

Jochen Buck

List of Publications by Year in descending order

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59
papers

5,517
citations

136950

32
h-index

161849

54
g-index

59
all docs

59
docs citations

59
times ranked

4022
citing authors

#	ARTICLE	IF	CITATIONS
1	Soluble Adenylyl Cyclase as an Evolutionarily Conserved Bicarbonate Sensor. <i>Science</i> , 2000, 289, 625-628.	12.6	771
2	Cyclic AMP Produced inside Mitochondria Regulates Oxidative Phosphorylation. <i>Cell Metabolism</i> , 2009, 9, 265-276.	16.2	422
3	The "Soluble" Adenylyl Cyclase in Sperm Mediates Multiple Signaling Events Required for Fertilization. <i>Developmental Cell</i> , 2005, 9, 249-259.	7.0	353
4	Kinetic Properties of "Soluble" Adenylyl Cyclase. <i>Journal of Biological Chemistry</i> , 2003, 278, 15922-15926.	3.4	316
5	Molecular Details of cAMP Generation in Mammalian Cells: A Tale of Two Systems. <i>Journal of Molecular Biology</i> , 2006, 362, 623-639.	4.2	284
6	Compartmentalization of bicarbonate-sensitive adenylyl cyclase in distinct signaling microdomains. <i>FASEB Journal</i> , 2003, 17, 82-84.	0.5	259
7	Metabolic Communication between Astrocytes and Neurons via Bicarbonate-Responsive Soluble Adenylyl Cyclase. <i>Neuron</i> , 2012, 75, 1094-1104.	8.1	225
8	Bicarbonate-regulated Adenylyl Cyclase (sAC) Is a Sensor That Regulates pH-dependent V-ATPase Recycling. <i>Journal of Biological Chemistry</i> , 2003, 278, 49523-49529.	3.4	202
9	Intracellular cAMP signaling by soluble adenylyl cyclase. <i>Kidney International</i> , 2011, 79, 1277-1288.	5.2	176
10	Bicarbonate-responsive "soluble" adenylyl cyclase defines a nuclear cAMP microdomain. <i>Journal of Cell Biology</i> , 2004, 164, 527-534.	5.2	157
11	Bicarbonate activation of adenylyl cyclase via promotion of catalytic active site closure and metal recruitment. <i>Nature Structural and Molecular Biology</i> , 2005, 12, 32-37.	8.2	149
12	cAMP and Mitochondria. <i>Physiology</i> , 2013, 28, 199-209.	3.1	129
13	Cholesterol Stabilizes TAZ in Hepatocytes to Promote Experimental Non-alcoholic Steatohepatitis. <i>Cell Metabolism</i> , 2020, 31, 969-986.e7.	16.2	117
14	A Phosphodiesterase 2A Isoform Localized to Mitochondria Regulates Respiration. <i>Journal of Biological Chemistry</i> , 2011, 286, 30423-30432.	3.4	115
15	Crystal structures of human soluble adenylyl cyclase reveal mechanisms of catalysis and of its activation through bicarbonate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 3727-3732.	7.1	113
16	CO ₂ /HCO ₃ ²⁻ and Calcium-regulated Soluble Adenylyl Cyclase as a Physiological ATP Sensor. <i>Journal of Biological Chemistry</i> , 2013, 288, 33283-33291.	3.4	108
17	Glucose and GLP-1 Stimulate cAMP Production via Distinct Adenylyl Cyclases in INS-1E Insulinoma Cells. <i>Journal of General Physiology</i> , 2008, 132, 329-338.	1.9	104
18	Soluble Adenylyl Cyclase Is Localized to Cilia and Contributes to Ciliary Beat Frequency Regulation via Production of cAMP. <i>Journal of General Physiology</i> , 2007, 130, 99-109.	1.9	99

