Metformin Impairs Spatial Memory and Visual Acuity in Old Male Mice. , 2017, 8, 17.		62
298	The desert gerbil <i>Psammomys obesus</i> as a model for metformin-sensitive nutritional type 2 diabetes to protect hepatocellular metabolic damage: Impact of mitochondrial redox state. <i>PLoS ONE</i> , 2017, 12, e0172053.	1.1	14
299	Metformin intake associates with better cognitive function in patients with Huntington's disease. <i>PLoS ONE</i> , 2017, 12, e0179283.	1.1	62
300	Serum lactate level and mortality in metformin-associated lactic acidosis requiring renal replacement therapy: a systematic review of case reports and case series. <i>BMC Nephrology</i> , 2017, 18, 229.	0.8	37
301	Generalidades y tratamiento de la Sarcopenia. <i>Medicas UIS</i> , 2017, 30, 71-81.	0.0	3
302	Anti-Aging Drugs. , 2017, , 349-378.		0
303	Basic Concepts in Insulin Resistance and Diabetes Treatment. , 2018, , 19-35.		3
304	Spatiotemporal compartmentalization of hepatic NADH and NADPH metabolism. <i>Journal of Biological Chemistry</i> , 2018, 293, 7508-7516.	1.6	81
306	Metformin Targets Mitochondrial Glycerophosphate Dehydrogenase to Control Rate of Oxidative Phosphorylation and Growth of Thyroid Cancer <i><i>In Vitro</i></i> and <i><i>In Vivo</i></i> . <i>Clinical Cancer Research</i> , 2018, 24, 4030-4043.	3.2	106
307	Changing environment of hyperglycemia in pregnancy: Gestational diabetes and diabetes mellitus in pregnancy. <i>Journal of Diabetes</i> , 2018, 10, 633-640.	0.8	13
308	Effect of metformin on plasma metabolite profile in the Copenhagen Insulin and Metformin Therapy (<i><sc>CIMT</sc></i>) trial. <i>Diabetic Medicine</i> , 2018, 35, 944-953.	1.2	24
309	Metformin normalizes the structural changes in glycogen preceding prediabetes in mice overexpressing neuropeptide Y in noradrenergic neurons. <i>Pharmacology Research and Perspectives</i> , 2018, 6, e00389.	1.1	3
310	Functional interplay between liver X receptor and AMP-activated protein kinase \pm inhibits atherosclerosis in apolipoprotein E-deficient mice $\hat{=}$ a new anti-atherogenic strategy. <i>British Journal of Pharmacology</i> , 2018, 175, 1486-1503.	2.7	39
311	Cellular Energy Sensing and Metabolism $\hat{=}$ Implications for Treating Diabetes: The 2017 Outstanding Scientific Achievement Award Lecture. <i>Diabetes</i> , 2018, 67, 169-179.	0.3	20
312	Metformin-induced anticancer activities: recent insights. <i>Biological Chemistry</i> , 2018, 399, 321-335.	1.2	51
313	Is metformin poised for a second career as an antimicrobial?. <i>Diabetes/Metabolism Research and Reviews</i> , 2018, 34, e2975.	1.7	66
314	Acute Complications of Diabetes. , 2018, , 341-363.		2
315	Direct assessment of renal mitochondrial redox state using hyperpolarized ¹³ C-acetoacetate. <i>Magnetic Resonance in Medicine</i> , 2018, 79, 1862-1869.	1.9	25

#	ARTICLE	IF	CITATIONS
316	Activation of Nrf2 signaling by natural products-can it alleviate diabetes?. <i>Biotechnology Advances</i> , 2018, 36, 1738-1767.	6.0	155
317	Discovery and structure-activity relationships study of thieno[2,3-b]pyridine analogues as hepatic gluconeogenesis inhibitors. <i>European Journal of Medicinal Chemistry</i> , 2018, 152, 307-317.	2.6	29
318	Treatment with Oral Drugs. <i>Endocrinology</i> , 2018, , 1-44.	0.1	0
319	Pyridine Dinucleotides from Molecules to Man. <i>Antioxidants and Redox Signaling</i> , 2018, 28, 180-212.	2.5	24
320	Interventions to slow cardiovascular aging: Dietary restriction, drugs and novel molecules. <i>Experimental Gerontology</i> , 2018, 109, 108-118.	1.2	21
321	Therapeutic application of GPR119 ligands in metabolic disorders. <i>Diabetes, Obesity and Metabolism</i> , 2018, 20, 257-269.	2.2	48
322	A case risk study of lactic acidosis risk by metformin use in type 2 diabetes mellitus tuberculosis coinfection patients. <i>Indian Journal of Tuberculosis</i> , 2018, 65, 252-256.	0.3	6
323	Metformin Alters Upper Small Intestinal Microbiota that Impact a Glucose-SGLT1-Sensing Glucoregulatory Pathway. <i>Cell Metabolism</i> , 2018, 27, 101-117.e5.	7.2	187
324	Linking energy sensing to suppression of JAK-STAT signalling: A potential route for repurposing AMPK activators?. <i>Pharmacological Research</i> , 2018, 128, 88-100.	3.1	35
325	Aberrant expression of miR-451a contributes to 1,2-dichloroethane-induced hepatic glycerol gluconeogenesis disorder by inhibiting glycerol kinase expression in NIH Swiss mice. <i>Journal of Applied Toxicology</i> , 2018, 38, 292-303.	1.4	8
326	Negative Regulation of TRPA1 by AMPK in Primary Sensory Neurons as a Potential Mechanism of Painful Diabetic Neuropathy. <i>Diabetes</i> , 2018, 67, 98-109.	0.3	68
327	Metformin overcomes high glucose-induced insulin resistance of podocytes by pleiotropic effects on SIRT1 and AMPK. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 2018, 1864, 115-125.	1.8	68
328	Acute renal metabolic effect of metformin assessed with hyperpolarised MRI in rats. <i>Diabetologia</i> , 2018, 61, 445-454.	2.9	25
329	Metformin selectively targets redox control of complex I energy transduction. <i>Redox Biology</i> , 2018, 14, 187-197.	3.9	115
330	Sulforaphane improves disrupted ER-mitochondria interactions and suppresses exaggerated hepatic glucose production. <i>Molecular and Cellular Endocrinology</i> , 2018, 461, 205-214.	1.6	36
331	Clinical implications of bone marrow adiposity. <i>Journal of Internal Medicine</i> , 2018, 283, 121-139.	2.7	159
332	Separating "good" from "bad" faecal dysbiosis " evidence from two cross-sectional studies. <i>BMC Obesity</i> , 2018, 5, 30.	3.1	8
334	Repeated exposure to hyperbaric hyperoxia affects mitochondrial functions of the lung fibroblasts. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2018, 1859, e86-e87.	0.5	0

#	ARTICLE	IF	CITATIONS
335	Metformin Might Inhibit Virus through Increasing Insulin Sensitivity. Chinese Medical Journal, 2018, 131, 376-377.	0.9	24
337	Mitochondrial glycerol 3-phosphate dehydrogenase promotes skeletal muscle regeneration. EMBO Molecular Medicine, 2018, 10, .	3.3	24
339	Type-2 diabetes mellitus and cardiovascular disease. Future Cardiology, 2018, 14, 491-509.	0.5	197
340	Gut microbiota and intestinal FXR mediate the clinical benefits of metformin. Nature Medicine, 2018, 24, 1919-1929.	15.2	632
341	Integration of genome wide association studies and whole genome sequencing provides novel insights into fat deposition in chicken. Scientific Reports, 2018, 8, 16222.	1.6	29
343	Molecular Modulation of Osteoblasts and Osteoclasts in Type 2 Diabetes. Journal of Diabetes Research, 2018, 2018, 1-11.	1.0	50
344	A Unique Case of Metformin-Associated Lactic Acidosis. Case Reports in Nephrology, 2018, 2018, 1-5.	0.2	2
345	Hyperpolarized [¹³ C] pyruvate as a possible diagnostic tool in liver disease. Physiological Reports, 2018, 6, e13943.	0.7	11
346	Metformin in Reproductive Biology. Frontiers in Endocrinology, 2018, 9, 675.	1.5	62
347	Co-administration of nuciferine reduces the concentration of metformin in liver <i>via</i> differential inhibition of hepatic drug transporter OCT1 and MATE1. Biopharmaceutics and Drug Disposition, 2018, 39, 411-419.	1.1	9
348	AMPK activation by A-769662 and 991 does not affect catecholamine-induced lipolysis in human adipocytes. American Journal of Physiology - Endocrinology and Metabolism, 2018, 315, E1075-E1085.	1.8	16
349	Pharmaceutical Intervention of Aging. Advances in Experimental Medicine and Biology, 2018, 1086, 235-254.	0.8	11
350	Pleiotropic Effects of Metformin on Cancer. International Journal of Molecular Sciences, 2018, 19, 2850.	1.8	61
351	Mitochondria in cancer: in the aspects of tumorigenesis and targeted therapy. Carcinogenesis, 2018, 39, 1419-1430.	1.3	71
352	Changes of Cell Biochemical States Are Revealed in Protein Homomeric Complex Dynamics. Cell, 2018, 175, 1418-1429.e9.	13.5	36
353	Carbotoxicity—Noxious Effects of Carbohydrates. Cell, 2018, 175, 605-614.	13.5	82
354	Treatment with Oral Drugs. Endocrinology, 2018, , 527-569.	0.1	0
355	Pleiotropic effects of metformin: Shaping the microbiome to manage type 2 diabetes and postpone ageing. Ageing Research Reviews, 2018, 48, 87-98.	5.0	80

#	ARTICLE	IF	CITATIONS
356	Metformin transporter pharmacogenomics: insights into drug disposition“ where are we now?. Expert Opinion on Drug Metabolism and Toxicology, 2018, 14, 1-11.	1.5	11
357	Antidiabetic Biguanides Radiosensitize Hypoxic Colorectal Cancer Cells Through a Decrease in Oxygen Consumption. Frontiers in Pharmacology, 2018, 9, 1073.	1.6	29
358	Pancreatic Cancer and Diabetes Mellitus. Current Treatment Options in Gastroenterology, 2018, 16, 466-478.	0.3	27
359	Metformin downregulates the mitochondrial carrier SLC25A10 in a glucose dependent manner. Biochemical Pharmacology, 2018, 156, 444-450.	2.0	11
360	The NOAEL Metformin Dose Is Ineffective against Metabolic Disruption Induced by Chronic Cadmium Exposure in Wistar Rats. Toxics, 2018, 6, 55.	1.6	18
361	The metabolic role of vagal afferent innervation. Nature Reviews Gastroenterology and Hepatology, 2018, 15, 625-636.	8.2	70
362	p53 and metabolism: from mechanism to therapeutics. Oncotarget, 2018, 9, 23780-23823.	0.8	103
363	Aging and Aging-Related Diseases. Advances in Experimental Medicine and Biology, 2018, , .	0.8	15
364	Amino acid profile in women with gestational diabetes mellitus treated with metformin or insulin. Diabetes Research and Clinical Practice, 2018, 146, 8-17.	1.1	23
365	Hepatic Ago2-mediated RNA silencing controls energy metabolism linked to AMPK activation and obesity-associated pathophysiology. Nature Communications, 2018, 9, 3658.	5.8	29
366	Effects of Biguanides on Growth and Glycolysis of Bladder and Colon Cancer Cells. Anticancer Research, 2018, 38, 5003-5011.	0.5	14
367	Metabolic Profiles Associated With Metformin Efficacy in Cancer. Frontiers in Endocrinology, 2018, 9, 372.	1.5	61
368	Metformin and berberine, two versatile drugs in treatment of common metabolic diseases. Oncotarget, 2018, 9, 10135-10146.	0.8	84
369	Not quite type 1 or type 2, what now? Review of monogenic, mitochondrial, and syndromic diabetes. Reviews in Endocrine and Metabolic Disorders, 2018, 19, 35-52.	2.6	25
370	Mechanisms of metformin action: In and out of the gut. Journal of Diabetes Investigation, 2018, 9, 701-703.	1.1	30
371	Pharmacogenetics of Antidiabetic Drugs. Advances in Pharmacology, 2018, 83, 361-389.	1.2	12
372	Metformin use in the first year after kidney transplant, correlates, and associated outcomes in diabetic transplant recipients: A retrospective analysis of integrated registry and pharmacy claims data. Clinical Transplantation, 2018, 32, e13302.	0.8	23
373	Metformin and AMP Kinase Activation Increase Expression of the Sterol Transporters ABCG5/8 (ATP-Binding Cassette Transporter G5/G8) With Potential Antiatherogenic Consequences. Arteriosclerosis, Thrombosis, and Vascular Biology, 2018, 38, 1493-1503.	1.1	31

