Pierre Maechler

List of Publications by Year
in descending order

83 papers	6,745 citations	70961 41 h-index	60497 81 g-index
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. Diabetologia, 2022, 65, 705-720.	2.9	13
2	Lipid-Induced Adaptations of the Pancreatic Beta-Cell to Glucotoxic Conditions Sustain Insulin Secretion. International Journal of Molecular Sciences, 2022, 23, 324.	1.8	9
3	Glutamate Dehydrogenase Is Important for Ammonia Fixation and Amino Acid Homeostasis in Brain During Hyperammonemia. Frontiers in Neuroscience, 2021, 15, 646291.	1.4	13
4	Non-canonical glutamine transamination sustains efferocytosis by coupling redox buffering to oxidative phosphorylation. Nature Metabolism, 2021, 3, 1313-1326.	5.1	31
5	Dietary excess regulates absorption and surface of gut epithelium through intestinal PPARÎ±. Nature Communications, 2021, 12, 7031.	5.8	32
6	Palmitate and oleate modify membrane fluidity and kinase activities of INS-1E Î²-cells alongside altered metabolism-secretion coupling. Biochimica Et Biophysica Acta - Molecular Cell Research, 2020, 1867, 118619.	1.9	17
7	Brain endothelial cells metabolize glutamate via glutamate dehydrogenase to replenish TCAâ€intermediates and produce ATP under hypoglycemic conditions. Journal of Neurochemistry, 2020, 157, 1861-1875.	2.1	8
8	Mitochondrial Carriers Regulating Insulin Secretion Profiled in Human Islets upon Metabolic Stress. Biomolecules, 2020, 10, 1543.	1.8	9
9	Macrophage-derived glutamine boosts satellite cells and muscle regeneration. Nature, 2020, 587, 626-631.	13.7	119
10	AMPK Profiling in Rodent and Human Pancreatic Beta-Cells under Nutrient-Rich Metabolic Stress. International Journal of Molecular Sciences, 2020, 21, 3982.	1.8	18
11	Hyperinsulinism associated with GLUD1 mutation: allosteric regulation and functional characterization of p.G446V glutamate dehydrogenase. Human Genomics, 2020, 14, 9.	1.4	12
12	AMPâ€activated protein kinase (AMPK) regulates astrocyte oxidative metabolism by balancing TCA cycle dynamics. Glia, 2020, 68, 1824-1839.	2.5	31
13	In vivo stabilization of OPA1 in hepatocytes potentiates mitochondrial respiration and gluconeogenesis in a prohibitin-dependent way. Journal of Biological Chemistry, 2019, 294, 12581-12598.	1.6	33
14	Reply to Mishra: Prohibitin heterodimersâ€"a complex time dependence for carcinogenesis. Journal of Biological Chemistry, 2019, 294, 14837.	1.6	1
15	Metabolomics Identifies a Biomarker Revealing In Vivo Loss of Functional Î²-Cell Mass Before Diabetes Onset. Diabetes, 2019, 68, 2272-2286.	0.3	28
16	Chronic fructose renders pancreatic Î²-cells hyper-responsive to glucose-stimulated insulin secretion through extracellular ATP signaling. American Journal of Physiology - Endocrinology and Metabolism, 2019, 317, E25-E41.	1.8	28
17	Resveratrol long-term treatment differentiates INS-1E beta-cell towards improved glucose response and insulin secretion. Pflugers Archiv European Journal of Physiology, 2019, 471, 337-345.	1.3	7
18	Glutamate Dehydrogenaseâ€"Deficient Mice Display Schizophrenia-Like Behavioral Abnormalities and CA1-Specific Hippocampal Dysfunction. Schizophrenia Bulletin, 2019, 45, 127-137.	2.3	26

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19	Glutamate dehydrogenase is essential to sustain neuronal oxidative energy metabolism during stimulation. Journal of Cerebral Blood Flow and Metabolism, 2018, 38, 1754-1768.	2.4	36