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19	Specific expression of soluble adenylyl cyclase in male germ cells. , 2000, 56, 6-11.		92
20	Endothelial CD99 signals through soluble adenylyl cyclase and PKA to regulate leukocyte transendothelial migration. Journal of Experimental Medicine, 2015, 212, 1021-1041.	8.5	92
21	Soluble adenylyl cyclase is required for netrin-1 signaling in nerve growth cones. Nature Neuroscience, 2006, 9, 1257-1264.	14.8	89
22	Pharmacological Distinction between Soluble and Transmembrane Adenylyl Cyclases. Journal of Pharmacology and Experimental Therapeutics, 2013, 347, 589-598.	2.5	82
23	Discovery of LRE1 as a specific and allosteric inhibitor of soluble adenylyl cyclase. Nature Chemical Biology, 2016, 12, 838-844.	8.0	74
24	Somatic α -Soluble β ™ Adenylyl Cyclase Isoforms Are Unaffected in Sacytm1Lex/Sacytm1Lex α -Knockout β ™ Mice. PLoS ONE, 2008, 3, e3251.	2.5	67
25	Soluble Adenylyl Cyclase Mediates Nerve Growth Factor-induced Activation of Rap1. Journal of Biological Chemistry, 2006, 281, 17253-17258.	3.4	64
26	Calcium-sensing soluble adenylyl cyclase mediates TNF signal transduction in human neutrophils. Journal of Experimental Medicine, 2005, 202, 353-361.	8.5	62
27	Autoinhibitory regulation of soluble adenylyl cyclase. Molecular Reproduction and Development, 2006, 73, 361-368.	2.0	50
28	Metabolic changes in mouse sperm during capacitation β . Biology of Reproduction, 2020, 103, 791-801.	2.7	50
29	Neuronal expression of soluble adenylyl cyclase in the mammalian brain. Brain Research, 2013, 1518, 1-8.	2.2	46
30	Pharmacological modulation of the CO ₂ /HCO ₃ ⁻ /pH-, calcium-, and ATP-sensing soluble adenylyl cyclase. , 2018, 190, 173-186.		46
31	Soluble Adenylyl Cyclase Defines a Nuclear cAMP Microdomain in Keratinocyte Hyperproliferative Skin Diseases. Journal of Investigative Dermatology, 2010, 130, 1279-1287.	0.7	45
32	Regulation of Anterior Chamber Drainage by Bicarbonate-sensitive Soluble Adenylyl Cyclase in the Ciliary Body. Journal of Biological Chemistry, 2011, 286, 41353-41358.	3.4	40
33	Transient exposure to calcium ionophore enables in vitro fertilization in sterile mouse models. Scientific Reports, 2016, 6, 33589.	3.3	40
34	Physiological Sensing of Carbon Dioxide/Bicarbonate/pH via Cyclic Nucleotide Signaling. Sensors, 2011, 11, 2112-2128.	3.8	38
35	A helical lid converts a sulfotransferase to a dehydratase. Nature Structural Biology, 2001, 8, 447-451.	9.7	34
36	Soluble adenylyl cyclase is essential for proper lysosomal acidification. Journal of General Physiology, 2016, 148, 325-339.	1.9	32