#	ARTICLE	IF	CITATIONS
374	Uncoupling Hepatic Oxidative Phosphorylation Reduces Tumor Growth in Two Murine Models of Colon Cancer. <i>Cell Reports</i> , 2018, 24, 47-55.	2.9	48
375	Metformin Inhibits Mouse Islet Insulin Secretion and Alters Intracellular Calcium in a Concentration-Dependent and Duration-Dependent Manner near the Circulating Range. <i>Journal of Diabetes Research</i> , 2018, 2018, 1-10.	1.0	23
376	How do cancer cells replenish their fuel supply?. <i>Cancer Reports</i> , 2018, 1, e1003.	0.6	5
377	Mechanisms of Insulin Action and Insulin Resistance. <i>Physiological Reviews</i> , 2018, 98, 2133-2223.	13.1	1,502
378	Genetic polymorphisms of organic cation transporters 1 (OCT1) and responses to metformin therapy in individuals with type 2 diabetes mellitus: a systematic review protocol. <i>Systematic Reviews</i> , 2018, 7, 105.	2.5	9
379	Lifestyle Changes and Weight Loss: Effects in PCOS. , 0, , .		2
380	Lactate-Induced Glucose Output Is Unchanged by Metformin at a Therapeutic Concentration â€“ A Mass Spectrometry Imaging Study of the Perfused Rat Liver. <i>Frontiers in Pharmacology</i> , 2018, 9, 141.	1.6	15
381	Therapeutic Potential of Ginsenosides as an Adjuvant Treatment for Diabetes. <i>Frontiers in Pharmacology</i> , 2018, 9, 423.	1.6	153
382	Metformin inhibits gluconeogenesis via a redox-dependent mechanism in vivo. <i>Nature Medicine</i> , 2018, 24, 1384-1394.	15.2	200
383	Cancer cell specific inhibition of Wnt/ β 2-catenin signaling by forced intracellular acidification. <i>Cell Discovery</i> , 2018, 4, 37.	3.1	34
384	Inhibition of glutamate oxaloacetate transaminase 1 in cancer cell lines results in altered metabolism with increased dependency of glucose. <i>BMC Cancer</i> , 2018, 18, 559.	1.1	44
385	A Semi-supervised Approach to Discover Bivariate Causality in Large Biological Data. <i>Lecture Notes in Computer Science</i> , 2018, , 406-420.	1.0	1
386	A preclinical overview of metformin for the treatment of type 2 diabetes. <i>Biomedicine and Pharmacotherapy</i> , 2018, 106, 1227-1235.	2.5	65
387	Metformin associated lactic acidosis: a case series of 28 patients treated with sustained low-efficiency dialysis (SLED) and long-term follow-up. <i>BMC Nephrology</i> , 2018, 19, 77.	0.8	26
388	Metformin targets brown adipose tissue in vivo and reduces oxygen consumption in vitro. <i>Diabetes, Obesity and Metabolism</i> , 2018, 20, 2264-2273.	2.2	35
389	Metformin's antitumour and anti-angiogenic activities are mediated by skewing macrophage polarization. <i>Journal of Cellular and Molecular Medicine</i> , 2018, 22, 3825-3836.	1.6	68
390	Metformin prolongs survival rate in mice and causes increased excretion of cell-free DNA in the urine of X-irradiated rats. <i>Mutation Research - Genetic Toxicology and Environmental Mutagenesis</i> , 2018, 831, 13-18.	0.9	7
391	Berberine Reduces Pyruvate-driven Hepatic Glucose Production by Limiting Mitochondrial Import of Pyruvate through Mitochondrial Pyruvate Carrier 1. <i>EBioMedicine</i> , 2018, 34, 243-255.	2.7	21

#	ARTICLE	IF	CITATIONS
392	Baicalin regulates SirT1/STAT3 pathway and restrains excessive hepatic glucose production. <i>Pharmacological Research</i> , 2018, 136, 62-73.	3.1	29
393	Salt-Inducible Kinases: Physiology, Regulation by cAMP, and Therapeutic Potential. <i>Trends in Endocrinology and Metabolism</i> , 2018, 29, 723-735.	3.1	92
394	Metformin as an Anticancer Agent. <i>Trends in Pharmacological Sciences</i> , 2018, 39, 867-878.	4.0	196
395	Anti-hyperglycemic and anti-hyperlipidemia effects of the alkaloid-rich extract from barks of <i>Litsea glutinosa</i> in ob/ob mice. <i>Scientific Reports</i> , 2018, 8, 12646.	1.6	21
396	Metformin reduces liver glucose production by inhibition of fructose-1-6-bisphosphatase. <i>Nature Medicine</i> , 2018, 24, 1395-1406.	15.2	212
397	Recurrent hypoglycemia secondary to metformin toxicity in the absence of co-ingestions: a case report. <i>Journal of Medical Case Reports</i> , 2018, 12, 223.	0.4	14
398	Mitochondrial Complex I Activity Is Required for Maximal Autophagy. <i>Cell Reports</i> , 2018, 24, 2404-2417.e8.	2.9	78
399	Molecular Mechanisms of Metformin for Diabetes and Cancer Treatment. <i>Frontiers in Physiology</i> , 2018, 9, 1039.	1.3	72
400	Mapping of biguanide transporters in human fat cells and their impact on lipolysis. <i>Diabetes, Obesity and Metabolism</i> , 2018, 20, 2416-2425.	2.2	12
401	Why AMPK agonists not known to be stressors may surprisingly contribute to miscarriage or hinder IVF/ART. <i>Journal of Assisted Reproduction and Genetics</i> , 2018, 35, 1359-1366.	1.2	9
403	Metformin and Colorectal Cancer – A Systematic Review.. <i>Experimental and Clinical Endocrinology and Diabetes</i> , 2019, 127, 445-454.	0.6	13
404	Review of Biguanide (Metformin) Toxicity. <i>Journal of Intensive Care Medicine</i> , 2019, 34, 863-876.	1.3	80
405	Effect of metformin on blood pressure in patients with hypertension: a randomized clinical trial. <i>Endocrine</i> , 2019, 63, 252-258.	1.1	7
406	Incidencia, factores relacionados con la presentaci3n, evoluci3n y mortalidad de la acidosis l3ctica asociada a metformina en el 3rea sanitaria de un hospital de tercer nivel. <i>Nefrologia</i> , 2019, 39, 35-43.	0.2	2
407	Metformin as Anti-Aging Therapy: Is It for Everyone?. <i>Trends in Endocrinology and Metabolism</i> , 2019, 30, 745-755.	3.1	154
408	Mitochondrial glycerol 3-phosphate dehydrogenase deficiency aggravates hepatic triglyceride accumulation and steatosis. <i>Metabolism Open</i> , 2019, 3, 100004.	1.4	4
409	Understanding the glucoregulatory mechanisms of metformin in type 2 diabetes mellitus. <i>Nature Reviews Endocrinology</i> , 2019, 15, 569-589.	4.3	391
410	Defective HNF4alpha-dependent gene expression as a driver of hepatocellular failure in alcoholic hepatitis. <i>Nature Communications</i> , 2019, 10, 3126.	5.8	124

#	ARTICLE	IF	CITATIONS
411	Energy metabolism modulation by biguanides in comparison with rotenone in rat liver and heart. Archives of Toxicology, 2019, 93, 2603-2615.	1.9	6
412	Health Benefits of Endurance Training: Implications of the Brain-Derived Neurotrophic Factor – A Systematic Review. Neural Plasticity, 2019, 2019, 1-15.	1.0	19
413	Metformin Inhibits Progression of Head and Neck Squamous Cell Carcinoma by Acting Directly on Carcinoma-Initiating Cells. Cancer Research, 2019, 79, 4360-4370.	0.4	29
414	Controlling blood sugar levels with a glycopolymerosome. Materials Horizons, 2019, 6, 2047-2055.	6.4	34
415	Mitochondrial targets of metformin – Are they physiologically relevant?. BioFactors, 2019, 45, 703-711.	2.6	23
416	Debate on Insulin vs Non-insulin Use in the Hospital Setting – Is It Time to Revise the Guidelines for the Management of Inpatient Diabetes?. Current Diabetes Reports, 2019, 19, 65.	1.7	43
417	Comorbid brain disorders associated with diabetes: therapeutic potentials of prebiotics, probiotics and herbal drugs. Translational Medicine Communications, 2019, 4, .	0.5	12
418	Antidiabetic Drugs and Statins in Nonalcoholic Fatty Liver Disease. Journal of Clinical and Experimental Hepatology, 2019, 9, 723-730.	0.4	46
419	OLFR734 Mediates Glucose Metabolism as a Receptor of Asprosin. Cell Metabolism, 2019, 30, 319-328.e8.	7.2	117
420	AMPK-SIRT1-independent inhibition of ANGPTL3 gene expression is a potential lipid-lowering mechanism of metformin. Journal of Pharmacy and Pharmacology, 2019, 71, 1421-1428.	1.2	5
421	Therapeutic targeting of mitochondrial ROS ameliorates murine model of volume overload cardiomyopathy. Journal of Pharmacological Sciences, 2019, 141, 56-63.	1.1	8
422	Dreh, a long noncoding RNA repressed by metformin, regulates glucose transport in C2C12 skeletal muscle cells. Life Sciences, 2019, 236, 116906.	2.0	10
423	Safety and Mode of Action of Diabetes Medications in comparison with 5-Aminolevulinic Acid (5-ALA). Journal of Diabetes Research, 2019, 2019, 1-10.	1.0	20
424	Regulation of glucose and lipid metabolism in health and disease. Science China Life Sciences, 2019, 62, 1420-1458.	2.3	134
425	Hyperpolarized [1-13C]lactate flux increased in the hippocampal region in diabetic mice. Molecular Brain, 2019, 12, 88.	1.3	15
426	Metformin Improves Mitochondrial Respiratory Activity through Activation of AMPK. Cell Reports, 2019, 29, 1511-1523.e5.	2.9	244
427	A Compendium of Genetic Modifiers of Mitochondrial Dysfunction Reveals Intra-organelle Buffering. Cell, 2019, 179, 1222-1238.e17.	13.5	109
428	Pharmacology of metformin – An update. European Journal of Pharmacology, 2019, 865, 172782.	1.7	41

#	ARTICLE	IF	CITATIONS
429	Metformin lactic acidosis: Should we still be afraid?. <i>Diabetes Research and Clinical Practice</i> , 2019, 157, 107879.	1.1	30
430	Dermal papilla cell culture under hypoxia. <i>British Journal of Dermatology</i> , 2019, 181, e67.	1.4	0
431	Novel Characteristics of Mitochondrial Electron Transport Chain from <i>Eimeria tenella</i> . <i>Genes</i> , 2019, 10, 29.	1.0	17
432	Extracorporeal Removal of Poisons and Toxins. <i>Clinical Journal of the American Society of Nephrology: CJASN</i> , 2019, 14, 1408-1415.	2.2	32
433	Mitochondrial glycerol phosphate oxidation is modulated by adenylates through allosteric regulation of cytochrome c oxidase activity in mosquito flight muscle. <i>Insect Biochemistry and Molecular Biology</i> , 2019, 114, 103226.	1.2	9
434	Genome-wide association scan for QTL and their positional candidate genes associated with internal organ traits in chickens. <i>BMC Genomics</i> , 2019, 20, 669.	1.2	17
435	Regulation of Hepatic Metabolism, Recent Advances, and Future Perspectives. <i>Current Diabetes Reports</i> , 2019, 19, 98.	1.7	7
436	Glucose Metabolism in Pancreatic Cancer. <i>Cancers</i> , 2019, 11, 1460.	1.7	74
437	Controlled-release mitochondrial protonophore (CRMP) reverses dyslipidemia and hepatic steatosis in dysmetabolic nonhuman primates. <i>Science Translational Medicine</i> , 2019, 11, .	5.8	44
438	The Role of Pharmacogenomics in Diabetes. , 2019, , 247-269.		1
439	Perspectives of Phage Therapy in Non-bacterial Infections. <i>Frontiers in Microbiology</i> , 2018, 9, 3306.	1.5	49
440	Unraveling the Regulation of Hepatic Gluconeogenesis. <i>Frontiers in Endocrinology</i> , 2018, 9, 802.	1.5	156
441	<p>The beneficial effects of metformin on cancer prevention and therapy: a comprehensive review of recent advances</p>. <i>Cancer Management and Research</i> , 2019, Volume 11, 3295-3313.	0.9	238
442	Observational Studies on the Association Between Post-diagnostic Metformin Use and Survival in Ovarian Cancer: A Systematic Review and Meta-Analysis. <i>Frontiers in Oncology</i> , 2019, 9, 458.	1.3	22
443	Linking bioenergetic function of mitochondria to tissue-specific molecular fingerprints. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2019, 317, E374-E387.	1.8	29
444	Metformin Alters Locomotor and Cognitive Function and Brain Metabolism in Normoglycemic Mice. , 2019, 10, 949.		36
445	Inflamming. , 2019, , 1599-1629.		3
446	Effects of metformin on the heart with ischaemia-reperfusion injury: Evidence of its benefits from in vitro, in vivo and clinical reports. <i>European Journal of Pharmacology</i> , 2019, 858, 172489.	1.7	19

