Mulchand S Patel

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/1433279/publications.pdf

Version: 2024-02-01

117 papers	5,104 citations	94269 37 h-index	95083 68 g-index
118 all docs	118 docs citations	118 times ranked	4910 citing authors

#	Article	IF	Citations
1	Molecular biology and biochemistry of pyruvate dehydrogenase complexes ¹. FASEB Journal, 1990, 4, 3224-3233.	0.2	589
2	The Pyruvate Dehydrogenase Complexes: Structure-based Function and Regulation. Journal of Biological Chemistry, 2014, 289, 16615-16623.	1.6	418
3	Maternal high-fat diet consumption results in fetal malprogramming predisposing to the onset of metabolic syndrome-like phenotype in adulthood. American Journal of Physiology - Endocrinology and Metabolism, 2006, 291, E792-E799.	1.8	239
4	Site Specificity of Four Pyruvate Dehydrogenase Kinase Isoenzymes toward the Three Phosphorylation Sites of Human Pyruvate Dehydrogenase. Journal of Biological Chemistry, 2001, 276, 37223-37229.	1.6	195
5	Mutations in the X-linked pyruvate dehydrogenase (E1) ? subunit gene (PDHA1) in patients with a pyruvate dehydrogenase complex deficiency. Human Mutation, 2000, 15, 209-219.	1.1	191
6	Regulation of mammalian pyruvate dehydrogenase complex by phosphorylation: complexity of multiple phosphorylation sites and kinases. Experimental and Molecular Medicine, 2001, 33, 191-197.	3.2	146
7	Structural Basis for Flip-Flop Action of Thiamin Pyrophosphate-dependent Enzymes Revealed by Human Pyruvate Dehydrogenase. Journal of Biological Chemistry, 2003, 278, 21240-21246.	1.6	144
8	NMR Analysis of Covalent Intermediates in Thiamin Diphosphate Enzymes. Biochemistry, 2003, 42, 7885-7891.	1.2	131
9	Mutagenesis Studies of the Phosphorylation Sites of Recombinant Human Pyruvate Dehydrogenase. SITE-SPECIFIC REGULATION. Journal of Biological Chemistry, 1995, 270, 14297-14304.	1.6	110
10	Metabolic Programming: Causes and Consequences. Journal of Biological Chemistry, 2002, 277, 1629-1632.	1.6	108
11	Hypothalamic alterations in fetuses of high fat diet-fed obese female rats. Journal of Endocrinology, 2009, 200, 293-300.	1.2	96
12	Probing the Mechanism of Inactivation of Human Pyruvate Dehydrogenase by Phosphorylation of Three Sites. Journal of Biological Chemistry, 2001, 276, 5731-5738.	1.6	92
13	Mammalian Î±â€keto acid dehydrogenase complexes: gene regulation and genetic defects 1. FASEB Journal, 1995, 9, 1164-1172.	0.2	86
14	The 1',4'-iminopyrimidine tautomer of thiamin diphosphate is poised for catalysis in asymmetric active centers on enzymes. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 78-82.	3.3	84
15	Systemic Deficiency of the First Component of the Pyruvate Dehydrogenase Complex. Pediatric Research, 1987, 22, 312-318.	1.1	81
16	A Deficiency of Both Subunits of Pyruvate Dehydrogenase which is Not Expressed in Fibroblasts. Pediatric Research, 1988, 24, 95-100.	1.1	78
17	Inactivation of the Murine Pyruvate Dehydrogenase (Pdha1) Gene and Its Effect on Early Embryonic Development. Molecular Genetics and Metabolism, 2001, 74, 293-302.	0.5	78
18	Metabolic Programming in the Immediate Postnatal Life. Annals of Nutrition and Metabolism, 2011, 58, 18-28.	1.0	74

#	Article	IF	Citations
19	Neonatal Nutrition: Metabolic Programming of Pancreatic Islets and Obesity¹. Experimental Biology and Medicine, 2003, 228, 15-23.	1.1	73