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37	Transient Sperm Starvation Improves the Outcome of Assisted Reproductive Technologies. <i>Frontiers in Cell and Developmental Biology</i> , 2019, 7, 262.	3.7	32
38	A Soluble Adenylyl Cyclase Form Targets to Axonemes and Rescues Beat Regulation in Soluble Adenylyl Cyclase Knockout Mice. <i>American Journal of Respiratory Cell and Molecular Biology</i> , 2014, 51, 750-760.	2.9	28
39	Distinct intracellular sAC-cAMP domains regulate ER calcium signaling and OXPHOS function. <i>Journal of Cell Science</i> , 2017, 130, 3713-3727.	2.0	28
40	Mammalian pigmentation is regulated by a distinct cAMP-dependent mechanism that controls melanosome pH. <i>Science Signaling</i> , 2018, 11, .	3.6	28
41	Soluble adenylyl cyclase inhibition prevents human sperm functions essential for fertilization. <i>Molecular Human Reproduction</i> , 2021, 27, .	2.8	26
42	Bithionol Potently Inhibits Human Soluble Adenylyl Cyclase through Binding to the Allosteric Activator Site. <i>Journal of Biological Chemistry</i> , 2016, 291, 9776-9784.	3.4	25
43	Soluble Adenylyl Cyclase Is Necessary and Sufficient to Overcome the Block of Axonal Growth by Myelin-Associated Factors. <i>Journal of Neuroscience</i> , 2014, 34, 9281-9289.	3.6	22
44	Spectroscopic Studies of Anhydroretinol, an Endogenous Mammalian and Insectretro-Retinoid. <i>Angewandte Chemie International Edition in English</i> , 1994, 33, 1837-1839.	4.4	21
45	Identification of a haem domain in human soluble adenylyl cyclase. <i>Bioscience Reports</i> , 2012, 32, 491-499.	2.4	21
46	Bicarbonate, carbon dioxide and pH sensing via mammalian bicarbonate-regulated soluble adenylyl cyclase. <i>Interface Focus</i> , 2021, 11, 20200034.	3.0	19
47	The metabolic/pH sensor soluble adenylyl cyclase is a tumor suppressor protein. <i>Oncotarget</i> , 2016, 7, 45597-45607.	1.8	19
48	Optimization of lead compounds into on-demand, nonhormonal contraceptives: leveraging a public-private drug discovery institute collaboration. <i>Biology of Reproduction</i> , 2020, 103, 176-182.	2.7	18
49	Discovery of TDI-10229: A Potent and Orally Bioavailable Inhibitor of Soluble Adenylyl Cyclase (sAC,) Tj ETQq1 1 0.784314 rgBT /Over 2.8 16	2.8	16
50	Differential Intraocular Pressure Measurements by Tonometry and Direct Cannulation After Treatment with Soluble Adenylyl Cyclase Inhibitors. <i>Journal of Ocular Pharmacology and Therapeutics</i> , 2017, 33, 574-581.	1.4	13
51	soluble adenylyl cyclase-generated cyclic adenosine monophosphate promotes fast migration in PC12 cells. <i>Journal of Neuroscience Research</i> , 2008, 86, 118-124.	2.9	12
52	Soluble adenylyl cyclase regulates the cytosolic NADH/NAD ⁺ redox state and the bioenergetic switch between glycolysis and oxidative phosphorylation. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2021, 1862, 148367.	1.0	12
53	Purification of Soluble Adenylyl Cyclase. <i>Methods in Enzymology</i> , 2002, 345, 95-105.	1.0	10
54	Nonpigmented Ciliary Epithelial Cells Respond to Acetazolamide by a Soluble Adenylyl Cyclase Mechanism. , 2014, 55, 187.		9

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55	Using an Extracellular Flux Analyzer to Measure Changes in Glycolysis and Oxidative Phosphorylation during Mouse Sperm Capacitation. Journal of Visualized Experiments, 2020, , .	0.3	9
56	The role of soluble adenylyl cyclase in health and disease. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2014, 1842, 2533-2534.	3.8	5
57	Spektroskopische Untersuchungen von Anhydroretinol, einem endogenen <i>retro</i> -Retinoid aus Säugetieren und Insekten. Angewandte Chemie, 1994, 106, 1954-1956.	2.0	2
58	Novel Regulation of the Epithelial Na ⁺ Channel by Soluble Adenylyl Cyclase in Kidney Collecting Duct Cells. FASEB Journal, 2008, 22, 934.3.	0.5	0
59	Endothelial CD99 Signals Through Soluble Adenylyl Cyclase and PKA to Regulate Leukocyte Transendothelial Migration. FASEB Journal, 2015, 29, 285.1.	0.5	0