#	ARTICLE	IF	CITATIONS
447	Inhibition of mitochondrial complex 1 by the S6K1 inhibitor PF-4708671 partly contributes to its glucose metabolic effects in muscle and liver cells. <i>Journal of Biological Chemistry</i> , 2019, 294, 12250-12260.	1.6	16
448	Metformin improves salivary gland inflammation and hypofunction in murine Sjögren's syndrome. <i>Arthritis Research and Therapy</i> , 2019, 21, 136.	1.6	37
449	Cis-11 Conjugated Linoleic Acid Reduces Phosphoenolpyruvate Carboxykinase Expression and Hepatic Glucose Production in HepG2 Cells. <i>Lipids</i> , 2019, 54, 369-379.	0.7	5
450	Association of glycemic status and interferon- γ production with leukocytes and platelet indices alterations in type2 diabetes. <i>Diabetes and Metabolic Syndrome: Clinical Research and Reviews</i> , 2019, 13, 1963-1969.	1.8	8
451	Role of Mitochondria in the Mechanism(s) of Action of Metformin. <i>Frontiers in Endocrinology</i> , 2019, 10, 294.	1.5	197
452	Mitochondria in Obesity and Type 2 Diabetes: Concluding Review and Research Perspectives. , 2019, , 421-431.		2
453	Metformin acutely lowers blood glucose levels by inhibition of intestinal glucose transport. <i>Scientific Reports</i> , 2019, 9, 6156.	1.6	78
454	Molecular Mechanisms and Signaling Pathways Involved in Sertoli Cell Proliferation. <i>Frontiers in Endocrinology</i> , 2019, 10, 224.	1.5	144
455	Incidence, factors related to presentation, course and mortality of metformin-associated lactic acidosis in the healthcare area of a tertiary hospital. <i>Nefrologia</i> , 2019, 39, 35-43.	0.2	2
456	The therapeutic potential of metformin in gastric cancer. <i>Gastric Cancer</i> , 2019, 22, 653-662.	2.7	20
457	Metformin and Breast Cancer: Molecular Targets. <i>Journal of Mammary Gland Biology and Neoplasia</i> , 2019, 24, 111-123.	1.0	57
458	Lipotoxicity and β^2 Cell Maintenance in Obesity and Type 2 Diabetes. <i>Journal of the Endocrine Society</i> , 2019, 3, 617-631.	0.1	67
459	Commentary: Lactate-Induced Glucose Output Is Unchanged by Metformin at a Therapeutic Concentration—A Mass Spectrometry Imaging Study of the Perfused Rat Liver. <i>Frontiers in Pharmacology</i> , 2019, 10, 90.	1.6	5
460	Understanding the cardiovascular risk with non-insulin antidiabetic drugs. <i>Expert Opinion on Drug Safety</i> , 2019, 18, 241-251.	1.0	8
461	Insulin Resistance as a Shared Pathogenic Mechanism Between Depression and Type 2 Diabetes. <i>Frontiers in Psychiatry</i> , 2019, 10, 57.	1.3	93
462	Metformin-induced changes of the gut microbiota in healthy young men: results of a non-blinded, one-armed intervention study. <i>Diabetologia</i> , 2019, 62, 1024-1035.	2.9	135
463	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
464	Metformin-activated AMPK regulates β -catenin to reduce cell proliferation in colon carcinoma RKO cells. <i>Oncology Letters</i> , 2019, 17, 2695-2702.	0.8	32

#	ARTICLE	IF	CITATIONS
465	Metformin: Mechanisms in Human Obesity and Weight Loss. <i>Current Obesity Reports</i> , 2019, 8, 156-164.	3.5	188
466	The Role of Platelets in Diabetes Mellitus. , 2019, , 469-503.		9
467	Hepatic exposure of metformin in patients with non-alcoholic fatty liver disease. <i>British Journal of Clinical Pharmacology</i> , 2019, 85, 1761-1770.	1.1	19
468	Dethroning the king?: The future of metformin as first line therapy in type 2 diabetes. <i>Journal of Diabetes and Its Complications</i> , 2019, 33, 462-464.	1.2	3
469	Consequences of a Metabolic Glucose-Depletion on the Survival and the Metabolism of Cultured Rat Astrocytes. <i>Neurochemical Research</i> , 2019, 44, 2288-2300.	1.6	13
470	Vaccarin ameliorates insulin resistance and steatosis by activating the AMPK signaling pathway. <i>European Journal of Pharmacology</i> , 2019, 851, 13-24.	1.7	30
471	Taming expectations of metformin as a treatment to extend healthspan. <i>GeroScience</i> , 2019, 41, 101-108.	2.1	27
472	<sc>NF</sc> as the mediator of metformin's effect on ageing and ageing-related diseases. <i>Clinical and Experimental Pharmacology and Physiology</i> , 2019, 46, 413-422.	0.9	83
473	Metformin Counteracts HCC Progression and Metastasis Enhancing KLF6/p21 Expression and Downregulating the IGF Axis. <i>International Journal of Endocrinology</i> , 2019, 2019, 1-14.	0.6	22
474	Association of preadmission metformin use and mortality in patients with sepsis and diabetes mellitus: a systematic review and meta-analysis of cohort studies. <i>Critical Care</i> , 2019, 23, 50.	2.5	58
475	The Use of Radioprotective Agents to Prevent Effects Associated with Aging. <i>Biology Bulletin</i> , 2019, 46, 1657-1670.	0.1	1
476	Potential role of cinnamaldehyde and costunolide to counteract metabolic syndrome induced by excessive fructose consumption. <i>Beni-Suef University Journal of Basic and Applied Sciences</i> , 2019, 8, .	0.8	9
477	Metformin and Its Implication in Cancer Therapy. , 2019, , .		0
478	The Association of Premorbid Metformin Exposure With Mortality and Organ Dysfunction in Sepsis: A Systematic Review and Meta-Analysis. , 2019, 1, e0009.		8
479	Metformin Modulates the Mechanisms of Ageing. , 2019, , .		0
480	STABILITY INDICATING METHOD DEVELOPMENT AND VALIDATION OF METFORMIN AND ERTUGLIFLOZIN BY HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY WITH PDA DETECTION AND ITS APPLICATION TO TABLET DOSAGE FORM. <i>Asian Journal of Pharmaceutical and Clinical Research</i> , 0, , 353-358.	0.3	3
481	Metformin activates KDM2A to reduce rRNA transcription and cell proliferation by dual regulation of AMPK activity and intracellular succinate level. <i>Scientific Reports</i> , 2019, 9, 18694.	1.6	12
482	Metformin: A Candidate Drug for Renal Diseases. <i>International Journal of Molecular Sciences</i> , 2019, 20, 42.	1.8	48

#	ARTICLE	IF	CITATIONS
483	Probing mitochondrial metabolism in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20-22.	3.3	14
484	Insights into the Epidemiology, Pathogenesis, and Therapeutics of Nonalcoholic Fatty Liver Diseases. Advanced Science, 2019, 6, 1801585.	5.6	110
485	Sustained low-efficiency dialysis for metformin-associated lactic acidosis in patients with acute kidney injury. Journal of Nephrology, 2019, 32, 297-306.	0.9	15
486	Bi-directional drug-microbiome interactions of anti-diabetics. EBioMedicine, 2019, 39, 591-602.	2.7	82
487	Metformin Affects Heme Function as a Possible Mechanism of Action. G3: Genes, Genomes, Genetics, 2019, 9, 513-522.	0.8	12
488	Mitochondrial dysfunction in diabetes and the regulatory roles of antidiabetic agents on the mitochondrial function. Journal of Cellular Physiology, 2019, 234, 8402-8410.	2.0	52
489	Differential effects of metformin glycinate and hydrochloride in glucose production, AMPK phosphorylation and insulin sensitivity in hepatocytes from non-diabetic and diabetic mice. Food and Chemical Toxicology, 2019, 123, 470-480.	1.8	9
490	Diabesity and antidiabetic drugs. Molecular Aspects of Medicine, 2019, 66, 3-12.	2.7	42
491	Deficiency of Mitochondrial Glycerol 3-Phosphate Dehydrogenase Contributes to Hepatic Steatosis. Hepatology, 2019, 70, 84-97.	3.6	30
492	Kinetic Analysis of Hepatic Metabolism Using Hyperpolarized Dihydroxyacetone. Journal of Chemical Information and Modeling, 2019, 59, 605-614.	2.5	6
493	Phytomodulatory proteins promote inhibition of hepatic glucose production and favor glycemic control via the AMPK pathway. Biomedicine and Pharmacotherapy, 2019, 109, 2342-2347.	2.5	9
494	Low metformin causes a more oxidized mitochondrial NADH/NAD redox state in hepatocytes and inhibits gluconeogenesis by a redox-independent mechanism. Journal of Biological Chemistry, 2019, 294, 2839-5691.	1.6	56
495	SGLT2 inhibitors and metformin: Dual antihyperglycemic therapy and the risk of metabolic acidosis in type 2 diabetes. European Journal of Pharmacology, 2019, 846, 23-29.	1.7	43
496	Comparative effects of proximal and distal small intestinal administration of metformin on plasma glucose and glucagon-like peptide-1, and gastric emptying after oral glucose, in type 2 diabetes. Diabetes, Obesity and Metabolism, 2019, 21, 640-647.	2.2	31
497	Metformin increases glucose uptake and acts renoprotectively by reducing SHIP2 activity. FASEB Journal, 2019, 33, 2858-2869.	0.2	59
498	Metformin inhibits mitochondrial adaptations to aerobic exercise training in older adults. Aging Cell, 2019, 18, e12880.	3.0	135
499	AMPK: a therapeutic target of heart failure" not only metabolism regulation. Bioscience Reports, 2019, 39, .	1.1	59
500	Revealing causality between heterogeneous data sources with deep restricted Boltzmann machines. Information Fusion, 2019, 50, 139-147.	11.7	0

#	ARTICLE	IF	CITATIONS
501	Metformin as a geroprotector: experimental and clinical evidence. <i>Biogerontology</i> , 2019, 20, 33-48.	2.0	88
502	Metformin Accelerates Glycolytic Lactate Production in Cultured Primary Cerebellar Granule Neurons. <i>Neurochemical Research</i> , 2019, 44, 188-199.	1.6	7
503	Metformin induced autophagy in diabetes mellitus " Tuberculosis co-infection patients: A case study. <i>Indian Journal of Tuberculosis</i> , 2019, 66, 64-69.	0.3	18
504	Using Unlabeled Data to Discover Bivariate Causality with Deep Restricted Boltzmann Machines. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 2020, 17, 358-364.	1.9	0
505	Mitochondrial dynamics in exercise physiology. <i>Pflugers Archiv European Journal of Physiology</i> , 2020, 472, 137-153.	1.3	32
506	<i>Cancer Metabolism.</i> , 2020, , 127-138.e4.		3
507	Flavonoids extracted from mulberry (<i>Morus alba</i> L.) leaf improve skeletal muscle mitochondrial function by activating AMPK in type 2 diabetes. <i>Journal of Ethnopharmacology</i> , 2020, 248, 112326.	2.0	87
508	Metformin-related lactic acidosis with acute kidney injury: results of a French observational multicenter study. <i>Clinical Toxicology</i> , 2020, 58, 375-382.	0.8	18
509	Treatment with metformin and sorafenib alleviates endometrial hyperplasia in polycystic ovary syndrome by promoting apoptosis via synergically regulating autophagy. <i>Journal of Cellular Physiology</i> , 2020, 235, 1339-1348.	2.0	20
510	SHIPping out diabetes"Metformin, an old friend among new SHIP2 inhibitors. <i>Acta Physiologica</i> , 2020, 228, e13349.	1.8	12
511	Time to development of metformin-associated lactic acidosis. <i>Clinical Toxicology</i> , 2020, 58, 758-762.	0.8	6
512	Nutritive sucking creates a neurophysiological bridge over the birth gap. <i>Acta Paediatrica, International Journal of Paediatrics</i> , 2020, 109, 233-235.	0.7	1
513	Metformin Effects on FOXP3 + and CD8 + T Cell Infiltrates of Head and Neck Squamous Cell Carcinoma. <i>Laryngoscope</i> , 2020, 130, E490-E498.	1.1	24
514	Combination of Oligofructose and Metformin Alters the Gut Microbiota and Improves Metabolic Profiles, Contributing to the Potentiated Therapeutic Effects on Diet-Induced Obese Animals. <i>Frontiers in Endocrinology</i> , 2019, 10, 939.	1.5	15
515	A review of phenformin, metformin, and imeglimin. <i>Drug Development Research</i> , 2020, 81, 390-401.	1.4	50
516	Loss of TSC complex enhances gluconeogenesis via upregulation of <i>Dlk1-Dio3</i> locus miRNAs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 1524-1532.	3.3	8
517	A randomised, double-blind, placebo-controlled trial of metformin on myocardial efficiency in insulin-resistant chronic heart failure patients without diabetes. <i>European Journal of Heart Failure</i> , 2020, 22, 1628-1637.	2.9	39
518	Recognition of gluconeogenic enzymes; Icl1, Fbp1, and Mdh2 by Gid4 ligase: A molecular docking study. <i>Journal of Molecular Recognition</i> , 2020, 33, e2831.	1.1	6