20	The biochemistry of the pyruvate dehydrogenase complex. Biochemistry and Molecular Biology Education, 2003, 31, 5-15.	0.5	69
21	Maternal hyperinsulinemia predisposes rat fetuses for hyperinsulinemia, and adult-onset obesity and maternal mild food restriction reverses this phenotype. American Journal of Physiology - Endocrinology and Metabolism, 2006, 290, E129-E134.	1.8	68
22	How Dihydrolipoamide Dehydrogenase-binding Protein Binds Dihydrolipoamide Dehydrogenase in the Human Pyruvate Dehydrogenase Complex. Journal of Biological Chemistry, 2006, 281, 648-655.	1.6	64
23	Metabolic programming in the immediate postnatal period. Trends in Endocrinology and Metabolism, 2008, 19, 146-152.	3.1	62
24	The Newborn of Diabetic Rat. I. Hormonal and Metabolic Changes in the Postnatal Period. Pediatric Research, 1982, 16, 632-637.	1.1	58
25	A high-carbohydrate diet in the immediate postnatal life of rats induces adaptations predisposing to adult-onset obesity. Journal of Endocrinology, 2008, 197, 565-574.	1.2	57
26	R-Lipoic Acid Inhibits Mammalian Pyruvate Dehydrogenase Kinase. Free Radical Research, 2004, 38, 1083-1092.	1.5	56
27	Phosphorylation of Serine 264 Impedes Active Site Accessibility in the E1 Component of the Human Pyruvate Dehydrogenase Multienzyme Complex. Biochemistry, 2007, 46, 6277-6287.	1.2	55
28	Elucidation of the Chemistry of Enzyme-Bound Thiamin Diphosphate Prior to Substrate Binding:â€‰ Defining Internal Equilibria among Tautomeric and Ionization States. Biochemistry, 2007, 46, 10739-10744.	1.2	54
29	Metabolic Programming Due to Alterations in Nutrition in the Immediate Postnatal Period1â€“3. Journal of Nutrition, 2010, 140, 658-661.	1.3	54
30	Brain metabolism modulates neuronal excitability in a mouse model of pyruvate dehydrogenase deficiency. Science Translational Medicine, 2019, 11, .	5.8	53
31	Programming of Islet Functions in the Progeny of Hyperinsulinemic/Obese Rats. Diabetes, 2003, 52, 984-990.	0.3	52
32	Direct Kinetic Evidence for Half-Of-The-Sites Reactivity in the E1 Component of the Human Pyruvate Dehydrogenase Multienzyme Complex through Alternating Sites Cofactor Activationâ€. Biochemistry, 2006, 45, 12775-12785.	1.2	52
33	Sequence conservation in the Î± and Î² subunits of pyruvate dehydrogenase and its similarity to branched-chain Î±-keto acid dehydrogenase. FEBS Letters, 1991, 282, 209-213.	1.3	51
34	Spectroscopic Studies of the Characterization of Recombinant Human Dihydrolipoamide Dehydrogenase and Its Site-directed Mutants. Journal of Biological Chemistry, 1995, 270, 15545-15550.	1.6	51
35	Precocious induction of hepatic glucokinase and malic enzyme in artificially reared rat pups fed a high-carbohydrate diet. Archives of Biochemistry and Biophysics, 1986, 244, 787-794.	1.4	46
36	Deficiency of dihydrolipoamide dehydrogenase due to two mutant alleles (E340K and G101del). Biochimica Et Biophysica Acta - Molecular Basis of Disease, 1997, 1362, 160-168.	1.8	46

#	Article	IF	Citations
37	Developmental programming in skeletal muscle in response to overnourishment in the immediate postnatal life in rats. Journal of Nutritional Biochemistry, 2013, 24, 1859-1869.	1.9	39
38	Interaction of E1 and E3 components with the core proteins of the human pyruvate dehydrogenase complex. Journal of Molecular Catalysis B: Enzymatic, 2009, 61, 2-6.	1.8	38
39	Dichloroacetate Ameliorates Cardiac Dysfunction Caused by Ischemic Insults Through AMPK Signal Pathwayâ€"Not Only Shifts Metabolism. Toxicological Sciences, 2019, 167, 604-617.	1.4	36