20	Liver Glutamate Dehydrogenase Controls Whole-Body Energy Partitioning Through Amino Acidâ€"Derived Gluconeogenesis and Ammonia Homeostasis. Diabetes, 2018, 67, 1949-1961.	0.3	34
21	Epigallocatechin-3-gallate (EGCG) activates AMPK through the inhibition of glutamate dehydrogenase in muscle and pancreatic ÃŸ-cells: A potential beneficial effect in the pre-diabetic state?. International Journal of Biochemistry and Cell Biology, 2017, 88, 220-225.	1.2	48
22	Upregulation of UCP2 in beta-cells confers partial protection against both oxidative stress and glucotoxicity. Redox Biology, 2017, 13, 541-549.	3.9	33
23	Glutamate pathways of the beta-cell and the control of insulin secretion. Diabetes Research and Clinical Practice, 2017, 131, 149-153.	1.1	26
24	Bone Regulates Browning and Energy Metabolism Through Mature Osteoblast/Osteocyte PPARÎ³ Expression. Diabetes, 2017, 66, 2541-2554.	0.3	36
25	Identification of the molecular dysfunction caused by glutamate dehydrogenase S445L mutation responsible for hyperinsulinism/hyperammonemia. Human Molecular Genetics, 2017, 26, 3453-3465.	1.4	18
26	Integrative Genomics Outlines a Biphasic Glucose Response and a ChREBP-RORÎ³ Axis Regulating Proliferation in Î² Cells. Cell Reports, 2016, 16, 2359-2372.	2.9	34
27	Activation of Nicotinic Acetylcholine Receptors Decreases Apoptosis in Human and Female Murine Pancreatic Islets. Endocrinology, 2016, 157, 3800-3808.	1.4	8
28	The Amplifying Pathway of the Î²-Cell Contributes to Diet-induced Obesity. Journal of Biological Chemistry, 2016, 291, 13063-13075.	1.6	16
29	Beta-cell mitochondrial carriers and the diabetogenic stress response. Biochimica Et Biophysica Acta - Molecular Cell Research, 2016, 1863, 2540-2549.	1.9	33
30	Diabetogenic milieus induce specific changes in mitochondrial transcriptome and differentiation of human pancreatic islets. Human Molecular Genetics, 2015, 24, 5270-5284.	1.4	31
31	Beta cell glutamate receptor antagonists: novel oral antidiabetic drugs?. Nature Medicine, 2015, 21, 310-311.	15.2	24
32	GDH-Dependent Glutamate Oxidation in the Brain Dictates Peripheral Energy Substrate Distribution. Cell Reports, 2015, 13, 365-375.	2.9	49
33	Development of Mice with Brain-Specific Deletion of Floxed Glud1 (Glutamate Dehydrogenase 1) Using Cre Recombinase Driven by the Nestin Promoter. Neurochemical Research, 2014, 39, 456-459.	1.6	17
34	Mitochondrial function and insulin secretion. Molecular and Cellular Endocrinology, 2013, 379, 12-18.	1.6	98
35	Loss of Prohibitin Induces Mitochondrial Damages Altering Î²-Cell Function and Survival and Is Responsible for Gradual Diabetes Development. Diabetes, 2013, 62, 3488-3499.	0.3	76
36	Changes in Mitochondrial Carriers Exhibit Stress-Specific Signatures in INS-1EÎ²-Cells Exposed to Glucose Versus Fatty Acids. PLoS ONE, 2013, 8, e82364.	1.1	21

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37	Delineation of glutamate pathways and secretory responses in pancreatic islets with Î²-cellâ€“specific abrogation of the glutamate dehydrogenase. Molecular Biology of the Cell, 2012, 23, 3851-3862.	0.9	39
38	Deletion of glutamate dehydrogenase 1 (<i><scp>G</scp>lud1</i>) in the central nervous system affects glutamate handling without altering synaptic transmission. Journal of Neurochemistry, 2012, 123, 342-348.	2.1	52
39	Mitochondrial signal transduction in pancreatic Î²-cells. Best Practice and Research in Clinical Endocrinology and Metabolism, 2012, 26, 739-752.	2.2	11
40	Mitochondria in endocrinology. Best Practice and Research in Clinical Endocrinology and Metabolism, 2012, 26, 709-710.	2.2	0