#	ARTICLE	IF	CITATIONS
519	Comparison of the gamma-Pareto convolution with conventional methods of characterising metformin pharmacokinetics in dogs. <i>Journal of Pharmacokinetics and Pharmacodynamics</i> , 2020, 47, 19-45.	0.8	6
520	Organic Cation Transporters in Health and Disease. <i>Pharmacological Reviews</i> , 2020, 72, 253-319.	7.1	180
521	Metformin promotes innate immunity through a conserved PMK-1/p38 MAPK pathway. <i>Virulence</i> , 2020, 11, 39-48.	1.8	36
522	A MSN-based tumor-targeted nanoplatform to interfere with lactate metabolism to induce tumor cell acidosis for tumor suppression and anti-metastasis. <i>Nanoscale</i> , 2020, 12, 2966-2972.	2.8	35
523	FDG uptake tracks the oxidative damage in diabetic skeletal muscle: An experimental study. <i>Molecular Metabolism</i> , 2020, 31, 98-108.	3.0	13
524	Two-dimensional Tin Selenide (SnSe) Nanosheets Capable of Mimicking Key Dehydrogenases in Cellular Metabolism. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 3618-3623.	7.2	58
525	Two-dimensional Tin Selenide (SnSe) Nanosheets Capable of Mimicking Key Dehydrogenases in Cellular Metabolism. <i>Angewandte Chemie</i> , 2020, 132, 3647-3652.	1.6	8
526	Kinetic modelling of quantitative proteome data predicts metabolic reprogramming of liver cancer. <i>British Journal of Cancer</i> , 2020, 122, 233-244.	2.9	16
527	Neonatal cardiac hypertrophy: the role of hyperinsulinism—a review of literature. <i>European Journal of Pediatrics</i> , 2020, 179, 39-50.	1.3	23
528	Mitochondrially-targeted treatment strategies. <i>Molecular Aspects of Medicine</i> , 2020, 71, 100836.	2.7	40
529	The clinical potential of thiol redox proteomics. <i>Expert Review of Proteomics</i> , 2020, 17, 41-48.	1.3	6
530	Emerging Roles of BRD7 in Pathophysiology. <i>International Journal of Molecular Sciences</i> , 2020, 21, 7127.	1.8	12
531	Glyoxalase system: A systematic review of its biological activity, related-diseases, screening methods and small molecule regulators. <i>Biomedicine and Pharmacotherapy</i> , 2020, 131, 110663.	2.5	60
532	A safety evaluation of current medications for adult women with the polycystic ovarian syndrome not pursuing pregnancy. <i>Expert Opinion on Drug Safety</i> , 2020, 19, 1559-1576.	1.0	3
533	Biological evaluation and SAR analysis of novel covalent inhibitors against fructose-1,6-bisphosphatase. <i>Bioorganic and Medicinal Chemistry</i> , 2020, 28, 115624.	1.4	4
534	Mitochondrial responses to organelle-specific drug delivering nanoparticles composed of polypeptide and peptide complexes. <i>Nanomedicine</i> , 2020, 15, 2917-2932.	1.7	2
535	Role of metformin in various pathologies: state-of-the-art microcapsules for improving its pharmacokinetics. <i>Therapeutic Delivery</i> , 2020, 11, 733-753.	1.2	6
536	Outcomes after surgery in patients with diabetes who used metformin: a retrospective cohort study based on a real-world database. <i>BMJ Open Diabetes Research and Care</i> , 2020, 8, e001351.	1.2	6

#	ARTICLE	IF	CITATIONS
537	Metformin: Metabolic Rewiring Faces Tumor Heterogeneity. <i>Cells</i> , 2020, 9, 2439.	1.8	22
538	Metformin and Chemoprevention: Potential for Heart-Healthy Targeting of Biologically Aggressive Breast Cancer. <i>Frontiers in Public Health</i> , 2020, 8, 509714.	1.3	13
539	Metformin treatment in heart failure with preserved ejection fraction: a systematic review and meta-regression analysis. <i>Cardiovascular Diabetology</i> , 2020, 19, 124.	2.7	46
540	Metformin improves blood glucose by increasing incretins independent of changes in gluconeogenesis in youth with type 2 diabetes. <i>Diabetologia</i> , 2020, 63, 2194-2204.	2.9	9
541	Adropin regulates hepatic glucose production via PP2A/AMPK pathway in insulin-resistant hepatocytes. <i>FASEB Journal</i> , 2020, 34, 10056-10072.	0.2	27
542	<p>Intronic Variants in OCT1 are Associated with All-Cause and Cardiovascular Mortality in Metformin Users with Type 2 Diabetes</p>. <i>Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy</i> , 2020, Volume 13, 2069-2080.	1.1	3
543	Novel Targets in Glucose Homeostasis and Obesityâ€™Lesson from Rare Mutations. <i>Current Diabetes Reports</i> , 2020, 20, 66.	1.7	1
544	Metformin decreases bacterial trimethylamine production and trimethylamine N-oxide levels in db/db mice. <i>Scientific Reports</i> , 2020, 10, 14555.	1.6	22
545	Is metformin a geroprotector? A peek into the current clinical and experimental data. <i>Mechanisms of Ageing and Development</i> , 2020, 191, 111350.	2.2	12
546	Metformin and cancer immunity. <i>Acta Pharmacologica Sinica</i> , 2020, 41, 1403-1409.	2.8	54
547	Disease, Drugs and Dysbiosis: Understanding Microbial Signatures in Metabolic Disease and Medical Interventions. <i>Microorganisms</i> , 2020, 8, 1381.	1.6	9
548	Cardioprotective Effects of Sirtuin-1 and Its Downstream Effectors. <i>Circulation: Heart Failure</i> , 2020, 13, e007197.	1.6	103
549	Metformin Protects against Podocyte Injury in Diabetic Kidney Disease. <i>Pharmaceuticals</i> , 2020, 13, 452.	1.7	11
550	The Impact of Antidiabetic Therapies on Diastolic Dysfunction and Diabetic Cardiomyopathy. <i>Frontiers in Physiology</i> , 2020, 11, 603247.	1.3	11
551	Resveratrol, Rapamycin and Metformin as Modulators of Antiviral Pathways. <i>Viruses</i> , 2020, 12, 1458.	1.5	12
552	Metformin-Induced Lactic Acidosis: A Question of Time. <i>Case Reports in Critical Care</i> , 2020, 2020, 1-4.	0.2	2
553	On the use of Mendelian randomization to assess the consequences of metformin exposure. <i>International Journal of Epidemiology</i> , 2020, 49, 1408-1410.	0.9	1
554	The Metformin Mechanism on Gluconeogenesis and AMPK Activation: The Metabolite Perspective. <i>International Journal of Molecular Sciences</i> , 2020, 21, 3240.	1.8	71

#	ARTICLE	IF	CITATIONS
555	Mechanisms of action of metformin in type 2 diabetes: Effects on mitochondria and leukocyte-endothelium interactions. <i>Redox Biology</i> , 2020, 34, 101517.	3.9	91
556	Hepatic NADH reductive stress underlies common variation in metabolic traits. <i>Nature</i> , 2020, 583, 122-126.	13.7	108
557	Metformin use reduced the risk of stomach cancer in diabetic patients in Korea: an analysis of Korean NHIS-HEALS database. <i>Gastric Cancer</i> , 2020, 23, 1075-1083.	2.7	10
558	Metformin and Berberine suppress glycogenolysis by inhibiting glycogen phosphorylase and stabilizing the molecular structure of glycogen in db/db mice. <i>Carbohydrate Polymers</i> , 2020, 243, 116435.	5.1	12
559	Emerging strategies to target cancer metabolism and improve radiation therapy outcomes. <i>British Journal of Radiology</i> , 2020, 93, 20200067.	1.0	15
560	Role of ketogenic starvation sensors in mediating the renal protective effects of SGLT2 inhibitors in type 2 diabetes. <i>Journal of Diabetes and Its Complications</i> , 2020, 34, 107647.	1.2	28
561	Enhanced Release of Glucose Into the Intraluminal Space of the Intestine Associated With Metformin Treatment as Revealed by [18F]Fluorodeoxyglucose PET-MRI. <i>Diabetes Care</i> , 2020, 43, 1796-1802.	4.3	33
562	From the Argonauts Mythological Sailors to the Argonauts RNA-Silencing Navigators: Their Emerging Roles in Human-Cell Pathologies. <i>International Journal of Molecular Sciences</i> , 2020, 21, 4007.	1.8	10
563	From Prediabetes to Type 2 Diabetes Mellitus in Women with Polycystic Ovary Syndrome: Lifestyle and Pharmacological Management. <i>International Journal of Endocrinology</i> , 2020, 2020, 1-10.	0.6	19
564	Determination of metformin bio-distribution by LC-MS/MS in mice treated with a clinically relevant paradigm. <i>PLoS ONE</i> , 2020, 15, e0234571.	1.1	30
565	Diabetes, Metformin, and Lung Cancer: Retrospective Study of the Korean NHIS-HEALS Database. <i>Clinical Lung Cancer</i> , 2020, 21, e551-e559.	1.1	10
566	Significance of Metformin Use in Diabetic Kidney Disease. <i>International Journal of Molecular Sciences</i> , 2020, 21, 4239.	1.8	38
567	Differential effects of metformin on reductive activity and energy production in pituitary tumor cells compared to myogenic precursors. <i>Endocrine</i> , 2020, 69, 604-614.	1.1	3
568	Berbamine induced AMPK activation regulates mTOR/SREBP-1c axis and Nrf2/ARE pathway to allay lipid accumulation and oxidative stress in steatotic HepG2 cells. <i>European Journal of Pharmacology</i> , 2020, 882, 173244.	1.7	27
569	Centella asiatica: its potential for the treatment of diabetes. , 2020, , 213-222.		1
570	GPD1 Enhances the Anticancer Effects of Metformin by Synergistically Increasing Total Cellular Glycerol-3-Phosphate. <i>Cancer Research</i> , 2020, 80, 2150-2162.	0.4	43
571	Serine Catabolism Feeds NADH when Respiration Is Impaired. <i>Cell Metabolism</i> , 2020, 31, 809-821.e6.	7.2	118
572	Metformin Use and the Risk of Cancer in Patients with Diabetes: A Nationwide Sample Cohort Study. <i>Cancer Prevention Research</i> , 2020, 13, 195-202.	0.7	15

#	ARTICLE	IF	CITATIONS
573	Metabolic Health, Insulin, and Breast Cancer: Why Oncologists Should Care About Insulin. <i>Frontiers in Endocrinology</i> , 2020, 11, 58.	1.5	45
574	Mitochondrial Diseases: Hope for the Future. <i>Cell</i> , 2020, 181, 168-188.	13.5	243
575	Experts's™ opinion on inositols in treating polycystic ovary syndrome and non-insulin dependent diabetes mellitus: a further help for human reproduction and beyond. <i>Expert Opinion on Drug Metabolism and Toxicology</i> , 2020, 16, 255-274.	1.5	45
576	Metformin: (future) best friend of the radiation oncologist?. <i>Radiotherapy and Oncology</i> , 2020, 151, 95-105.	0.3	21
577	Activation of SIK1 by phanginin A inhibits hepatic gluconeogenesis by increasing PDE4 activity and suppressing the cAMP signaling pathway. <i>Molecular Metabolism</i> , 2020, 41, 101045.	3.0	14
578	The road ahead for health and lifespan interventions. <i>Ageing Research Reviews</i> , 2020, 59, 101037.	5.0	76
579	Phenformin Inhibits Hedgehog-Dependent Tumor Growth through a Complex I-Independent Redox/Corepressor Module. <i>Cell Reports</i> , 2020, 30, 1735-1752.e7.	2.9	37
581	Gluconeogenesis and glycogen metabolism during development of Pacific abalone, <i>Haliotis discus hannai</i> . <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2020, 318, R619-R633.	0.9	8
582	Metformin and Its Benefits for Various Diseases. <i>Frontiers in Endocrinology</i> , 2020, 11, 191.	1.5	240
583	Checking NEKs: Overcoming a Bottleneck in Human Diseases. <i>Molecules</i> , 2020, 25, 1778.	1.7	36
584	Benefits of Metformin in Attenuating the Hallmarks of Aging. <i>Cell Metabolism</i> , 2020, 32, 15-30.	7.2	379
585	Reviews on New Drug Targets in Age-Related Disorders. <i>Advances in Experimental Medicine and Biology</i> , 2020, , .	0.8	5
586	The Elusive Link Between Cancer FDG Uptake and Glycolytic Flux Explains the Preserved Diagnostic Accuracy of PET/CT in Diabetes. <i>Translational Oncology</i> , 2020, 13, 100752.	1.7	8
587	Management of mitochondrial diabetes in the era of novel therapies. <i>Journal of Diabetes and Its Complications</i> , 2021, 35, 107584.	1.2	25
588	Metformin, Microbiome and Protection Against Colorectal Cancer. <i>Digestive Diseases and Sciences</i> , 2021, 66, 1409-1414.	1.1	18
589	The use of geroprotectors to prevent multimorbidity: Opportunities and challenges. <i>Mechanisms of Ageing and Development</i> , 2021, 193, 111391.	2.2	9
590	Impact of sex hormones dysregulation and adiposity on the outcome of postmenopausal breast cancer patients. <i>Clinical Obesity</i> , 2021, 11, e12423.	1.1	7
591	Metformin Lowers Body Weight But Fails to Increase Insulin Sensitivity in Chronic Heart Failure Patients without Diabetes: a Randomized, Double-Blind, Placebo-Controlled Study. <i>Cardiovascular Drugs and Therapy</i> , 2021, 35, 491-503.	1.3	6

