

Pierre Maechler

List of Publications by Year in descending order

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83
papers

6,745
citations

71102

41
h-index

60623

81
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85
all docs

85
docs citations

85
times ranked

8403
citing authors

#	ARTICLE	IF	CITATIONS
1	Glucolipotoxicity promotes the capacity of the glycerolipid/NEFA cycle supporting the secretory response of pancreatic beta cells. <i>Diabetologia</i> , 2022, 65, 705-720.	6.3	13
2	Lipid-Induced Adaptations of the Pancreatic Beta-Cell to Glucotoxic Conditions Sustain Insulin Secretion. <i>International Journal of Molecular Sciences</i> , 2022, 23, 324.	4.1	9
3	Glutamate Dehydrogenase Is Important for Ammonia Fixation and Amino Acid Homeostasis in Brain During Hyperammonemia. <i>Frontiers in Neuroscience</i> , 2021, 15, 646291.	2.8	13
4	Non-canonical glutamine transamination sustains efferocytosis by coupling redox buffering to oxidative phosphorylation. <i>Nature Metabolism</i> , 2021, 3, 1313-1326.	11.9	31
5	Dietary excess regulates absorption and surface of gut epithelium through intestinal PPAR α . <i>Nature Communications</i> , 2021, 12, 7031.	12.8	32
6	Palmitate and oleate modify membrane fluidity and kinase activities of INS-1E β -cells alongside altered metabolism-secretion coupling. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2020, 1867, 118619.	4.1	17
7	Brain endothelial cells metabolize glutamate via glutamate dehydrogenase to replenish TCA intermediates and produce ATP under hypoglycemic conditions. <i>Journal of Neurochemistry</i> , 2020, 157, 1861-1875.	3.9	8
8	Mitochondrial Carriers Regulating Insulin Secretion Profiled in Human Islets upon Metabolic Stress. <i>Biomolecules</i> , 2020, 10, 1543.	4.0	9
9	Macrophage-derived glutamine boosts satellite cells and muscle regeneration. <i>Nature</i> , 2020, 587, 626-631.	27.8	119
10	AMPK Profiling in Rodent and Human Pancreatic Beta-Cells under Nutrient-Rich Metabolic Stress. <i>International Journal of Molecular Sciences</i> , 2020, 21, 3982.	4.1	18
11	Hyperinsulinism associated with GLUD1 mutation: allosteric regulation and functional characterization of p.G446V glutamate dehydrogenase. <i>Human Genomics</i> , 2020, 14, 9.	2.9	12
12	AMP-activated protein kinase (AMPK) regulates astrocyte oxidative metabolism by balancing TCA cycle dynamics. <i>Glia</i> , 2020, 68, 1824-1839.	4.9	31
13	In vivo stabilization of OPA1 in hepatocytes potentiates mitochondrial respiration and gluconeogenesis in a prohibitin-dependent way. <i>Journal of Biological Chemistry</i> , 2019, 294, 12581-12598.	3.4	33
14	Reply to Mishra: Prohibitin heterodimers are a complex time dependence for carcinogenesis. <i>Journal of Biological Chemistry</i> , 2019, 294, 14837.	3.4	1
15	Metabolomics Identifies a Biomarker Revealing In Vivo Loss of Functional β -Cell Mass Before Diabetes Onset. <i>Diabetes</i> , 2019, 68, 2272-2286.	0.6	28
16	Chronic fructose renders pancreatic β -cells hyper-responsive to glucose-stimulated insulin secretion through extracellular ATP signaling. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2019, 317, E25-E41.	3.5	28
17	Resveratrol long-term treatment differentiates INS-1E beta-cell towards improved glucose response and insulin secretion. <i>Pflügers Archiv European Journal of Physiology</i> , 2019, 471, 337-345.	2.8	7
18	Glutamate Dehydrogenase-Deficient Mice Display Schizophrenia-Like Behavioral Abnormalities and CA1-Specific Hippocampal Dysfunction. <i>Schizophrenia Bulletin</i> , 2019, 45, 127-137.	4.3	26