41	Mitochondrial dysfunction in pancreatic Î² cells. Trends in Endocrinology and Metabolism, 2012, 23, 477-487.	3.1	198
42	NADPH Oxidase NOX2 Defines a New Antagonistic Role for Reactive Oxygen Species and cAMP/PKA in the Regulation of Insulin Secretion. Diabetes, 2012, 61, 2842-2850.	0.3	100
43	Mitochondrial Hormesis in Pancreatic<i>Î²</i>Cells: Does Uncoupling Protein 2 Play a Role?. Oxidative Medicine and Cellular Longevity, 2012, 2012, 1-9.	1.9	16
44	From pancreatic islets to central nervous system, the importance of glutamate dehydrogenase for the control of energy homeostasis. Neurochemistry International, 2011, 59, 510-517.	1.9	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. Nutrition and Metabolism, 2011, 8, 2.	1.3	14
46	Resveratrol Potentiates Glucose-stimulated Insulin Secretion in INS-1E Î²-Cells and Human Islets through a SIRT1-dependent Mechanism. Journal of Biological Chemistry, 2011, 286, 6049-6060.	1.6	145
47	Resveratrol-activated SIRT1 in liver and pancreatic Î²-cells: a Janus head looking to the same direction of metabolic homeostasis. Aging, 2011, 3, 444-449.	1.4	32
48	Role of Mitochondria in Î²-cell Function and Dysfunction. Advances in Experimental Medicine and Biology, 2010, 654, 193-216.	0.8	58
49	Saturated fatty acidâ€induced insulin resistance is associated with mitochondrial dysfunction in skeletal muscle cells. Journal of Cellular Physiology, 2010, 222, 187-194.	2.0	172
50	Minireview: New Roles for Peripheral Dopamine on Metabolic Control and Tumor Growth: Letâ€™s Seek the Balance. Endocrinology, 2010, 151, 5570-5581.	1.4	165
51	Deletion of Glutamate Dehydrogenase in ÃŸ-Cells Abolishes Part of the Insulin Secretory Response Not Required for Glucose Homeostasis*. Journal of Biological Chemistry, 2009, 284, 921-929.	1.6	88
52	Transient Oxidative Stress Damages Mitochondrial Machinery Inducing Persistent Î²-Cell Dysfunction. Journal of Biological Chemistry, 2009, 284, 23602-23612.	1.6	77
53	Mitochondrial Glutamate Carrier GC1 as a Newly Identified Player in the Control of Glucose-stimulated Insulin Secretion. Journal of Biological Chemistry, 2009, 284, 25004-25014.	1.6	59
54	Silencing of the mitochondrial NADH shuttle component aspartateâ€“glutamate carrier AGC1/Aralar1 in INS-1E cells and rat islets. Biochemical Journal, 2009, 424, 459-466.	1.7	44

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55	Overexpression of the malateâ€“aspartate NADH shuttle member Aralar1 in the clonal Î²-cell line BRIN-BD11 enhances amino-acid-stimulated insulin secretion and cell metabolism. Clinical Science, 2009, 117, 321-330.	1.8	22
56	Tissue specificity of mitochondrial glutamate pathways and the control of metabolic homeostasis. Biochimica Et Biophysica Acta - Bioenergetics, 2008, 1777, 965-972.	0.5	74
57	The sensitivity of pancreatic Î²-cells to mitochondrial injuries triggered by lipotoxicity and oxidative stress. Biochemical Society Transactions, 2008, 36, 930-934.	1.6	96
58	Regulation of Insulin Secretion by SIRT4, a Mitochondrial ADP-ribosyltransferase. Journal of Biological Chemistry, 2007, 282, 33583-33592.	1.6	359
59	In beta-cells, mitochondria integrate and generate metabolic signals controlling insulin secretion. International Journal of Biochemistry and Cell Biology, 2006, 38, 696-709.	1.2	123
60	The antiepileptic drug topiramate preserves metabolism-secretion coupling in insulin secreting cells chronically exposed to the fatty acid oleate. Biochemical Pharmacology, 2006, 72, 965-973.	2.0	20