#	ARTICLE	IF	CITATIONS
592	Metformin directly suppresses atherosclerosis in normoglycaemic mice via haematopoietic adenosine monophosphate-activated protein kinase. <i>Cardiovascular Research</i> , 2021, 117, 1295-1308.	1.8	32
593	The DANish randomized, double-blind, placebo controlled trial in patients with chronic HEART failure (DANHEART): A 2 × 2 factorial trial of hydralazine-isosorbide dinitrate in patients with chronic heart failure (H-HeFT) and metformin in patients with chronic heart failure and diabetes or prediabetes (Met-HeFT). <i>American Heart Journal</i> , 2021, 231, 137-146.	1.2	21
594	Metabolic heterogeneity of human hepatocellular carcinoma: implications for personalized pharmacological treatment. <i>FEBS Journal</i> , 2021, 288, 2332-2346.	2.2	12
595	Mechanism of action of Imeglimin: A novel therapeutic agent for type 2 diabetes. <i>Diabetes, Obesity and Metabolism</i> , 2021, 23, 664-673.	2.2	76
596	MELAS Syndrome and MIDD Unmasked by Metformin Use: A Case Report. <i>Annals of Internal Medicine</i> , 2021, 174, 124-125.	2.0	14
597	Potential of incretin hormones and modulation of metabolic enzymes as possible mechanisms behind the insulin sensitizing effects of cabbage-metformin treatment. <i>Translational Research</i> , 2021, 230, 44-54.	2.2	1
598	Metformin usage and the risk of colorectal cancer: a national cohort study. <i>International Journal of Colorectal Disease</i> , 2021, 36, 303-310.	1.0	13
599	Cellular and Molecular Mechanisms of Metformin Action. <i>Endocrine Reviews</i> , 2021, 42, 77-96.	8.9	279
601	Energy Metabolism Gluconeogenesis. , 2021, , 170-186.		4
602	A New Understanding of Metformin. , 2021, , .		1
603	Improvement Effect of Metformin on Female and Male Reproduction in Endocrine Pathologies and Its Mechanisms. <i>Pharmaceuticals</i> , 2021, 14, 42.	1.7	33
604	Biodegradable copper-metformin nanoscale coordination polymers for enhanced chemo/chemodynamic synergistic therapy by reducing oxygen consumption to promote H ₂ O ₂ accumulation. <i>Journal of Materials Chemistry B</i> , 2021, 9, 1988-2000.	2.9	19
605	Current treatment paradigms and emerging therapies for NAFLD/NASH. <i>Frontiers in Bioscience - Landmark</i> , 2021, 26, 206-237.	3.0	140
606	Cucurbitacin B Suppresses Hyperglycemia Associated with a High Sugar Diet and Promotes Sleep in <i>Drosophila melanogaster</i> . <i>Molecules and Cells</i> , 2021, 44, 68-78.	1.0	7
607	Roles of hepatic atypical protein kinase C hyperactivity and hyperinsulinemia in insulin-resistant forms of obesity and type 2 diabetes mellitus. <i>MedComm</i> , 2021, 2, 3-16.	3.1	5
608	Obesity Connected Metabolic Changes in Type 2 Diabetic Patients Treated With Metformin. <i>Frontiers in Pharmacology</i> , 2020, 11, 616157.	1.6	16
609	Is type 2 diabetes an adiposity-based metabolic disease? From the origin of insulin resistance to the concept of dysfunctional adipose tissue. <i>Eating and Weight Disorders</i> , 2021, 26, 2429-2441.	1.2	19
610	Metformin Attenuates the Metabolic Disturbance and Depression-like Behaviors Induced by Corticosterone and Mediates the Glucose Metabolism Pathway. <i>Pharmacopsychiatry</i> , 2021, 54, 131-141.	1.7	7

#	ARTICLE	IF	CITATIONS
611	Potentilla fulgens upregulate GLUT4, AMPK, AKT and insulin in alloxan-induced diabetic mice: an in vivo and in silico study. Archives of Physiology and Biochemistry, 2021, , 1-13.	1.0	3
612	Multifaceted Mechanisms of Action of Metformin Which Have Been Unraveled One after Another in the Long History. International Journal of Molecular Sciences, 2021, 22, 2596.	1.8	36
613	Discovery through Machine Learning and Preclinical Validation of Novel Anti-Diabetic Peptides. Biomedicines, 2021, 9, 276.	1.4	14
614	Metformin use in cancer survivors with diabetes reduces all-cause mortality, based on the Korean National Health Insurance Service between 2002 and 2015. Medicine (United States), 2021, 100, e25045.	0.4	4
615	Pancreatic cancer cachexia: three dimensions of a complex syndrome. British Journal of Cancer, 2021, 124, 1623-1636.	2.9	30
616	The Relationship between the Gut Microbiome and Metformin as a Key for Treating Type 2 Diabetes Mellitus. International Journal of Molecular Sciences, 2021, 22, 3566.	1.8	62
617	Mitochondrial Dysfunction: Cause or Consequence of Vascular Calcification?. Frontiers in Cell and Developmental Biology, 2021, 9, 611922.	1.8	41
618	Impact of metformin on the therapeutic effect of radiotherapy. Radiation Medicine and Protection, 2021, 2, 17-22.	0.4	3
619	Impact of Concurrent Coincident Use of Metformin During Lung Stereotactic Body Radiation Therapy. Cureus, 2021, 13, e14157.	0.2	1
620	SGLT2 Inhibitors as Calorie Restriction Mimetics: Insights on Longevity Pathways and Age-Related Diseases. Endocrinology, 2021, 162, .	1.4	35
621	Mitochondrial Dysfunction and Chronic Inflammation in Polycystic Ovary Syndrome. International Journal of Molecular Sciences, 2021, 22, 3923.	1.8	54
622	Towards Better Drug Repositioning: Targeted Immunoinflammatory Therapy for Diabetic Nephropathy. Current Medicinal Chemistry, 2021, 28, 1003-1024.	1.2	4
623	Glucose Metabolism in Osteoblasts in Healthy and Pathophysiological Conditions. International Journal of Molecular Sciences, 2021, 22, 4120.	1.8	17
624	Metformin's Therapeutic Efficacy in the Treatment of Diabetes Does Not Involve Inhibition of Mitochondrial Glycerol Phosphate Dehydrogenase. Diabetes, 2021, 70, 1575-1580.	0.3	14
625	Feasibility trial of metformin XR in people with pre-diabetes and stroke (MIPPS)-randomised open blinded endpoint controlled trial. Journal of Clinical Neuroscience, 2021, 86, 103-109.	0.8	0
626	Liver-targeting drugs and their effect on blood glucose and hepatic lipids. Diabetologia, 2021, 64, 1461-1479.	2.9	21
627	A Bibliometrics Analysis of Metformin Development From 1980 to 2019. Frontiers in Pharmacology, 2021, 12, 645810.	1.6	17
628	AMP-activated protein kinase: A remarkable contributor to preserve a healthy heart against ROS injury. Free Radical Biology and Medicine, 2021, 166, 238-254.	1.3	52

#	ARTICLE	IF	CITATIONS
629	Reversible Total Vision Loss Caused by Severe Metformin-associated Lactic Acidosis: A Case Report. <i>Clinical Practice and Cases in Emergency Medicine</i> , 2021, 2, 206-209.	0.1	1
630	Does Metformin Satisfy as an Option for Host-Directed Therapy in COVID-19?. <i>Anti-Infective Agents</i> , 2021, 19, 123-130.	0.1	1
631	The Role of AMPK Signaling in Brown Adipose Tissue Activation. <i>Cells</i> , 2021, 10, 1122.	1.8	35
632	Metformin turns 62 in pharmacotherapy: Emergence of non-glycaemic effects and potential novel therapeutic applications. <i>European Journal of Pharmacology</i> , 2021, 898, 173934.	1.7	11
633	DHODH inhibition modulates glucose metabolism and circulating GDF15, and improves metabolic balance. <i>IScience</i> , 2021, 24, 102494.	1.9	11
634	How Physiological Targets Can Be Distinguished from Drug-binding Proteins. <i>Molecular Pharmacology</i> , 2021, 100, MOLPHARM-EMC-2020-000186.	1.0	3
635	Highlighting the Protective or Degenerative Role of AMPK Activators in Dementia Experimental Models. <i>CNS and Neurological Disorders - Drug Targets</i> , 2021, 20, 786-801.	0.8	0
636	Mitochondrion-driven nephroprotective mechanisms of novel glucose lowering medications. <i>Mitochondrion</i> , 2021, 58, 72-82.	1.6	13
637	Targeting Adrenergic Receptors in Metabolic Therapies for Heart Failure. <i>International Journal of Molecular Sciences</i> , 2021, 22, 5783.	1.8	13
638	Visceral Adipose Tissue Displays Unique Metabolomic Fingerprints in Obesity, Pre-Diabetes and Type 2 Diabetes. <i>International Journal of Molecular Sciences</i> , 2021, 22, 5695.	1.8	6
639	Interaction between Metformin, Folate and Vitamin B12 and the Potential Impact on Fetal Growth and Long-Term Metabolic Health in Diabetic Pregnancies. <i>International Journal of Molecular Sciences</i> , 2021, 22, 5759.	1.8	28
640	Cholinergic and metabolic effects of metformin in mouse brain. <i>Brain Research Bulletin</i> , 2021, 170, 211-217.	1.4	6
641	Targeting Mitochondria in Diabetes. <i>International Journal of Molecular Sciences</i> , 2021, 22, 6642.	1.8	46
642	Prevention of Hypertensive Disorders of Pregnancyâ€”Is There a Place for Metformin?. <i>Journal of Clinical Medicine</i> , 2021, 10, 2805.	1.0	6
644	The Hormetic Effect of Metformin: â€œLess Is Moreâ€?. <i>International Journal of Molecular Sciences</i> , 2021, 22, 6297.	1.8	13
645	A HIF1 α -GPD1 feedforward loop inhibits the progression of renal clear cell carcinoma via mitochondrial function and lipid metabolism. <i>Journal of Experimental and Clinical Cancer Research</i> , 2021, 40, 188.	3.5	27
646	Efficacy and Side Effect Profile of Different Formulations of Metformin: A Systematic Review and Meta-Analysis. <i>Diabetes Therapy</i> , 2021, 12, 1901-1914.	1.2	22
647	Meta-Assessment of Metformin Absorption and Disposition Pharmacokinetics in Nine Species. <i>Pharmaceuticals</i> , 2021, 14, 545.	1.7	13

#	ARTICLE	IF	CITATIONS
648	Sam68 promotes hepatic gluconeogenesis via CRTC2. <i>Nature Communications</i> , 2021, 12, 3340.	5.8	12
649	Repurposing metformin to treat age-related neurodegenerative disorders and ischemic stroke. <i>Life Sciences</i> , 2021, 274, 119343.	2.0	33
650	A rapid LC-PDA method for the simultaneous quantification of metformin, empagliflozin and linagliptin in pharmaceutical dosage form. <i>Annales Pharmaceutiques Francaises</i> , 2021, 80, 48-48.	0.4	2
651	Metformin Targets Foxo1 to Control Glucose Homeostasis. <i>Biomolecules</i> , 2021, 11, 873.	1.8	8
652	The Role of Mitochondrial Mutations and Chronic Inflammation in Diabetes. <i>International Journal of Molecular Sciences</i> , 2021, 22, 6733.	1.8	25
653	Offset of apparent hyperpolarized ¹³ C lactate flux by the use of adjuvant metformin in ionizing radiation therapy in vivo. <i>NMR in Biomedicine</i> , 2021, 34, e4561.	1.6	5
654	Reactive Hypoglycemia From Metformin Immediate-Release Monotherapy Resolved by a Switch to Metformin Extended-Release: Conceptualizing Their Concentration-Time Curves. <i>Cureus</i> , 2021, 13, e16112.	0.2	0
656	Phosphate and fibroblast growth factor 23 in diabetes. <i>Clinical Science</i> , 2021, 135, 1669-1687.	1.8	12
657	Biguanides: Species with versatile therapeutic applications. <i>European Journal of Medicinal Chemistry</i> , 2021, 219, 113378.	2.6	29
658	Metformin as a Treatment Strategy for Sjögren's Syndrome. <i>International Journal of Molecular Sciences</i> , 2021, 22, 7231.	1.8	8
659	Glycerol-3-phosphate biosynthesis regenerates cytosolic NAD ⁺ to alleviate mitochondrial disease. <i>Cell Metabolism</i> , 2021, 33, 1974-1987.e9.	7.2	55
661	Current and emerging gluconeogenesis inhibitors for the treatment of Type 2 diabetes. <i>Expert Opinion on Pharmacotherapy</i> , 2021, 22, 2167-2179.	0.9	7
662	Mechanisms of Action of Metformin. , 0, , .		1
663	Hyperpolarized NMR study of the impact of pyruvate dehydrogenase kinase inhibition on the pyruvate dehydrogenase and TCA flux in type 2 diabetic rat muscle. <i>Pflügers Archiv European Journal of Physiology</i> , 2021, 473, 1761-1773.	1.3	2
664	Chemical and biological investigations of Limonium axillare reveal mechanistic evidence for its antidiabetic activity. <i>PLoS ONE</i> , 2021, 16, e0255904.	1.1	3
665	The Gut Microbiome, Metformin, and Aging. <i>Annual Review of Pharmacology and Toxicology</i> , 2022, 62, 85-108.	4.2	28
666	Metformin: Pros and Cons. , 0, , .		0
667	Lactate and Myocardial Energy Metabolism. <i>Frontiers in Physiology</i> , 2021, 12, 715081.	1.3	26