40	A Mutation in the E1Î± Subunit of Pyruvate Dehydrogenase Associated with Variable Expression of Pyruvate Dehydrogenase Complex Deficiency. Pediatric Research, 1992, 32, 169-174.	1.1	34
41	Tissue-specific pyruvate dehydrogenase complex deficiency causes cardiac hypertrophy and sudden death of weaned male mice. American Journal of Physiology - Heart and Circulatory Physiology, 2008, 295, H946-H952.	1.5	34
42	Alpha-Lipoic Acid Reduces LDL-Particle Number and PCSK9 Concentrations in High-Fat Fed Obese Zucker Rats. PLoS ONE, 2014, 9, e90863.	1.1	34
43	Characterization of Testis-specific Isoenzyme of Human Pyruvate Dehydrogenase. Journal of Biological Chemistry, 2006, 281, 9688-9696.	1.6	33
44	Maternal obesity and fetal programming: effects of a high-carbohydrate nutritional modification in the immediate postnatal life of female rats. American Journal of Physiology - Endocrinology and Metabolism, 2008, 295, E895-E903.	1.8	33
45	Î²-Cell-specific pyruvate dehydrogenase deficiency impairs glucose-stimulated insulin secretion. American Journal of Physiology - Endocrinology and Metabolism, 2010, 299, E910-E917.	1.8	31
46	Genetic Dissociation of Glycolysis and the TCA Cycle Affects Neither Normal nor Neoplastic Proliferation. Cancer Research, 2017, 77, 5795-5807.	0.4	31
47	Maternal obesity affects gene expression and cellular development in fetal brains. Nutritional Neuroscience, 2013, 16, 96-103.	1.5	30
48	Biochemical and structural brain alterations in female mice with cerebral pyruvate dehydrogenase deficiency. Journal of Neurochemistry, 2004, 91, 1082-1091.	2.1	29
49	A structural model for human dihydrolipoamide dehydrogenase. Proteins: Structure, Function and Bioinformatics, 1992, 14, 88-101.	1.5	27
50	Identification of the Tryptophan Residue in the Thiamin Pyrophosphate Binding Site of Mammalian Pyruvate Dehydrogenase. Journal of Biological Chemistry, 1995, 270, 4570-4574.	1.6	27
51	Dysregulated pyruvate dehydrogenase complex in Zucker diabetic fatty rats. American Journal of Physiology - Endocrinology and Metabolism, 2008, 294, E88-E96.	1.8	26
52	Characterization of Point Mutations in Patients with Pyruvate Dehydrogenase Deficiency: Role of Methionine-181, Proline-188, and Arginine-349 in the Î± Subunit. Archives of Biochemistry and Biophysics, 1999, 367, 39-50.	1.4	25
53	Maternal obesity induced by a high fat diet causes altered cellular development in fetal brains suggestive of a predisposition of offspring to neurological disorders in later life. Metabolic Brain Disease, 2013, 28, 721-725.	1.4	25
54	Acetylâ€CoA production from pyruvate is not necessary for preservation of myelin. Glia, 2017, 65, 1626-1639.	2.5	24

#	Article	IF	Citations
55	Molecular adaptations in islets from neonatal rats reared artificially on a high carbohydrate milk formula. Journal of Nutritional Biochemistry, 2001, 12, 575-584.	1.9	23
56	Structural and Functional Analyses of the Human PDH Complex Suggest a â€œDivision-of-Laborâ€• Mechanism by Local E1 and E3 Clusters. Structure, 2019, 27, 1124-1136.e4.	1.6	23
57	Pyruvate dehydrogenase complex deficiency due to a point mutation (P188L) within the thiamine pyrophosphate binding loop of the E1Î± subunit. Human Molecular Genetics, 1995, 4, 315-318.	1.4	22