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19	Glutamate dehydrogenase is essential to sustain neuronal oxidative energy metabolism during stimulation. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2018, 38, 1754-1768.	4.3	36
20	Liver Glutamate Dehydrogenase Controls Whole-Body Energy Partitioning Through Amino Acidâ€Derived Gluconeogenesis and Ammonia Homeostasis. <i>Diabetes</i> , 2018, 67, 1949-1961.	0.6	34
21	Epigallocatechin-3-gallate (EGCG) activates AMPK through the inhibition of glutamate dehydrogenase in muscle and pancreatic β -cells: A potential beneficial effect in the pre-diabetic state?. <i>International Journal of Biochemistry and Cell Biology</i> , 2017, 88, 220-225.	2.8	48
22	Upregulation of UCP2 in beta-cells confers partial protection against both oxidative stress and glucotoxicity. <i>Redox Biology</i> , 2017, 13, 541-549.	9.0	33
23	Glutamate pathways of the beta-cell and the control of insulin secretion. <i>Diabetes Research and Clinical Practice</i> , 2017, 131, 149-153.	2.8	26
24	Bone Regulates Browning and Energy Metabolism Through Mature Osteoblast/Osteocyte PPAR γ Expression. <i>Diabetes</i> , 2017, 66, 2541-2554.	0.6	36
25	Identification of the molecular dysfunction caused by glutamate dehydrogenase S445L mutation responsible for hyperinsulinism/hyperammonemia. <i>Human Molecular Genetics</i> , 2017, 26, 3453-3465.	2.9	18
26	Integrative Genomics Outlines a Biphasic Glucose Response and a ChREBP-ROR γ Axis Regulating Proliferation in β Cells. <i>Cell Reports</i> , 2016, 16, 2359-2372.	6.4	34
27	Activation of Nicotinic Acetylcholine Receptors Decreases Apoptosis in Human and Female Murine Pancreatic Islets. <i>Endocrinology</i> , 2016, 157, 3800-3808.	2.8	8
28	The Amplifying Pathway of the β -Cell Contributes to Diet-induced Obesity. <i>Journal of Biological Chemistry</i> , 2016, 291, 13063-13075.	3.4	16
29	Beta-cell mitochondrial carriers and the diabetogenic stress response. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2016, 1863, 2540-2549.	4.1	33
30	Diabetogenic milieus induce specific changes in mitochondrial transcriptome and differentiation of human pancreatic islets. <i>Human Molecular Genetics</i> , 2015, 24, 5270-5284.	2.9	31
31	Beta cell glutamate receptor antagonists: novel oral antidiabetic drugs?. <i>Nature Medicine</i> , 2015, 21, 310-311.	30.7	24
32	GDH-Dependent Glutamate Oxidation in the Brain Dictates Peripheral Energy Substrate Distribution. <i>Cell Reports</i> , 2015, 13, 365-375.	6.4	49
33	Development of Mice with Brain-Specific Deletion of Floxed Glud1 (Glutamate Dehydrogenase 1) Using Cre Recombinase Driven by the Nestin Promoter. <i>Neurochemical Research</i> , 2014, 39, 456-459.	3.3	17
34	Mitochondrial function and insulin secretion. <i>Molecular and Cellular Endocrinology</i> , 2013, 379, 12-18.	3.2	98
35	Loss of Prohibitin Induces Mitochondrial Damages Altering β -Cell Function and Survival and Is Responsible for Gradual Diabetes Development. <i>Diabetes</i> , 2013, 62, 3488-3499.	0.6	76
36	Changes in Mitochondrial Carriers Exhibit Stress-Specific Signatures in INS-1 β -Cells Exposed to Glucose Versus Fatty Acids. <i>PLoS ONE</i> , 2013, 8, e82364.	2.5	21

