

Sigurd Lenzen

List of Publications by Year in descending order

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83
papers

4,758
citations

147801

31
h-index

98798

67
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86
all docs

86
docs citations

86
times ranked

5945
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanisms of Pancreatic β -Cell Death in Type 1 and Type 2 Diabetes: Many Differences, Few Similarities. <i>Diabetes</i> , 2005, 54, S97-S107.	0.6	1,296
2	Oxidative stress: the vulnerable β -cell. <i>Biochemical Society Transactions</i> , 2008, 36, 343-347.	3.4	460
3	Peroxisome-Generated Hydrogen Peroxide as Important Mediator of Lipotoxicity in Insulin-Producing Cells. <i>Diabetes</i> , 2011, 60, 200-208.	0.6	186
4	Improvement of the Mitochondrial Antioxidant Defense Status Prevents Cytokine-Induced Nuclear Factor- κ B Activation in Insulin-Producing Cells. <i>Diabetes</i> , 2003, 52, 93-101.	0.6	153
5	Thyroid Hormones, Gonadal and Adrenocortical Steroids and the Function of the Islets of Langerhans. <i>Endocrine Reviews</i> , 1984, 5, 411-434.	20.1	146
6	Mitochondrial Catalase Overexpression Protects Insulin-Producing Cells Against Toxicity of Reactive Oxygen Species and Proinflammatory Cytokines. <i>Diabetes</i> , 2004, 53, 2271-2280.	0.6	133
7	Systems biology of the IMIDIA biobank from organ donors and pancreatectomised patients defines a novel transcriptomic signature of islets from individuals with type 2 diabetes. <i>Diabetologia</i> , 2018, 61, 641-657.	6.3	131
8	A Fresh View of Glycolysis and Glucokinase Regulation: History and Current Status. <i>Journal of Biological Chemistry</i> , 2014, 289, 12189-12194.	3.4	117
9	Immune Cell Infiltration, Cytokine Expression, and β -Cell Apoptosis During the Development of Type 1 Diabetes in the Spontaneously Diabetic LEW.1AR1/Ztm-iddm Rat. <i>Diabetes</i> , 2005, 54, 2041-2052.	0.6	111
10	Chemistry and biology of reactive species with special reference to the antioxidative defence status in pancreatic β -cells. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2017, 1861, 1929-1942.	2.4	97
11	MIN6 β -cell- β -cell interactions influence insulin secretory responses to nutrients and non-nutrients. <i>Biochemical and Biophysical Research Communications</i> , 2006, 343, 99-104.	2.1	85
12	Islet infiltration, cytokine expression and beta cell death in the NOD mouse, BB rat, Komeda rat, LEW.1AR1-iddm rat and humans with type 1 diabetes. <i>Diabetologia</i> , 2014, 57, 512-521.	6.3	76
13	Signal recognition by pancreatic B-cells. <i>Biochemical Pharmacology</i> , 1988, 37, 371-378.	4.4	74
14	Importance of Cysteine Residues for the Stability and Catalytic Activity of Human Pancreatic Beta Cell Glucokinase. <i>Archives of Biochemistry and Biophysics</i> , 2000, 375, 251-260.	3.0	68
15	Antagonism Between Saturated and Unsaturated Fatty Acids in ROS Mediated Lipotoxicity in Rat Insulin-Producing Cells. <i>Cellular Physiology and Biochemistry</i> , 2015, 36, 852-865.	1.6	63
16	Cytokine toxicity in insulin-producing cells is mediated by nitro-oxidative stress-induced hydroxyl radical formation in mitochondria. <i>Journal of Molecular Medicine</i> , 2011, 89, 785-798.	3.9	58
17	The role of lipid droplet formation in the protection of unsaturated fatty acids against palmitic acid induced lipotoxicity to rat insulin-producing cells. <i>Nutrition and Metabolism</i> , 2016, 13, 16.	3.0	56
18	Modulation of Bcl-2-related protein expression in pancreatic beta cells by pro-inflammatory cytokines and its dependence on the antioxidative defense status. <i>Molecular and Cellular Endocrinology</i> , 2011, 332, 88-96.	3.2	54