#	ARTICLE	IF	CITATIONS
668	Therapeutic Repurposing of Biguanides in Cancer. <i>Trends in Cancer</i> , 2021, 7, 714-730.	3.8	32
669	New Molecular Targets for Antidepressant Drugs. <i>Pharmaceuticals</i> , 2021, 14, 894.	1.7	22
670	Mitochondrial metabolism as a potential therapeutic target in myeloid leukaemia. <i>Leukemia</i> , 2022, 36, 1-12.	3.3	54
671	Efficacy and safety of PXL770, a direct AMP kinase activator, for the treatment of non-alcoholic fatty liver disease (STAMP-NAFLD): a randomised, double-blind, placebo-controlled, phase 2a study. <i>The Lancet Gastroenterology and Hepatology</i> , 2021, 6, 889-902.	3.7	26
673	Restoration of mRNA Expression of Solute Carrier Proteins in Liver of Diet-Induced Obese Mice by Metformin. <i>Frontiers in Endocrinology</i> , 2021, 12, 720784.	1.5	6
674	Beneficial effects of metformin on glomerular podocytes in diabetes. <i>Biochemical Pharmacology</i> , 2021, 192, 114687.	2.0	6
675	Biguanides drugs: Past success stories and promising future for drug discovery. <i>European Journal of Medicinal Chemistry</i> , 2021, 224, 113726.	2.6	15
676	Cellular mechanisms and recommended drug-based therapeutic options in diabetic cardiomyopathy. , 2021, 228, 107920.		20
677	Stability indicating method development and validation for simultaneous estimation and quantification of Ertugliflozin and Metformin in bulk and tablet dosage form. <i>Future Journal of Pharmaceutical Sciences</i> , 2021, 7, .	1.1	2
678	Exploring vulnerabilities of quiescent tumor cells by targeting mitochondrial bioenergetics. , 2021, , 547-564.		0
679	Should metformin remain the first-line therapy for treatment of type 2 diabetes?. <i>Therapeutic Advances in Endocrinology and Metabolism</i> , 2021, 12, 204201882098022.	1.4	58
680	Inhibition of mitochondrial function by metformin increases glucose uptake, glycolysis and GDF-15 release from intestinal cells. <i>Scientific Reports</i> , 2021, 11, 2529.	1.6	52
681	miR-378a-3p Participates in Metformin's Mechanism of Action on C2C12 Cells under Hyperglycemia. <i>International Journal of Molecular Sciences</i> , 2021, 22, 541.	1.8	8
682	The Use of Metformin to Increase the Human Healthspan. <i>Advances in Experimental Medicine and Biology</i> , 2020, 1260, 319-332.	0.8	39
683	Mouse Models to Study Metformin Effects in Carcinogenesis. <i>Energy Balance and Cancer</i> , 2015, , 271-292.	0.2	1
684	Inflammaging. , 2018, , 1-31.		4
685	Short-Chain Fatty Acid Production and Functional Aspects on Host Metabolism. , 2018, , 37-106.		15
686	Dynamic Imaging of LDH Inhibition in Tumors Reveals Rapid In Vivo Metabolic Rewiring and Vulnerability to Combination Therapy. <i>Cell Reports</i> , 2020, 30, 1798-1810.e4.	2.9	73

#	ARTICLE	IF	CITATIONS
687	Multi-Tissue Acceleration of the Mitochondrial Phosphoenolpyruvate Cycle Improves Whole-Body Metabolic Health. <i>Cell Metabolism</i> , 2020, 32, 751-766.e11.	7.2	41
688	Novel potent antiplatelet thrombotic agent derived from biguanide for ischemic stroke. <i>European Journal of Medicinal Chemistry</i> , 2020, 200, 112462.	2.6	11
689	Metformin-coated silver nanoparticles exhibit anti-acanthamoebic activities against both trophozoite and cyst stages. <i>Experimental Parasitology</i> , 2020, 215, 107915.	0.5	19
690	Context-Dependent Pharmacological Effects of Metformin on the Immune System. <i>Trends in Pharmacological Sciences</i> , 2020, 41, 162-171.	4.0	34
691	Metformin and Systemic Metabolism. <i>Trends in Pharmacological Sciences</i> , 2020, 41, 868-881.	4.0	105
692	The Hepatic Plasma Membrane Citrate Transporter NaCT (SLC13A5) as a Molecular Target for Metformin. <i>Scientific Reports</i> , 2020, 10, 8536.	1.6	18
693	CDC25B partners with PP2A to induce AMPK activation and tumor suppression in triple negative breast cancer. <i>NAR Cancer</i> , 2021, 2, zcaa039.	1.6	13
697	Targeting liver stage malaria with metformin. <i>JCI Insight</i> , 2019, 4, .	2.3	23
698	Regulation of hepatic mitochondrial oxidation by glucose-alanine cycling during starvation in humans. <i>Journal of Clinical Investigation</i> , 2019, 129, 4671-4675.	3.9	45
699	Therapeutic approaches targeting inflammation for diabetes and associated cardiovascular risk. <i>Journal of Clinical Investigation</i> , 2017, 127, 83-93.	3.9	127
700	Metformin Inhibits Growth of Human Glioblastoma Cells and Enhances Therapeutic Response. <i>PLoS ONE</i> , 2015, 10, e0123721.	1.1	151
701	Medium Renewal Blocks Anti-Proliferative Effects of Metformin in Cultured MDA-MB-231 Breast Cancer Cells. <i>PLoS ONE</i> , 2016, 11, e0154747.	1.1	16
702	Metformin Prevents Nigrostriatal Dopamine Degeneration Independent of AMPK Activation in Dopamine Neurons. <i>PLoS ONE</i> , 2016, 11, e0159381.	1.1	63
703	Simvastatin and metformin inhibit cell growth in hepatitis C virus infected cells via mTOR increasing PTEN and autophagy. <i>PLoS ONE</i> , 2018, 13, e0191805.	1.1	33
704	Metformin ameliorates body mass gain and early metabolic changes in ovariectomized rats. <i>Endocrine Connections</i> , 2019, 8, 1568-1578.	0.8	7
705	How treatments with endocrine and metabolic drugs influence pituitary cell function. <i>Endocrine Connections</i> , 2020, 9, R14-R27.	0.8	4
706	The role of an anti-diabetic drug metformin in the treatment of endocrine tumors. <i>Journal of Molecular Endocrinology</i> , 2019, 63, R17-R35.	1.1	42
707	Immunometabolic cross-talk in the inflamed heart. <i>Cell Stress</i> , 2019, 3, 240-266.	1.4	19

#	ARTICLE	IF	CITATIONS
708	Metformin modifies glutamine metabolism in an in vitro and in vivo model of hepatic encephalopathy. Revista Espanola De Enfermedades Digestivas, 2018, 110, 427-433.	0.1	3
709	Knockdown of Indy/CeNac2 extends Caenorhabditis elegans life span by inducing AMPK/aak-2. Aging, 2015, 7, 553-567.	1.4	27
710	Metformin reduces glucose intolerance caused by rapamycin treatment in genetically heterogeneous female mice. Aging, 2018, 10, 386-401.	1.4	32
711	Metformin: the updated protective property in kidney disease. Aging, 2020, 12, 8742-8759.	1.4	21
712	Intratumoral heterogeneity of the therapeutical response to gemcitabine and metformin. Oncotarget, 2016, 7, 56395-56407.	0.8	24
713	Metformin enhances the radiosensitivity of human liver cancer cells to $\hat{1}^3$ -rays and carbon ion beams. Oncotarget, 2016, 7, 80568-80578.	0.8	17
714	Metformin induces distinct bioenergetic and metabolic profiles in sensitive versus resistant high grade serous ovarian cancer and normal fallopian tube secretory epithelial cells. Oncotarget, 2018, 9, 4044-4060.	0.8	15
715	Pharmacogenetics: Implications for Modern Type 2 Diabetes Therapy. Review of Diabetic Studies, 2015, 12, 363-376.	0.5	12
716	The Basic Science of Metabolism in Pulmonary Arterial Hypertension. Advances in Pulmonary Hypertension, 2018, 17, 95-102.	0.1	7
717	Metformin Restrains Pancreatic Duodenal Homeobox-1 (PDX-1) Function by Inhibiting ERK Signaling in Pancreatic Ductal Adenocarcinoma.. Current Molecular Medicine, 2016, 16, 83-90.	0.6	15
718	Insulin Resistance the Link between T2DM and CVD: Basic Mechanisms and Clinical Implications. Current Vascular Pharmacology, 2019, 17, 153-163.	0.8	39
719	Metabolic Effects of Metformin in Humans. Current Diabetes Reviews, 2019, 15, 328-339.	0.6	8
720	THE ROLE OF AMPK AND MTOR IN THE DEVELOPMENT OF INSULIN RESISTANCE AND TYPE 2 DIABETES. THE MECHANISM OF METFORMIN ACTION (literature review). Problemi Endokrinnoi Patologii, 2016, 57, 77-90.	0.0	10
721	Can Metformin Exert as an Active Drug on Endothelial Dysfunction in Diabetic Subjects?. Biomedicines, 2021, 9, 3.	1.4	67
722	Diabeticâ€induced alterations in hepatic glucose and lipid metabolism: The role of type 1 and type 2 diabetes mellitus (Review). Molecular Medicine Reports, 2020, 22, 603-611.	1.1	63
723	Metformin Ameliorates Lipotoxic $\hat{1}^2$ -Cell Dysfunction through a Concentration-Dependent Dual Mechanism of Action. Diabetes and Metabolism Journal, 2019, 43, 854.	1.8	14
724	Toxicidad por metformina, mÃ¡s allÃ de la falla renal y la acidosis lÃctica: reporte de dos casos. Medicina UPB, 2021, 40, 80-83.	0.1	0
725	Adverse Effects of Metformin From Diabetes to COVID-19, Cancer, Neurodegenerative Diseases, and Aging: Is VDAC1 a Common Target?. Frontiers in Physiology, 2021, 12, 730048.	1.3	22

#	ARTICLE	IF	CITATIONS
726	Distinct contributions of metabolic dysfunction and genetic risk factors in the pathogenesis of non-alcoholic fatty liver disease. <i>Journal of Hepatology</i> , 2022, 76, 526-535.	1.8	80
727	mTORC1-induced retinal progenitor cell overproliferation leads to accelerated mitotic aging and degeneration of descendent Müller glia. <i>ELife</i> , 2021, 10, .	2.8	5
728	Redox Homeostasis Involvement in the Pharmacological Effects of Metformin in Systemic Lupus Erythematosus. <i>Antioxidants and Redox Signaling</i> , 2022, 36, 462-479.	2.5	6
731	Hypoxia Reduction Sensitizes Refractory Cancers to Immunotherapy. <i>Annual Review of Medicine</i> , 2022, 73, 251-265.	5.0	30
732	Simultaneous estimation of pioglitazone, glimepiride & metformin hydrochloride in bulk & tablet dosage form by UV, RP-HPLC method. <i>International Journal of Pharmaceutical Chemistry and Analysis</i> , 2021, 8, 91-99.	0.1	5
733	In vitro and in vivo efficacy of Metformin against dengue. <i>Antiviral Research</i> , 2021, 195, 105186.	1.9	4
734	The Way Forward: Translation. , 2016, , 593-622.		0
735	Antidiabetika. <i>Springer-Lehrbuch</i> , 2016, , 645-667.	0.1	0
738	Polycystic Ovary Syndrome and the Role of Metformin in Ovulation Induction. <i>Health</i> , 2018, 10, 565-576.	0.1	1
740	Renal Energy Metabolism Following Acute Dichloroacetate and 2,4-Dinitrophenol Administration: Assessing the Cumulative Action with Hyperpolarized [1-13C]Pyruvate MRI. <i>Tomography</i> , 2018, 4, 105-109.	0.8	0
741	CHRONIC INTERACTION BETWEEN METFORMIN AND MELOXICAM IN MICE. <i>Asian Journal of Pharmaceutical and Clinical Research</i> , 0, , 452-458.	0.3	0
742	Metformin alters signaling induced crosstalk and homeostasis in the carcinogenesis paradigm –Epistemology of the origin of cancer– 4open, 2019, 2, 12.	0.1	0
743	Role of Mitochondria in Pancreatic Metabolism, Diabetes, and Cancer. , 2019, , 71-94.		0
744	Metformin poisoning treated with high dose insulin dextrose therapy: a case series. <i>Acta Medica Lituanica</i> , 2019, 26, 72-78.	0.2	1
746	A case of metformin-associated lactic acidosis successfully treated by continuous renal replacement therapy. <i>Journal of the Japanese Society of Intensive Care Medicine</i> , 2019, 26, 273-274.	0.0	0
747	Breathing the air of mitochondrial respiration via an important oncotarget - mitochondrial glycerophosphate dehydrogenase (mGPDH). <i>Oncotarget</i> , 2019, 10, 6400-6402.	0.8	0
748	Antidiabetika. , 2020, , 679-702.		0
749	Optimizing the Interaction of Exercise Volume and Metformin to Induce a Clinically Significant Reduction in Metabolic Syndrome Severity: A Randomised Trial. <i>International Journal of Environmental Research and Public Health</i> , 2020, 17, 3695.	1.2	3

#	ARTICLE	IF	CITATIONS
750			
751	Effect of Quercetin and Metformin on Glucose Transporter-4 Expression, Oxidative Stress, Inflammation Markers and Insulin Resistance in Type 2 Diabetes Mellitus. <i>Bulletin of Egyptian Society for Physiological Sciences</i> , 2020, 40, 70-85.	0.0	0
752	An update on the effectiveness of metformin alone and with chemotherapy drugs on tumor cells. <i>European Journal of Cell Science</i> , 2020, 2, 10-19.	0.2	0
753	Health and Pro-Longevity Interventions. <i>Healthy Ageing and Longevity</i> , 2020, , 473-495.	0.2	1
754	Metformin: A Leading HDT Candidate for TB. , 2021, , 97-108.		2
755	Obesity and schizophrenia: New drugs, new hopes. <i>Psihijatrija Danas</i> , 2020, 52, 113-130.	0.1	0
757	Metformin as a drug modifying gut microbiota. <i>Clinical Endocrinology and Endocrine Surgery</i> , 2020, .	0.1	0
758	The transcriptional corepressor CtBP2 serves as a metabolite sensor orchestrating hepatic glucose and lipid homeostasis. <i>Nature Communications</i> , 2021, 12, 6315.	5.8	12
761	Metformin: Possible Use of a Diabetes Drug in Treatment of Cancer. <i>Clinical Research in Diabetes and Endocrinology</i> , 2018, 1, .	0.0	0
762	Recent development and advances in the fabrication and biomedical applications of nanoparticle-based drug delivery systems for metformin. <i>Materials Chemistry Frontiers</i> , 2022, 6, 128-144.	3.2	3
763	The role of the electron transport chain in immunity. <i>FASEB Journal</i> , 2021, 35, e21974.	0.2	49
764	<i>Dendrocalamus latiflorus</i> and its component rutin exhibit glucose-lowering activities by inhibiting hepatic glucose production via AKT activation. <i>Acta Pharmaceutica Sinica B</i> , 2022, 12, 2239-2251.	5.7	8
765	Integrated or Independent Actions of Metformin in Target Tissues Underlying Its Current Use and New Possible Applications in the Endocrine and Metabolic Disorder Area. <i>International Journal of Molecular Sciences</i> , 2021, 22, 13068.	1.8	11
766	Genkwanin Glycosides from the <i>Phaleria Nisidai</i> Extract Improve Glucose Homeostasis by Stimulating Insulin-Independent Glucose Uptake. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
767	Obesity: Molecular Mechanisms, Epidemiology, Complications and Pharmacotherapy. , 2021, , 249-266.		4
768	Alleviation of Liver Fibrosis Via Hepatic Stellate Cells Mitochondrial Apoptosis Induced by Metformin. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
769	Gentiopicroside targets PAQR3 to activate the PI3K/AKT signaling pathway and ameliorate disordered glucose and lipid metabolism. <i>Acta Pharmaceutica Sinica B</i> , 2022, 12, 2887-2904.	5.7	26
770	A multidisciplinary approach to optimizing care of patients treated with alpelisib. <i>Breast</i> , 2022, 61, 156-167.	0.9	12