61	New insights into amino acid metabolism, Î²-cell function and diabetes. Clinical Science, 2005, 108, 185-194.	1.8	198
62	Alteration of the Malonyl-CoA/Carnitine Palmitoyltransferase I Interaction in the Â-Cell Impairs Glucose-Induced Insulin Secretion. Diabetes, 2005, 54, 462-471.	0.3	75
63	Dopamine D2-like Receptors Are Expressed in Pancreatic Beta Cells and Mediate Inhibition of Insulin Secretion. Journal of Biological Chemistry, 2005, 280, 36824-36832.	1.6	214
64	Glucose Sensitivity and Metabolism-Secretion Coupling Studied during Two-Year Continuous Culture in INS-1E Insulinoma Cells. Endocrinology, 2004, 145, 667-678.	1.4	521
65	The Malate-Aspartate NADH Shuttle Member Aralar1 Determines Glucose Metabolic Fate, Mitochondrial Activity, and Insulin Secretion in Beta Cells. Journal of Biological Chemistry, 2004, 279, 55659-55666.	1.6	107
66	Mitochondrial activation and the pyruvate paradox in a human cell line. FEBS Letters, 2004, 578, 224-228.	1.3	26
67	Inhibition of Mitochondrial Na+-Ca2+ Exchanger Increases Mitochondrial Metabolism and Potentiates Glucose-Stimulated Insulin Secretion in Rat Pancreatic Islets. Diabetes, 2003, 52, 965-973.	0.3	72
68	Mitochondria-derived glutamate at the interplay between branched-chain amino acid and glucose-induced insulin secretion. FEBS Letters, 2003, 545, 167-172.	1.3	49
69	Implication of Glutamate in the Kinetics of Insulin Secretion in Rat and Mouse Perfused Pancreas. Diabetes, 2002, 51, S99-S102.	0.3	57
70	Adenovirus-mediated overexpression of liver carnitine palmitoyltransferase I in INS1E cells: effects on cell metabolism and insulin secretion. Biochemical Journal, 2002, 364, 219-226.	1.7	72
71	Increase in cellular glutamate levels stimulates exocytosis in pancreatic Î²-cells. FEBS Letters, 2002, 531, 199-203.	1.3	72
72	Mitochondrial function in normal and diabetic Î²-cells. Nature, 2001, 414, 807-812.	13.7	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.	1.6	70
74	Pdx1 Level Defines Pancreatic Gene Expression Pattern and Cell Lineage Differentiation. Journal of Biological Chemistry, 2001, 276, 25279-25286.	1.6	150
75	Mitochondrial signals in glucoseâ€stimulated insulin secretion in the beta cell. Journal of Physiology, 2000, 529, 49-56.	1.3	118
76	Modulation of Glutamate Generation in Mitochondria Affects Hormone Secretion in INS-1E Beta Cells. IUBMB Life, 2000, 50, 27-31.	1.5	33
77	Hepatocyte Nuclear Factor 4Î± Regulates the Expression of Pancreatic Î²-Cell Genes Implicated in Glucose Metabolism and Nutrient-induced Insulin Secretion. Journal of Biological Chemistry, 2000, 275, 35953-35959.	1.6	190
78	Secretagogues Modulate the Calcium Concentration in the Endoplasmic Reticulum of Insulin-secreting Cells. Journal of Biological Chemistry, 1999, 274, 12583-12592.	1.6	62
79	Hydrogen Peroxide Alters Mitochondrial Activation and Insulin Secretion in Pancreatic Beta Cells. Journal of Biological Chemistry, 1999, 274, 27905-27913.	1.6	300
80	Mitochondrial glutamate acts as a messenger in glucose-induced insulin exocytosis. Nature, 1999, 402, 685-689.	13.7	462
81	Free radical modulation of insulin release in INS-1 cells exposed to alloxan. Biochemical Pharmacology, 1999, 57, 639-648.	2.0	93
82	Desensitization of Mitochondrial Ca2+ and Insulin Secretion Responses in the Beta Cell. Journal of Biological Chemistry, 1998, 273, 20770-20778.	1.6	63
83	Mitochondrial activation directly triggers the exocytosis of insulin in permeabilized pancreatic Î²-cells. EMBO Journal, 1997, 16, 3833-3841.	3.5	171