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19	Sensitivity profile of the human EndoC- β H1 beta cell line to proinflammatory cytokines. <i>Diabetologia</i> , 2016, 59, 2125-2133.	6.3	54
20	The central role of glutathione peroxidase 4 in the regulation of ferroptosis and its implications for pro-inflammatory cytokine-mediated beta-cell death. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 2021, 1867, 166114.	3.8	54
21	ERO1-independent production of H ₂ O ₂ within the endoplasmic reticulum fuels Prdx4-mediated oxidative protein folding. <i>Journal of Cell Biology</i> , 2015, 211, 253-259.	5.2	53
22	Impaired Glucose-Stimulated Insulin Secretion Is Coupled With Exocrine Pancreatic Lesions in the Cohen Diabetic Rat. <i>Diabetes</i> , 2008, 57, 279-287.	0.6	49
23	Peroxiredoxin 4 Improves Insulin Biosynthesis and Glucose-induced Insulin Secretion in Insulin-secreting INS-1E Cells. <i>Journal of Biological Chemistry</i> , 2014, 289, 26904-26913.	3.4	49
24	Diabetes Prevention by Immunomodulatory FTY720 Treatment in the LEW.1AR1-iddm Rat Despite Immune Cell Activation. <i>Endocrinology</i> , 2010, 151, 3555-3565.	2.8	45
25	ER-resident antioxidative GPx7 and GPx8 enzyme isoforms protect insulin-secreting INS-1E β -cells against lipotoxicity by improving the ER antioxidative capacity. <i>Free Radical Biology and Medicine</i> , 2017, 112, 121-130.	2.9	45
26	The H ₂ O ₂ -sensitive HyPer protein targeted to the endoplasmic reticulum as a mirror of the oxidizing thiol/disulfide milieu. <i>Free Radical Biology and Medicine</i> , 2012, 53, 1451-1458.	2.9	44
27	Differential effects of proinflammatory cytokines on cell death and ER stress in insulin-secreting INS1E cells and the involvement of nitric oxide. <i>Cytokine</i> , 2011, 55, 195-201.	3.2	40
28	Physiological characterization of the human EndoC- β H1 β -cell line. <i>Biochemical and Biophysical Research Communications</i> , 2015, 464, 13-19.	2.1	38
29	TriPer, an optical probe tuned to the endoplasmic reticulum tracks changes in luminal H ₂ O ₂ . <i>BMC Biology</i> , 2017, 15, 24.	3.8	35
30	β -Cell DNA Damage Response Promotes Islet Inflammation in Type 1 Diabetes. <i>Diabetes</i> , 2018, 67, 2305-2318.	0.6	35
31	Differential regulation of [Ca ²⁺] _i oscillations in mouse pancreatic islets by glucose, β -ketoisocaproic acid, glyceraldehyde and glycolytic intermediates. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2000, 1523, 65-72.	2.4	33
32	Susceptibility of brown adipocytes to pro-inflammatory cytokine toxicity and reactive oxygen species. <i>Bioscience Reports</i> , 2016, 36, .	2.4	33
33	Importance of lactate dehydrogenase for the regulation of glycolytic flux and insulin secretion in insulin-producing cells. <i>Biochemical Journal</i> , 2000, 352, 373-380.	3.7	33
34	Triiodothyronine (T ₃)-mediated toxicity and induction of apoptosis in insulin-producing INS-1 cells. <i>Life Sciences</i> , 2007, 80, 2045-2050.	4.3	32
35	Pancreas Pathology of Latent Autoimmune Diabetes in Adults (LADA) in Patients and in a LADA Rat Model Compared With Type 1 Diabetes. <i>Diabetes</i> , 2020, 69, 624-633.	0.6	31
36	Pathology of the pancreas and other organs in the diabetic LEW.1AR1/Ztm-iddm rat, a new model of spontaneous insulin-dependent diabetes mellitus. <i>Virchows Archiv Fur Pathologische Anatomie Und Physiologie Und Fur Klinische Medizin</i> , 2004, 444, 183-189.	2.8	30