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37	Delineation of glutamate pathways and secretory responses in pancreatic islets with β -cell-specific abrogation of the glutamate dehydrogenase. <i>Molecular Biology of the Cell</i> , 2012, 23, 3851-3862.	2.1	39
38	Deletion of glutamate dehydrogenase 1 (<i>GluD1</i>) in the central nervous system affects glutamate handling without altering synaptic transmission. <i>Journal of Neurochemistry</i> , 2012, 123, 342-348.	3.9	52
39	Mitochondrial signal transduction in pancreatic β -cells. <i>Best Practice and Research in Clinical Endocrinology and Metabolism</i> , 2012, 26, 739-752.	4.7	11
40	Mitochondria in endocrinology. <i>Best Practice and Research in Clinical Endocrinology and Metabolism</i> , 2012, 26, 709-710.	4.7	0
41	Mitochondrial dysfunction in pancreatic β cells. <i>Trends in Endocrinology and Metabolism</i> , 2012, 23, 477-487.	7.1	198
42	NADPH Oxidase NOX2 Defines a New Antagonistic Role for Reactive Oxygen Species and cAMP/PKA in the Regulation of Insulin Secretion. <i>Diabetes</i> , 2012, 61, 2842-2850.	0.6	100
43	Mitochondrial Hormesis in Pancreatic β Cells: Does Uncoupling Protein 2 Play a Role?. <i>Oxidative Medicine and Cellular Longevity</i> , 2012, 2012, 1-9.	4.0	16
44	From pancreatic islets to central nervous system, the importance of glutamate dehydrogenase for the control of energy homeostasis. <i>Neurochemistry International</i> , 2011, 59, 510-517.	3.8	41
45	A role for pancreatic beta-cell secretory hyperresponsiveness in catch-up growth hyperinsulinemia: Relevance to thrifty catch-up fat phenotype and risks for type 2 diabetes. <i>Nutrition and Metabolism</i> , 2011, 8, 2.	3.0	14
46	Resveratrol Potentiates Glucose-stimulated Insulin Secretion in INS-1E β -Cells and Human Islets through a SIRT1-dependent Mechanism. <i>Journal of Biological Chemistry</i> , 2011, 286, 6049-6060.	3.4	145
47	Resveratrol-activated SIRT1 in liver and pancreatic β -cells: a Janus head looking to the same direction of metabolic homeostasis. <i>Aging</i> , 2011, 3, 444-449.	3.1	32
48	Role of Mitochondria in β -cell Function and Dysfunction. <i>Advances in Experimental Medicine and Biology</i> , 2010, 654, 193-216.	1.6	58
49	Saturated fatty acid-induced insulin resistance is associated with mitochondrial dysfunction in skeletal muscle cells. <i>Journal of Cellular Physiology</i> , 2010, 222, 187-194.	4.1	172
50	Minireview: New Roles for Peripheral Dopamine on Metabolic Control and Tumor Growth: Let's Seek the Balance. <i>Endocrinology</i> , 2010, 151, 5570-5581.	2.8	165
51	Deletion of Glutamate Dehydrogenase in β -Cells Abolishes Part of the Insulin Secretory Response Not Required for Glucose Homeostasis*. <i>Journal of Biological Chemistry</i> , 2009, 284, 921-929.	3.4	88
52	Transient Oxidative Stress Damages Mitochondrial Machinery Inducing Persistent β -Cell Dysfunction. <i>Journal of Biological Chemistry</i> , 2009, 284, 23602-23612.	3.4	77
53	Mitochondrial Glutamate Carrier GC1 as a Newly Identified Player in the Control of Glucose-stimulated Insulin Secretion. <i>Journal of Biological Chemistry</i> , 2009, 284, 25004-25014.	3.4	59
54	Silencing of the mitochondrial NADH shuttle component aspartate-glutamate carrier AGC1/Aralar1 in INS-1E cells and rat islets. <i>Biochemical Journal</i> , 2009, 424, 459-466.	3.7	44