58	Liverâ€Specific Pyruvate Dehydrogenase Complex Deficiency Upregulates Lipogenesis in Adipose Tissue and Improves Peripheral Insulin Sensitivity. Lipids, 2010, 45, 987-995.	0.7	21
59	Involvement of Î±-Cysteine-62 and Î²-Tryptophan-135 in Human Pyruvate Dehydrogenase Catalysis. Archives of Biochemistry and Biophysics, 1999, 369, 277-287.	1.4	19
60	Metabolic programming effects initiated in the suckling period predisposing for adult-onset obesity cannot be reversed by calorie restriction. American Journal of Physiology - Endocrinology and Metabolism, 2013, 304, E486-E494.	1.8	19
61	Artificial-Rearing Technique: Its Usefulness in Nutrition Research. Journal of Nutrition, 1992, 122, 412-419.	1.3	18
62	Overview of Pup in a Cup Model: Hepatic Lipogenesis in Rats Artificially Reared on a High-Carbohydrate Formula. Journal of Nutrition, 1993, 123, 373-377.	1.3	18
63	Lipoic Acid as an Antioxidant: The Role of Dihydrolipoamide Dehydrogenase. , 1998, 108, 337-346.		18
64	Postnatal exposure to a high-carbohydrate diet interferes epigenetically with thyroid hormone receptor induction of the adult male rat skeletal muscle glucose transporter isoform 4 expression. Journal of Nutritional Biochemistry, 2014, 25, 1066-1076.	1.9	18
65	Elucidation of the Interaction Loci of the Human Pyruvate Dehydrogenase Complex E2Â·E3BP Core with Pyruvate Dehydrogenase Kinase 1 and Kinase 2 by H/D Exchange Mass Spectrometry and Nuclear Magnetic Resonance. Biochemistry, 2015, 54, 69-82.	1.2	17
66	Maternal Phytosterol Supplementation during Pregnancy and Lactation Modulates Lipid and Lipoprotein Response in Offspring of apoE-Deficient Mice. Journal of Nutrition, 2015, 145, 1728-1734.	1.3	17
67	Influence of maternal hypercholesterolemia and phytosterol intervention during gestation and lactation on dyslipidemia and hepatic lipid metabolism in offspring of Syrian golden hamsters. Molecular Nutrition and Food Research, 2016, 60, 2151-2160.	1.5	16
68	Lack of mitochondria-generated acetyl-CoA by pyruvate dehydrogenase complex downregulates gene expression in the hepatic de novo lipogenic pathway. American Journal of Physiology - Endocrinology and Metabolism, 2016, 311, E117-E127.	1.8	16
69	Maternal hypercholesterolemia enhances oxysterol concentration in mothers and newly weaned offspring but is attenuated by maternal phytosterol supplementation. Journal of Nutritional Biochemistry, 2018, 52, 10-17.	1.9	16
70	Multiple protein-binding domains and functional cis-elements in the 5'-flanking region of the human pyruvate dehydrogenase .alpha.-subunit gene. Biochemistry, 1993, 32, 4263-4269.	1.2	15
71	Regulation of mammalian pyruvate dehydrogenase Î± subunit gene expression by glucose in HepG2 cells. Biochemical Journal, 1998, 336, 49-56.	1.7	15
72	Characterization of the regulatory region of the human testis-specific form of the pyruvate dehydrogenase Î±-subunit (PDHA-2) gene. Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 1999, 1447, 236-243.	2.4	15

#	Article	IF	Citations
73	Cerebral Developmental Abnormalities in a Mouse with Systemic Pyruvate Dehydrogenase Deficiency. PLoS ONE, 2013, 8, e67473.	1.1	15
74	Defining the contribution of skeletal muscle pyruvate dehydrogenase Î±1 to exercise performance and insulin action. American Journal of Physiology - Endocrinology and Metabolism, 2018, 315, E1034-E1045.	1.8	15
75	Three new mutations of the pyruvate dehydrogenase alpha subunit: A point mutation (M181V), 3 bp deletion (-R282), and 16 bp insertion/frameshift (K358SVSâ†'TVDQS). , 1996, 8, 180-182.		14