#	ARTICLE	IF	CITATIONS
771	An update on mode of action of metformin in modulation of meta-inflammation and inflammaging. <i>Pharmacological Reports</i> , 2022, , 1.	1.5	12
772	Metabolic Acidosis. <i>Nephrology Self-assessment Program: NephSAP</i> , 2022, 20, 130-144.	3.0	0
773	Review of pharmaceutical and therapeutic approaches for type 2 diabetes and related disorders. <i>Recent Patents on Biotechnology</i> , 2022, 16, .	0.4	0
774	Metformin and its therapeutic applications in autoimmune inflammatory rheumatic disease. <i>Korean Journal of Internal Medicine</i> , 2022, 37, 13-26.	0.7	20
775	Diane-35 and Metformin Induce Autophagy and Apoptosis in Polycystic Ovary Syndrome Women with Early-Stage Endometrial Carcinoma. <i>Genes</i> , 2022, 13, 131.	1.0	2
776	Sex- and strain-specific effects of mitochondrial uncoupling on age-related metabolic diseases in high-fat diet-fed mice. <i>Aging Cell</i> , 2022, 21, e13539.	3.0	11
777	Management of Phosphatidylinositol-3-Kinase Inhibitor-Associated Hyperglycemia. <i>Integrative Cancer Therapies</i> , 2022, 21, 153473542110731.	0.8	3
778	Use of oral anti-diabetic drugs and risk of hospital and intensive care unit admissions for infections. <i>American Journal of the Medical Sciences</i> , 2022, 364, 53-58.	0.4	3
779	Mitochondria-targeted drugs for diabetic kidney disease. <i>Heliyon</i> , 2022, 8, e08878.	1.4	29
780	Mitochondria as an important target of metformin: The mechanism of action, toxic and side effects, and new therapeutic applications. <i>Pharmacological Research</i> , 2022, 177, 106114.	3.1	48
781	Design, synthesis and structural-activity relationship studies of phanginin A derivatives for regulating SIK1-cAMP/CREB signaling to suppress hepatic gluconeogenesis. <i>European Journal of Medicinal Chemistry</i> , 2022, 232, 114171.	2.6	3
782	Protocols for analyzing metabolic derangements caused by increased NADH/NAD ⁺ ratio in cell lines and in mice. <i>STAR Protocols</i> , 2022, 3, 101120.	0.5	0
783	Deciphering metformin action in obese mice: A critical re-evaluation of established protocols. <i>Metabolism: Clinical and Experimental</i> , 2022, 128, 154956.	1.5	5
784	Metformin bicarbonate-mediated efficient RNAi for precise targeting of TP53 deficiency in colon and rectal cancers. <i>Nano Today</i> , 2022, 43, 101406.	6.2	8
785	Crisis of the Asian gut: associations among diet, microbiota, and metabolic diseases. <i>Bioscience of Microbiota, Food and Health</i> , 2022, , .	0.8	1
786	Metformin in aging and aging-related diseases: clinical applications and relevant mechanisms. <i>Theranostics</i> , 2022, 12, 2722-2740.	4.6	45
787	Targeting gut microbiota-derived butyrate improves hepatic gluconeogenesis through the cAMP-PKA-GCN5 pathway in late pregnant sows. <i>Food and Function</i> , 2022, 13, 4360-4374.	2.1	4
788	Ebselen enhances insulin sensitivity and decreases oxidative stress by inhibiting SHIP2 and protects from inflammation in diabetic mice. <i>International Journal of Biological Sciences</i> , 2022, 18, 1852-1864.	2.6	7

#	ARTICLE	IF	CITATIONS
789	Metformin disrupts insulin secretion, causes proapoptotic and oxidative effects in rat pancreatic beta cells in vitro. <i>Journal of Biochemical and Molecular Toxicology</i> , 2022, , e23007.	1.4	0
790	Mitochondrial dysfunction in mandibular hypoplasia, deafness and progeroid features with concomitant lipodystrophy (MDPL) patients. <i>Aging</i> , 2022, 14, 1651-1664.	1.4	3
791	Low-dose metformin targets the lysosomal AMPK pathway through PEN2. <i>Nature</i> , 2022, 603, 159-165.	13.7	205
792	Metformin improves skeletal muscle microvascular insulin resistance in metabolic syndrome. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2022, 322, E173-E180.	1.8	9
793	Insulin-like growth factor role in determining the anti-cancer effect of metformin: RCT in prostate cancer patients. <i>Endocrine Connections</i> , 2022, 11, .	0.8	3
794	Intestinal AMPK modulation of microbiota mediates crosstalk with brown fat to control thermogenesis. <i>Nature Communications</i> , 2022, 13, 1135.	5.8	28
795	Metformin, phenformin, and galegine inhibit complex IV activity and reduce glycerol-derived gluconeogenesis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2122287119.	3.3	37
796	Crosstalk Between Senescent Bone Cells and the Bone Tissue Microenvironment Influences Bone Fragility During Chronological Age and in Diabetes. <i>Frontiers in Physiology</i> , 2022, 13, 812157.	1.3	8
797	Reduced lactic acidosis risk with Imeglimin: Comparison with Metformin. <i>Physiological Reports</i> , 2022, 10, e15151.	0.7	13
798	Neurological manifestations in m.3243A>G-related disease triggered by metformin. <i>Journal of Diabetes and Its Complications</i> , 2022, 36, 108111.	1.2	11
799	Let-7 underlies metformin-induced inhibition of hepatic glucose production. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2122217119.	3.3	8
800	Genetic Predisposition to Diabetes and Abdominal Aortic Aneurysm: A Two Stage Mendelian Randomisation Study. <i>European Journal of Vascular and Endovascular Surgery</i> , 2022, 63, 512-519.	0.8	9
801	Treatment and five-year follow-up of type A insulin resistance syndrome: A case report. <i>World Journal of Clinical Cases</i> , 2022, 10, 2522-2528.	0.3	0
802	A Clinical Perspective of the Multifaceted Mechanism of Metformin in Diabetes, Infections, Cognitive Dysfunction, and Cancer. <i>Pharmaceuticals</i> , 2022, 15, 442.	1.7	11
803	The Roles of Antidotes in Emergency Situations. <i>Emergency Medicine Clinics of North America</i> , 2022, 40, 381-394.	0.5	3
804	Metformin-mediated mitochondrial protection post-cardiac arrest improves EEG activity and confers neuroprotection and survival benefit. <i>FASEB Journal</i> , 2022, 36, e22307.	0.2	6
805	D-galactose-induced aging in rats – The effect of metformin on bioenergetics of brain, skeletal muscle and liver. <i>Experimental Gerontology</i> , 2022, 163, 111770.	1.2	6
806	Mitigation of liver fibrosis via hepatic stellate cells mitochondrial apoptosis induced by metformin. <i>International Immunopharmacology</i> , 2022, 108, 108683.	1.7	4

#	ARTICLE	IF	CITATIONS
807	A Review on Metformin: Clinical Significance and Side Effects. Research Journal of Pharmacy and Technology, 2021, , 6179-6186.	0.2	3
808	Metformin induces lactate accumulation and accelerates renal cyst progression in <i>Pkd1</i> -deficient mice. Human Molecular Genetics, 2022, 31, 1560-1573.	1.4	11
809	Loss of hexokinase 1 sensitizes ovarian cancer to high-dose metformin. Cancer & Metabolism, 2021, 9, 41.	2.4	5
811	Frontiers in Anti-Cancer Drug Discovery: Challenges and Perspectives of Metformin as Anti-Angiogenic Add-On Therapy in Glioblastoma. Cancers, 2022, 14, 112.	1.7	11
812	Metformin for Tuberculosis Infection. , 0, , .		0
813	Mitochondrial oxidative phosphorylation is dispensable for survival of CD34+ chronic myeloid leukemia stem and progenitor cells. Cell Death and Disease, 2022, 13, 384.	2.7	5
814	Hyperpolarized ¹³ C MRI Reveals Large Changes in Pyruvate Metabolism During Digestion in Snakes. Magnetic Resonance in Medicine, 2022, 88, 890-900.	1.9	3
820	The lactate receptor GPR81 mediates hepatic lipid metabolism and the therapeutic effect of metformin on experimental NAFLDs. European Journal of Pharmacology, 2022, 924, 174959.	1.7	10
821	Silencing alanine transaminase 2 in diabetic liver attenuates hyperglycemia by reducing gluconeogenesis from amino acids. Cell Reports, 2022, 39, 110733.	2.9	18
822	Updated Understanding of the Crosstalk Between Glucose/Insulin and Cholesterol Metabolism. Frontiers in Cardiovascular Medicine, 2022, 9, 879355.	1.1	8
823	Effect of berberine in comparison to metformin on the biophysical and biochemical parameters in diabetic albino Wistar rats. International Journal of Health Sciences, 0, , 4998-5014.	0.0	0
824	Targeting Energy Metabolism in Cancer Treatment. International Journal of Molecular Sciences, 2022, 23, 5572.	1.8	6
825	Antidiabetic Drugs and their Potential Use in COVID-19: A Mechanistic Approach. Endocrine, Metabolic and Immune Disorders - Drug Targets, 2022, 22, .	0.6	0
826	Metformin-associated Lactic Acidosis with Hypoglycemia during the COVID-19 Pandemic. Internal Medicine, 2022, 61, 2333-2337.	0.3	4
827	The role of MicroRNA networks in tissue-specific direct and indirect effects of metformin and its application. Biomedicine and Pharmacotherapy, 2022, 151, 113130.	2.5	3
828	A precision medicine approach to metabolic therapy for breast cancer in mice. Communications Biology, 2022, 5, .	2.0	9
830	Metformin: Is it a drug for all reasons and diseases?. Metabolism: Clinical and Experimental, 2022, 133, 155223.	1.5	92
831	Effect of Metformin on Glycemic Control Regarding Carriers of the SLC22A1/OCT1 (rs628031) Polymorphism and Its Interactions with Dietary Micronutrients in Type 2 Diabetes. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy, 0, Volume 15, 1771-1784.	1.1	6

#	ARTICLE	IF	CITATIONS
832	Impact of Metformin on the Warburg Effect on Cancer Cells. International Journal of Medical Science and Clinical Research Studies, 2022, 02, .	0.0	0
833	Inhibition of basal and glucagon-induced hepatic glucose production by 991 and other pharmacological AMPK activators. Biochemical Journal, 2022, 479, 1317-1336.	1.7	2
834	Modulation of Reactive Oxygen Species Homeostasis as a Pleiotropic Effect of Commonly Used Drugs. Frontiers in Aging, 0, 3, .	1.2	3
835	Imeglimin: features of the mechanism of action and potential benefits. Problemy Endokrinologii, 2022, 68, 57-66.	0.2	1
836	The Mechanism of Action of Biguanides: New Answers to a Complex Question. Cancers, 2022, 14, 3220.	1.7	14
837	Metabolic Action of Metformin. Pharmaceuticals, 2022, 15, 810.	1.7	23
838	Controlling Herpes Simplex Virus-Induced Immunoinflammatory Lesions Using Metabolic Therapy: a Comparison of 2-Deoxy- α -D-Glucose with Metformin. Journal of Virology, 0, , .	1.5	5
839	Mitochondrial adaptation in cancer drug resistance: prevalence, mechanisms, and management. Journal of Hematology and Oncology, 2022, 15, .	6.9	53
840	THERAPEUTIC USE OF METFORMIN IN THYROID CANCER. Military Medical Science Letters (Vojenske) Tj ETQq0 0 0 rgt /Overlock 10 Tf	0.2	1
841	Mitochondrial GCN5L1 regulates cytosolic redox state and hepatic gluconeogenesis via glycerol phosphate shuttle GPD2. Biochemical and Biophysical Research Communications, 2022, 621, 1-7.	1.0	2
842	Therapeutic vs. Suprapharmacological Metformin Concentrations: Different Effects on Energy Metabolism and Mitochondrial Function in Skeletal Muscle Cells in vitro. Frontiers in Pharmacology, 0, 13, .	1.6	10
843	Actions of Metformin in the Brain: A New Perspective of Metformin Treatments in Related Neurological Disorders. International Journal of Molecular Sciences, 2022, 23, 8281.	1.8	12
844	Metformin and Gegen Qinlian Decoction boost islet β -cell proliferation of the STZ induced diabetic rats. BMC Complementary Medicine and Therapies, 2022, 22, .	1.2	1
845	Evaluating the efficacy and mechanism of metformin targets on reducing Alzheimer's disease risk in the general population: a Mendelian randomisation study. Diabetologia, 2022, 65, 1664-1675.	2.9	32
846	Relationship Between Plasmatic Metformin Concentration and Renal Replacement Therapy: A Multicenter Cohort Study. Therapeutic Drug Monitoring, 2022, 44, 791-796.	1.0	1
847	Immunomodulatory and Antiaging Mechanisms of Resveratrol, Rapamycin, and Metformin: Focus on mTOR and AMPK Signaling Networks. Pharmaceuticals, 2022, 15, 912.	1.7	17
849	Entering the sugar rush era: revisiting the antihyperglycemic activities of biguanides after a century of metformin discovery. Current Medicinal Chemistry, 2022, 29, .	1.2	3
851	Glucose-lowering effects of orally administered superoxide dismutase in type 2 diabetic model rats. Npj Science of Food, 2022, 6, .	2.5	4