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37	Insulin Secretion and the Morphological and Metabolic Characteristics of Pancreatic Islets of Hyperthyroid ob/ob Mice*. <i>Endocrinology</i> , 1978, 103, 1546-1555.	2.8	29
38	Induction of the intrinsic apoptosis pathway in insulin-secreting cells is dependent on oxidative damage of mitochondria but independent of caspase-12 activation. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2011, 1813, 1827-1835.	4.1	28
39	Engineering of a Glucose-Responsive Surrogate Cell for Insulin Replacement Therapy of Experimental Insulin-Dependent Diabetes. <i>Human Gene Therapy</i> , 2000, 11, 403-414.	2.7	26
40	Animal models of human type 1 diabetes for evaluating combination therapies and successful translation to the patient with type 1 diabetes. <i>Diabetes/Metabolism Research and Reviews</i> , 2017, 33, e2915.	4.0	26
41	miRNome Profiling of Purified Endoderm and Mesoderm Differentiated from hESCs Reveals Functions of miR-483-3p and miR-1263 for Cell-Fate Decisions. <i>Stem Cell Reports</i> , 2017, 9, 1588-1603.	4.8	26
42	Real-time analysis of intracellular glucose and calcium in pancreatic beta cells by fluorescence microscopy. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2012, 1823, 1697-1707.	4.1	24
43	Overexpression of sphingosine-1-phosphate lyase protects insulin-secreting cells against cytokine toxicity. <i>Journal of Biological Chemistry</i> , 2017, 292, 20292-20304.	3.4	24
44	Nutrient-dependent distribution of insulin and glucokinase immunoreactivities in rat pancreatic beta cells. <i>Virchows Archiv Fur Pathologische Anatomie Und Physiologie Und Fur Klinische Medizin</i> , 1999, 434, 75-82.	2.8	23
45	Results, meta-analysis and a first evaluation of UNOxR, the urinary nitrate-to-nitrite molar ratio, as a measure of nitrite reabsorption in experimental and clinical settings. <i>Amino Acids</i> , 2018, 50, 799-821.	2.7	23
46	Genetic analysis of the LEW.1AR1-iddm rat: an animal model for spontaneous diabetes mellitus. <i>Mammalian Genome</i> , 2005, 16, 432-441.	2.2	22
47	TNF- α Antibody Therapy in Combination With the T-Cell-Specific Antibody Anti-TCR Reverses the Diabetic Metabolic State in the LEW.1AR1-iddm Rat. <i>Diabetes</i> , 2015, 64, 2880-2891.	0.6	22
48	Protection of insulin-producing cells against toxicity of dexamethasone by catalase overexpression. <i>Free Radical Biology and Medicine</i> , 2009, 47, 1386-1393.	2.9	20
49	Differential effects of saturated and unsaturated free fatty acids on ferroptosis in rat β^2 -cells. <i>Journal of Nutritional Biochemistry</i> , 2022, 106, 109013.	4.2	20
50	Characterization of succinate dehydrogenase and $\hat{1}\pm$ -glycerophosphate dehydrogenase in pancreatic islets. <i>Biochemical Medicine</i> , 1983, 30, 349-356.	0.5	19
51	Additive activation of glucokinase by the bifunctional enzyme 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase and the chemical activator LY2121260. <i>Biochemical Pharmacology</i> , 2012, 83, 1300-1306.	4.4	19
52	Mechanism of Prostacyclin-Induced Potentiation of Glucose-Induced Insulin Secretion. <i>Endocrinology</i> , 2012, 153, 2612-2622.	2.8	18
53	Immune cell and cytokine patterns in children with type 1 diabetes mellitus undergoing a remission phase: A longitudinal study. <i>Pediatric Diabetes</i> , 2018, 19, 963-971.	2.9	18
54	Effects of pyruvate, l-lactate, and 3-phenylpyruvate on function of mouse pancreatic islets: Insulin secretion in relation to 45Ca^{2+} uptake and metabolism. <i>Biochemical Medicine</i> , 1981, 25, 366-372.	0.5	16