76	Pyruvate Dehydrogenase Complex as a Marker of Mitochondrial Metabolism: Inhibition by 4-Hydroxy-2-Nonenal. , 2002, 186, 255-264.		13
77	Function of several critical amino acids in human pyruvate dehydrogenase revealed by its structure. Archives of Biochemistry and Biophysics, 2004, 429, 171-179.	1.4	13
78	Pyruvate dehydrogenase complex deficiency is linked to regulatory loop disorder in the Î±V138M variant of human pyruvate dehydrogenase. Journal of Biological Chemistry, 2018, 293, 13204-13213.	1.6	13
79	Cortical metabolism in pyruvate dehydrogenase deficiency revealed by ex vivo multiplet 13C NMR of the adult mouse brain. Neurochemistry International, 2012, 61, 1036-1043.	1.9	12
80	Beneficial effect of feeding a ketogenic diet to mothers on brain development in their progeny with a murine model of pyruvate dehydrogenase complex deficiency. Molecular Genetics and Metabolism Reports, 2016, 7, 78-86.	0.4	12
81	Arginine-239 in the beta subunit is at or near the active site of bovine pyruvate dehydrogenase. BBA - Proteins and Proteomics, 1995, 1252, 203-208.	2.1	11
82	Brain MR Imaging and Proton MR Spectroscopy in Female Mice with Pyruvate Dehydrogenase Complex Deficiency. Neurochemical Research, 2007, 32, 645-654.	1.6	11
83	Differential Effects of Two Mutations at Arginine-234 in the Î± Subunit of Human Pyruvate Dehydrogenase. Archives of Biochemistry and Biophysics, 2001, 395, 121-128.	1.4	10
84	Characterization of interactions of dihydrolipoamide dehydrogenase with its binding protein in the human pyruvate dehydrogenase complex. Biochemical and Biophysical Research Communications, 2010, 395, 416-419.	1.0	10
85	Global view of cognate kinase activation by the human pyruvate dehydrogenase complex. Scientific Reports, 2017, 7, 42760.	1.6	10
86	Characterization of a missense mutation at histidine-44 in a pyruvate dehydrogenase-deficient patient. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2002, 1586, 32-42.	1.8	9
87	Nuclear Magnetic Resonance Approaches in the Study of 2-Oxo Acid Dehydrogenase Multienzyme Complexesâ€"A Literature Review. Molecules, 2013, 18, 11873-11903.	1.7	9
88	Transcriptional control of enterohepatic lipid regulatory targets in response to early cholesterol and phytosterol exposure in apoEâ^'/â^' mice. BMC Research Notes, 2017, 10, 529.	0.6	9
89	Mutations in the X-linked pyruvate dehydrogenase (E1) Î± subunit gene (PDHA1) in patients with a pyruvate dehydrogenase complex deficiency. Human Mutation, 2000, 15, 209.	1.1	9
90	Gestational hypercholesterolemia alters fetal hepatic lipid metabolism and microRNA expression in Apo-E-deficient mice. American Journal of Physiology - Endocrinology and Metabolism, 2019, 317, E831-E838.	1.8	8

#	Article	IF	Citations
91	Chromosome Localization and Rflp Analysis of Pdc-E2: the Major Autoantigen of Primary Biliary Cirrhosis. Autoimmunity, 1993, 14, 335-340.	1.2	7
92	Glycogen synthase activation in the epididymal adipose tissue from chronic hyperinsulinemic/obese rats. Journal of Nutritional Biochemistry, 1998, 9, 81-87.	1.9	6
93	Malprogramming of Hepatic Lipid Metabolism due to Excessive Early Cholesterol Exposure in Adult Progeny. Molecular Nutrition and Food Research, 2019, 63, 1800563.	1.5	6