#	ARTICLE	IF	CITATIONS
852	The Effects of Nutrient Signaling Regulators in Combination with Phytocannabinoids on the Senescence-Associated Phenotype in Human Dermal Fibroblasts. <i>International Journal of Molecular Sciences</i> , 2022, 23, 8804.	1.8	7
853	Effect of metformin on intact mitochondria from liver and brain: Concept revisited. <i>European Journal of Pharmacology</i> , 2022, 931, 175177.	1.7	3
854	Angiotensin II induces podocyte metabolic reprogramming from glycolysis to glycerol-3-phosphate biosynthesis. <i>Cellular Signalling</i> , 2022, 99, 110443.	1.7	3
855	Metformin Decreases Serum Thyroglobulin Concentration in Non-Medullary Thyroid Carcinoma. <i>Journal of the Endocrine Society</i> , 0, , .	0.1	0
856	Metformin Use May Increase Risk of Pancreatic Cancer in Diabetic Women: An Analysis of the Korean National Health Insurance Service-National Health Screening Cohort Database. <i>Korean Journal of Family Medicine</i> , 2022, 43, 327-333.	0.4	2
857	Tumor, whole blood, plasma, and tissue concentrations of metformin in lung cancer patients. <i>British Journal of Clinical Pharmacology</i> , 0, , .	1.1	2
858	Sirtuins are not conserved longevity genes. , 2022, 1, 122-133.		11
859	Obligatory Role of AMPK Activation and Antioxidant Defense Pathway in the Regulatory Effects of Metformin on Cellular Protection and Prevention of Lens Opacity. <i>Cells</i> , 2022, 11, 3021.	1.8	3
860	Effects of single-nucleotide polymorphism on the pharmacokinetics and pharmacodynamics of metformin. <i>Expert Review of Clinical Pharmacology</i> , 2022, 15, 1107-1117.	1.3	4
861	Metformin's Impact on the Microvascular Response to Insulin. <i>Endocrinology</i> , 2022, 163, .	1.4	3
862	Hypothesis-generating proteome perturbation to identify NEU-4438 and acoziborole modes of action in the African Trypanosome. <i>IScience</i> , 2022, 25, 105302.	1.9	1
863	Role of mitochondrial DNA in diabetes Mellitus Type I and Type II. <i>Saudi Journal of Biological Sciences</i> , 2022, 29, 103434.	1.8	6
864	The METRO study: a retrospective analysis of the efficacy of metformin for type 2 diabetes in Japan. <i>Endocrine Journal</i> , 2022, , .	0.7	0
865	Youth-onset type 2 diabetes mellitus: an urgent challenge. <i>Nature Reviews Nephrology</i> , 2023, 19, 168-184.	4.1	20
866	Continuous extracorporeal clearance in metformin-associated lactic acidosis and metformin-induced lactic acidosis: a systematic review. <i>Clinical Toxicology</i> , 2022, 60, 1266-1276.	0.8	3
867	A blast from the past: To tame time with metformin. <i>Mechanisms of Ageing and Development</i> , 2022, 208, 111743.	2.2	3
868	Shedding light on non-alcoholic fatty liver disease: Pathogenesis, molecular mechanisms, models, and emerging therapeutics. <i>Life Sciences</i> , 2023, 312, 121185.	2.0	12
869	Metformin: A Promising Antidiabetic Medication for Cancer Treatment. <i>Current Drug Targets</i> , 2023, 24, 41-54.	1.0	6

#	ARTICLE	IF	CITATIONS
870	Plasma exosomal miR-122 regulates the efficacy of metformin via AMPK in type 2 diabetes and hepatocellular carcinoma. <i>Heliyon</i> , 2022, 8, e11503.	1.4	2
871	Metformin as a Potential Antitumor Agent. <i>Serbian Journal of Experimental and Clinical Research</i> , 2022, .	0.2	0
872	Repurposing of Metformin for the prevention and treatment of Tuberculosis. <i>Brazilian Journal of Pharmaceutical Sciences</i> , 0, 58, .	1.2	0
873	Non-bioenergetic roles of mitochondrial GPD2 promote tumor progression. <i>Theranostics</i> , 2023, 13, 438-457.	4.6	2
874	Bioactive compounds from <i>Polygonatum</i> genus as anti-diabetic agents with future perspectives. <i>Food Chemistry</i> , 2023, 408, 135183.	4.2	17
875	New potential for an old kid on the block: Impact of premonitory metformin use on lactate kinetics, kidney injury and mortality in sepsis and septic shock, an observational study. <i>Endocrinology, Diabetes and Metabolism</i> , 2023, 6, .	1.0	2
876	Cascade-Enhanced Catalytic Nanocomposite with Glutathione Depletion and Respiration Inhibition for Effective Starving-Chemodynamic Therapy Against Hypoxic Tumor. <i>International Journal of Nanomedicine</i> , 0, Volume 17, 5491-5510.	3.3	1
877	Metformin in therapeutic applications in human diseases: its mechanism of action and clinical study. <i>Molecular Biomedicine</i> , 2022, 3, .	1.7	19
878	Artificial neural network applied to fragile X-associated tremor/ataxia syndrome stage diagnosis based on peripheral mitochondrial bioenergetics and brain imaging outcomes. <i>Scientific Reports</i> , 2022, 12, .	1.6	2
879	Research Progress of Population Pharmacokinetic of Metformin. <i>BioMed Research International</i> , 2022, 2022, 1-10.	0.9	0
880	An injectable and pH-responsive hyaluronic acid hydrogel as metformin carrier for prevention of breast cancer recurrence. <i>Carbohydrate Polymers</i> , 2023, 304, 120493.	5.1	12
881	The dynamic clustering of insulin receptor underlies its signaling and is disrupted in insulin resistance. <i>Nature Communications</i> , 2022, 13, .	5.8	16
882	Diabetes Mellitus and Microbiota: Knowledge and Perspectives. <i>Healthy Ageing and Longevity</i> , 2023, , 131-151.	0.2	0
883	Advancements in the treatment of non-alcoholic fatty liver disease (NAFLD). <i>Frontiers in Endocrinology</i> , 0, 13, .	1.5	30
884	Caloric restriction induced epigenetic effects on aging. <i>Frontiers in Cell and Developmental Biology</i> , 0, 10, .	1.8	2
885	Effect of Sirolimus/Metformin Co-Treatment on Hyperglycemia and Cellular Respiration in BALB/c Mice. <i>International Journal of Molecular Sciences</i> , 2023, 24, 1223.	1.8	0
886	A Review of the Impact of Pharmacogenetics and Metabolomics on the Efficacy of Metformin in Type 2 Diabetes. <i>International Journal of Medical Sciences</i> , 2023, 20, 142-150.	1.1	9
887	Metformin Induces Apoptosis in Human Pancreatic Cancer (PC) Cells Accompanied by Changes in the Levels of Histone Acetyltransferases (Particularly, p300/CBP-Associated Factor (PCAF) Protein Levels). <i>Pharmaceuticals</i> , 2023, 16, 115.	1.7	5

#	ARTICLE	IF	CITATIONS
888	AMPK inhibits liver gluconeogenesis: fact or fiction?. <i>Biochemical Journal</i> , 2023, 480, 105-125.	1.7	6
889	Recent advances in molecular mechanisms of acute kidney injury in patients with diabetes mellitus. <i>Frontiers in Endocrinology</i> , 0, 13, .	1.5	3
890	De novo cholesterol biosynthesis: an additional therapeutic target for the treatment of postmenopausal breast cancer with excessive adipose tissue. <i>Exploration of Targeted Anti-tumor Therapy</i> , 0, , 841-852.	0.5	1
891	Metabolomic profiles of metformin in breast cancer survivors: a pooled analysis of plasmas from two randomized placebo-controlled trials. <i>Journal of Translational Medicine</i> , 2022, 20, .	1.8	4
892	Time to Change: A Systems Pharmacology Approach to Disentangle Mechanisms of Drug-Induced Mitochondrial Toxicity. <i>Pharmacological Reviews</i> , 2023, 75, 463-486.	7.1	3
893	Metformin acts in the gut and induces gut-liver crosstalk. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2023, 120, .	3.3	15
894	Structural basis of mammalian respiratory complex I inhibition by medicinal biguanides. <i>Science</i> , 2023, 379, 351-357.	6.0	30
895	Action Mechanism of Metformin and Its Application in Hematological Malignancy Treatments: A Review. <i>Biomolecules</i> , 2023, 13, 250.	1.8	4
896	The Endless Beauty of Metformin: Does It Also Protect from Skin Aging? A Narrative Review. <i>Advances in Therapy</i> , 0, , .	1.3	2
897	The Mitochondrion: A Promising Target for Kidney Disease. <i>Pharmaceutics</i> , 2023, 15, 570.	2.0	4
898	Metformin extends the chronological lifespan of fission yeast by altering energy metabolism and stress resistance capacity. <i>FEMS Yeast Research</i> , 2023, 23, .	1.1	1
899	The study of selection signature and its applications on identification of candidate genes using whole genome sequencing data in chicken—a review. <i>Poultry Science</i> , 2023, 102, 102657.	1.5	0
900	Metformin induces pyroptosis in leptin receptor-defective hepatocytes via overactivation of the AMPK axis. <i>Cell Death and Disease</i> , 2023, 14, .	2.7	5
901	Preliminary Study of the Distinctive Mechanism of Shenqi Compound in Treating Rats with Type 2 Diabetes Mellitus by Comparing with Metformin. <i>Current Vascular Pharmacology</i> , 2023, 21, 120-127.	0.8	2
902	Lactate in the tumor microenvironment: A rising star for targeted tumor therapy. <i>Frontiers in Nutrition</i> , 0, 10, .	1.6	13
903	Higher mitochondrial DNA copy number is associated with metformin-induced weight loss. <i>Communications Medicine</i> , 2023, 3, .	1.9	2
904	A novel direct adenosine monophosphate kinase activator ameliorates disease progression in preclinical models of Autosomal Dominant Polycystic Kidney Disease. <i>Kidney International</i> , 2023, 103, 917-929.	2.6	2
905	Glycemic and Extraglycemic Effects of Metformin in Patients with Diabetes. , 0, , .		0

#	ARTICLE	IF	CITATIONS
906	Mechanisms of ageing: growth hormone, dietary restriction, and metformin. <i>Lancet Diabetes and Endocrinology</i> , 2023, 11, 261-281.	5.5	5
907	Metformin counters oxidative stress and mitigates adverse effects of radiation exposure: An overview. <i>Fundamental and Clinical Pharmacology</i> , 0, , .	1.0	0
908	Pharmacological profile and clinical efficacy of imeglimin hydrochloride (TWYMEEG<sup>Â</sup>Tablets), the orally drug for type 2 diabetes mellitus with the first dual mode of action in the world. <i>Folia Pharmacologica Japonica</i> , 2023, 158, 193-202.	0.1	0
909	Gallic acid improves the metformin effects on diabetic kidney disease in mice. <i>Renal Failure</i> , 2023, 45, .	0.8	4
911	Change of metformin concentrations in the liver as a pharmacological target site of metformin after long-term combined treatment with ginseng berry extract. <i>Frontiers in Pharmacology</i> , 0, 14, .	1.6	3
912	Interactions between Intestinal Homeostasis and NAD+ Biology in Regulating Incretin Production and Postprandial Glucose Metabolism. <i>Nutrients</i> , 2023, 15, 1494.	1.7	3
913	Risk analysis of metformin use in prostate cancer: a national population-based study. <i>Aging Male</i> , 2023, 26, .	0.9	0
914	AMPâ€activated protein kinase activators have compound and concentrationâ€specific effects on brain metabolism. <i>Journal of Neurochemistry</i> , 0, , .	2.1	3
915	Molecular mechanisms of action of metformin: latest advances and therapeutic implications. <i>Clinical and Experimental Medicine</i> , 2023, 23, 2941-2951.	1.9	2
916	Changing ROS, NAD and AMP: A path to longevity via mitochondrial therapeutics. <i>Advances in Protein Chemistry and Structural Biology</i> , 2023, , 157-196.	1.0	1
924	Metformin: update on mechanisms of action and repurposing potential. <i>Nature Reviews Endocrinology</i> , 2023, 19, 460-476.	4.3	55
952	The Medicinal Potential and Application of In Vitro Techniques for Improvement of Galega officinalis L.. <i>Food Bioactive Ingredients</i> , 2023, , 331-350.	0.3	0
977	A case of exacerbated encephalopathy with stroke-like episodes and lactic acidosis triggered by metformin in a patient with MELAS. <i>Neurological Sciences</i> , 0, , .	0.9	2