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55	Hydrogen peroxide permeability of cellular membranes in insulin-producing cells. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2020, 1862, 183096.	2.6	16
56	A Variable CD3+ T-Cell Frequency in Peripheral Blood Lymphocytes Associated with Type 1 Diabetes Mellitus Development in the LEW.1AR1-iddm Rat. <i>PLoS ONE</i> , 2013, 8, e64305.	2.5	15
57	Dynamics of Insulin Secretion from EndoC- β H1 β -Cell Pseudoislets in Response to Glucose and Other Nutrient and Nonnutrient Secretagogues. <i>Journal of Diabetes Research</i> , 2017, 2017, 1-6.	2.3	15
58	The mutation of the LEW.1AR1-iddm rat maps to the telomeric end of rat chromosome 1. <i>Mammalian Genome</i> , 2008, 19, 292-297.	2.2	13
59	Anti-TCR therapy combined with fingolimod for reversal of diabetic hyperglycemia by β cell regeneration in the LEW.1AR1-iddm rat model of type 1 diabetes. <i>Journal of Molecular Medicine</i> , 2014, 92, 743-55.	3.9	13
60	A novel Dock8 gene mutation confers diabetogenic susceptibility in the LEW.1AR1/Ztm-iddm rat, an animal model of human type 1 diabetes. <i>Diabetologia</i> , 2015, 58, 2800-2809.	6.3	13
61	Antidiabetic Effect of Interleukin-1 β Antibody Therapy Through β -Cell Protection in the Cohen Diabetes-Sensitive Rat. <i>Diabetes</i> , 2015, 64, 1780-1785.	0.6	13
62	Remission of autoimmune diabetes by anti-TCR combination therapies with anti-IL-17A or/and anti-IL-6 in the IDDM rat model of type 1 diabetes. <i>BMC Medicine</i> , 2020, 18, 33.	5.5	13
63	The pro-radical hydrogen peroxide as a stable hydroxyl radical distributor: lessons from pancreatic beta cells. <i>Archives of Toxicology</i> , 2022, 96, 1915-1920.	4.2	13
64	MCPIP1 regulates the sensitivity of pancreatic beta-cells to cytokine toxicity. <i>Cell Death and Disease</i> , 2019, 10, 29.	6.3	12
65	N-Arylsulfonyl-benzimidazolones as Potential Hypoglycemic Agents. <i>Zeitschrift Fur Naturforschung - Section B Journal of Chemical Sciences</i> , 2002, 57, 349-354.	0.7	11
66	Effects of the novel mitochondrial protein mimitin in insulin-secreting cells. <i>Biochemical Journal</i> , 2012, 445, 349-359.	3.7	11
67	Is there a role for neuronal nitric oxide synthase (nNOS) in cytokine toxicity to pancreatic beta cells?. <i>Nitric Oxide - Biology and Chemistry</i> , 2012, 27, 235-241.	2.7	11
68	Effects of isoprenaline and glucagon on insulin secretion from pancreatic islets. <i>Naunyn-Schmiedeberg's Archives of Pharmacology</i> , 1985, 329, 299-304.	3.0	10
69	Importance of lactate dehydrogenase for the regulation of glycolytic flux and insulin secretion in insulin-producing cells. <i>Biochemical Journal</i> , 2000, 352, 373.	3.7	10
70	Effects of polyinosinic-polycytidylic acid and adoptive transfer of immune cells in the LEW.1AR1-iddmrat and in its coisogenic LEW.1AR1 background strain. <i>Autoimmunity</i> , 2005, 38, 265-275.	2.6	10
71	Toxicity of fatty acid profiles of popular edible oils in human EndoC- β H1 beta-cells. <i>Nutrition and Diabetes</i> , 2020, 10, 5.	3.2	10
72	The pancreatic beta cell: an intricate relation between anatomical structure, the signalling mechanism of glucose-induced insulin secretion, the low antioxidative defence, the high vulnerability and sensitivity to diabetic stress. <i>ChemTexts</i> , 2021, 7, 1.	1.9	9

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73	The importance of aquaporin-8 for cytokine-mediated toxicity in rat insulin-producing cells. Free Radical Biology and Medicine, 2021, 174, 135-143.	2.9	8
74	Regulation of [Ca ²⁺] _i oscillations in mouse pancreatic islets by adrenergic agonists. Biochemical and Biophysical Research Communications, 2007, 363, 1038-1043.	2.1	7
75	Light-induced intracellular hydrogen peroxide generation through genetically encoded photosensitizer KillerRed-SOD1. Free Radical Research, 2018, 52, 1170-1181.	3.3	7
76	Rat Models of Human Type 1 Diabetes. Methods in Molecular Biology, 2020, 2128, 69-85.	0.9	7
77	Improved antioxidative defence protects insulin-producing cells against homocysteine toxicity. Chemico-Biological Interactions, 2016, 256, 37-46.	4.0	5
78	Is Nitric Oxide Really the Primary Mediator of Pancreatic Î²-Cell Death in Type 1 Diabetes?. Journal of Biological Chemistry, 2015, 290, 10570.	3.4	2
79	Asymmetric dimethylation and citrullination in the LEW.1AR1-iddm rat, an animal model of human type 1 diabetes, and effects of anti-TCR/anti-TNF-Î± antibody-based therapy. Amino Acids, 2020, 52, 103-110.	2.7	2
80	Translation of curative therapy concepts with T cell and cytokine antibody combinations for type 1 diabetes reversal in the IDDM rat. Journal of Molecular Medicine, 2020, 98, 1125-1137.	3.9	1
81	Advanced Glycation End-Products (AGEs) of Lysine and Effects of Anti-TCR/Anti-TNF-Î± Antibody-Based Therapy in the LEW.1AR1-iddm Rat, an Animal Model of Human Type 1 Diabetes. International Journal of Molecular Sciences, 2022, 23, 1541.	4.1	1
82	An editorial on the article "Patents in the Diabetes Area in the Years 2008-2016". Expert Opinion on Therapeutic Patents, 2018, 28, 173-174.	5.0	0
83	Blick in die Forschung: Realistische Perspektive auf Heilung. , 0, , .		0