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55	Overexpression of the malate-aspartate NADH shuttle member Aralar1 in the clonal β -cell line BRIN-BD11 enhances amino-acid-stimulated insulin secretion and cell metabolism. <i>Clinical Science</i> , 2009, 117, 321-330.	4.3	22
56	Tissue specificity of mitochondrial glutamate pathways and the control of metabolic homeostasis. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2008, 1777, 965-972.	1.0	74
57	The sensitivity of pancreatic β -cells to mitochondrial injuries triggered by lipotoxicity and oxidative stress. <i>Biochemical Society Transactions</i> , 2008, 36, 930-934.	3.4	96
58	Regulation of Insulin Secretion by SIRT4, a Mitochondrial ADP-ribosyltransferase. <i>Journal of Biological Chemistry</i> , 2007, 282, 33583-33592.	3.4	359
59	In beta-cells, mitochondria integrate and generate metabolic signals controlling insulin secretion. <i>International Journal of Biochemistry and Cell Biology</i> , 2006, 38, 696-709.	2.8	123
60	The antiepileptic drug topiramate preserves metabolism-secretion coupling in insulin secreting cells chronically exposed to the fatty acid oleate. <i>Biochemical Pharmacology</i> , 2006, 72, 965-973.	4.4	20
61	New insights into amino acid metabolism, β -cell function and diabetes. <i>Clinical Science</i> , 2005, 108, 185-194.	4.3	198
62	Alteration of the Malonyl-CoA/Carnitine Palmitoyltransferase I Interaction in the β -Cell Impairs Glucose-Induced Insulin Secretion. <i>Diabetes</i> , 2005, 54, 462-471.	0.6	75
63	Dopamine D2-like Receptors Are Expressed in Pancreatic Beta Cells and Mediate Inhibition of Insulin Secretion. <i>Journal of Biological Chemistry</i> , 2005, 280, 36824-36832.	3.4	214
64	Glucose Sensitivity and Metabolism-Secretion Coupling Studied during Two-Year Continuous Culture in INS-1E Insulinoma Cells. <i>Endocrinology</i> , 2004, 145, 667-678.	2.8	521
65	The Malate-Aspartate NADH Shuttle Member Aralar1 Determines Glucose Metabolic Fate, Mitochondrial Activity, and Insulin Secretion in Beta Cells. <i>Journal of Biological Chemistry</i> , 2004, 279, 55659-55666.	3.4	107
66	Mitochondrial activation and the pyruvate paradox in a human cell line. <i>FEBS Letters</i> , 2004, 578, 224-228.	2.8	26
67	Inhibition of Mitochondrial Na ⁺ -Ca ²⁺ Exchanger Increases Mitochondrial Metabolism and Potentiates Glucose-Stimulated Insulin Secretion in Rat Pancreatic Islets. <i>Diabetes</i> , 2003, 52, 965-973.	0.6	72
68	Mitochondria-derived glutamate at the interplay between branched-chain amino acid and glucose-induced insulin secretion. <i>FEBS Letters</i> , 2003, 545, 167-172.	2.8	49
69	Implication of Glutamate in the Kinetics of Insulin Secretion in Rat and Mouse Perfused Pancreas. <i>Diabetes</i> , 2002, 51, S99-S102.	0.6	57
70	Adenovirus-mediated overexpression of liver carnitine palmitoyltransferase I in INS1E cells: effects on cell metabolism and insulin secretion. <i>Biochemical Journal</i> , 2002, 364, 219-226.	3.7	72
71	Increase in cellular glutamate levels stimulates exocytosis in pancreatic β -cells. <i>FEBS Letters</i> , 2002, 531, 199-203.	2.8	72
72	Mitochondrial function in normal and diabetic β -cells. <i>Nature</i> , 2001, 414, 807-812.	27.8	492

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73	GAD65-mediated Glutamate Decarboxylation Reduces Glucose-stimulated Insulin Secretion in Pancreatic Beta Cells. Journal of Biological Chemistry, 2001, 276, 36391-36396.	3.4	70
74	Pdx1 Level Defines Pancreatic Gene Expression Pattern and Cell Lineage Differentiation. Journal of Biological Chemistry, 2001, 276, 25279-25286.	3.4	150
75	Mitochondrial signals in glucose-stimulated insulin secretion in the beta cell. Journal of Physiology, 2000, 529, 49-56.	2.9	118
76	Modulation of Glutamate Generation in Mitochondria Affects Hormone Secretion in INS-1E Beta Cells. IUBMB Life, 2000, 50, 27-31.	3.4	33
77	Hepatocyte Nuclear Factor 4 α Regulates the Expression of Pancreatic β -Cell Genes Implicated in Glucose Metabolism and Nutrient-induced Insulin Secretion. Journal of Biological Chemistry, 2000, 275, 35953-35959.	3.4	190
78	Secretagogues Modulate the Calcium Concentration in the Endoplasmic Reticulum of Insulin-secreting Cells. Journal of Biological Chemistry, 1999, 274, 12583-12592.	3.4	62
79	Hydrogen Peroxide Alters Mitochondrial Activation and Insulin Secretion in Pancreatic Beta Cells. Journal of Biological Chemistry, 1999, 274, 27905-27913.	3.4	300
80	Mitochondrial glutamate acts as a messenger in glucose-induced insulin exocytosis. Nature, 1999, 402, 685-689.	27.8	462
81	Free radical modulation of insulin release in INS-1 cells exposed to alloxan. Biochemical Pharmacology, 1999, 57, 639-648.	4.4	93
82	Desensitization of Mitochondrial Ca ²⁺ and Insulin Secretion Responses in the Beta Cell. Journal of Biological Chemistry, 1998, 273, 20770-20778.	3.4	63
83	Mitochondrial activation directly triggers the exocytosis of insulin in permeabilized pancreatic β -cells. EMBO Journal, 1997, 16, 3833-3841.	7.8	171