94	Featured Article: Beta cell specific pyruvate dehydrogenase alpha gene deletion results in a reduced islet number and Î²-cell mass postnatally. Experimental Biology and Medicine, 2014, 239, 975-985.	1.1	5
95	Reprogramming of aerobic glycolysis in nonâ€transformed mouse liver with pyruvate dehydrogenase complex deficiency. Physiological Reports, 2021, 9, e14684.	0.7	5
96	Nutrient-Induced Maternal Hyperinsulinemia and Metabolic Programming in the Progeny. , 2005, 55, 137-151.		4
97	Metabolic programming as a consequence of the nutritional environment during fetal and the immediate postnatal periods. , 2006, , 76-90.		4
98	Furoates and thenoates inhibit pyruvate dehydrogenase kinase 2 allosterically by binding to its pyruvate regulatory site. Journal of Enzyme Inhibition and Medicinal Chemistry, 2016, 31, 170-175.	2.5	4
99	Excessive early-life cholesterol exposure may have later-life consequences for nonalcoholic fatty liver disease. Journal of Developmental Origins of Health and Disease, 2021, 12, 229-236.	0.7	4
100	Maternal hypercholesterolemia programs dyslipidemia in adult male mouse progeny. Reproduction, 2020, 160, 1-10.	1.1	4
101	Tissue-specific expression of the human pyruvate dehydrogenase Î± (Pdha-1) / chloramphenicol acetyltransferase fusion gene in transgenic mice. Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 1996, 1305, 189-195.	2.4	3
102	Binding of pyruvate dehydrogenase to the core of the human pyruvate dehydrogenase complex. FEBS Letters, 2008, 582, 468-472.	1.3	3
103	Disturbances of fetal liver carbohydrate metabolism and perinatal glucose homoeostasis. Biochemical Society Transactions, 1985, 13, 83-85.	1.6	1
104	Pyruvate Dehydrogenase Complex Regulation and Lipoic Acid. Oxidative Stress and Disease, 2008, , .	0.3	1
105	Gestational hypercholesterolemia programs hepatic steatosis in a sex-specific manner in ApoE-deficient mice. Journal of Nutritional Biochemistry, 2022, 101, 108945.	1.9	1
106	Metabolic Programming. NeoReviews, 2004, 5, e516-e521.	0.4	0
107	Kinetic Studies of Human Pyruvate Dehydrogenase and Its Mutants. Oxidative Stress and Disease, 2003, , .	0.3	0
108	Pyruvate dehydrogenase kinase 2. The AFCS-nature Molecule Pages, 0, , .	0.2	0

#	Article	IF	Citations
109	Pyruvate dehydrogenase kinase 4. The AFCS-nature Molecule Pages, 0, , .	0.2	0
110	Programming of metabolic syndrome in rat pups fed a highâ€carbohydrate milk formula: The role of the autonomic nervous system. FASEB Journal, 2006, 20, A522.	0.2	0
111	Early life nutritional intervention results in hypothalamic neuronal malprogramming predispsoing to adultâ€onset obesity. FASEB Journal, 2006, 20, A522.	0.2	0
112	Pdha1. The AFCS-nature Molecule Pages, 0, , .	0.2	0
113	Metabolic Syndrome Due to Early Life Nutritional Modifications. Oxidative Stress and Disease, 2007, , 47-69.	0.3	0
114	Pdhb. The AFCS-nature Molecule Pages, 0, , .	0.2	0
115	Maternal Supplementation of Phytosterols to a High Cholesterol Diet during Pregnancy and Lactation Favorably Modulates Lipid and Lipoprotein Metabolism in Offspring. FASEB Journal, 2015, 29, 754.19.	0.2	0
116	Early Exposure to Phytosterols Protects Offspring from Hypercholesterolemia Induced by Maternal Cholesterol Feeding in Syrian Golden Hamsters. FASEB Journal, 2015, 29, 754.9.	0.2	0
117	Phenylbutyrate administration reduces changes in the cerebellar Purkinje cells population in PDCâ€deficient mice. Acta Neurobiologiae Experimentalis, 2020, 80, 305-321.	0.4	0