Renate Scheibe

List of Publications by Year
in descending order

117 papers	7,321 citations	34105 52 h-index	62596 80 g-index
122 all docs	122 docs citations	122 times ranked	5606 citing authors

#	Article	IF	Citations
1	Malate valves to balance cellular energy supply. Physiologia Plantarum, 2004, 120, 21-26.	5.2	424
2	Emerging concept for the role of photorespiration as an important part of abiotic stress response. Plant Biology, 2013, 15, 713-722.	3.8	278
3	Strategies to maintain redox homeostasis during photosynthesis under changing conditions. Journal of Experimental Botany, 2005, 56, 1481-1489.	4.8	232
4	Redox-Modulation of Chloroplast Enzymes. Plant Physiology, 1991, 96, 1-3.	4.8	209
5	Decreased ribulose-1,5-bisphosphate carboxylase-oxygenase in transgenic tobacco transformed with ?antisense? rbcS. Planta, 1991, 183, 542-54.	3.2	200
6	NADP+-malate dehydrogenase in C3-plants: Regulation and role of a light-activated enzyme. Physiologia Plantarum, 1987, 71, 393-400.	5.2	184
7	Regulation of plant cytosolic glyceraldehyde 3â€phosphate dehydrogenase isoforms by thiol modifications. Physiologia Plantarum, 2008, 133, 211-228.	5.2	174
8	Malate valves: old shuttles with new perspectives. Plant Biology, 2019, 21, 21-30.	3.8	151
9	Identification of the Cysteine Residues Involved in Redox Modification of Plant Plastidic Glucose-6-phosphate Dehydrogenase. Journal of Biological Chemistry, 1997, 272, 26985-26990.	3.4	149
10	Cytosolic thiol switches regulating basic cellular functions: GAPDH as an information hub?. Biological Chemistry, 2015, 396, 523-537.	2.5	137
11	Dark modulation of NADP-dependent malate dehydrogenase and glucose-6-phosphate dehydrogenase in the chloroplast. Biochimica Et Biophysica Acta - Bioenergetics, 1981, 636, 58-64.	1.0	132
12	Multiple strategies to prevent oxidative stress in Arabidopsis plants lacking the malate valve enzyme NADP-malate dehydrogenase. Journal of Experimental Botany, 2012, 63, 1445-1459.	4.8	125
13	Importance of the alternative oxidase (AOX) pathway in regulating cellular redox and ROS homeostasis to optimize photosynthesis during restriction of the cytochrome oxidase pathway in<i>Arabidopsis thaliana</i>. Annals of Botany, 2015, 116, 555-569.	2.9	117
14	Purification, characterization, and cDNA sequence of glucose-6-phosphate dehydrogenase from potato (Solatium tuberosum L.). Plant Journal, 1994, 5, 353-361.	5.7	116
15	Reductionâ€“oxidation network for flexible adjustment of cellular metabolism in photoautotrophic cells. Plant, Cell and Environment, 2012, 35, 202-216.	5.7	115
16	Alternative Oxidase Is Positive for Plant Performance. Trends in Plant Science, 2018, 23, 588-597.	8.8	114
17	Induction of the AOX1D Isoform of Alternative Oxidase in A. thaliana T-DNA Insertion Lines Lacking Isoform AOX1A Is Insufficient to Optimize Photosynthesis when Treated with Antimycin A. Molecular Plant, 2009, 2, 284-297.	8.3	112
18	Light/Dark Modulation: Regulation of Chloroplast Metabolism in a New Light. Botanica Acta, 1990, 103, 327-334.	1.6	110

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19	Rubisco Activity in Guard Cells Compared with the Solute Requirement for Stomatal Opening. Plant Physiology, 1990, 92, 246-253.	4.8	108
20	Electron acceptors in isolated intact spinach chloroplasts act hierarchically to prevent over-reduction and competition for electrons. Photosynthesis Research, 2000, 64, 1-13.	2.9	95
21	Reductive Modification and Nonreductive Activation of Purified Spinach Chloroplast NADP-Dependent Glyceraldehyde-3-phosphate Dehydrogenase. Archives of Biochemistry and Biophysics, 1995, 324, 201-208.	3.0	93
22	NADP regulates the light activation of NADP-dependent malate dehydrogenase. Planta, 1983, 157, 548-553.	3.2	86
23	Pollen tube growth: where does the energy come from?. Plant Signaling and Behavior, 2014, 9, e977200.	2.4	83
24	Chloroplast glucose-6-phosphate dehydrogenase: Km shift upon light modulation and reduction. Archives of Biochemistry and Biophysics, 1989, 274, 290-297.	3.0	82
25	Molecular Characterization of the Plastidic Glucose-6-Phosphate Dehydrogenase from Potato in Comparison to its Cytosolic Counterpart. Plant Physiology, 1995, 109, 1327-1335.	4.8	82
26	Competition between electron acceptors in photosynthesis: Regulation of the malate valve during CO2 fixation and nitrite reduction. Photosynthesis Research, 1994, 42, 75-86.	2.9	79
27	Transgenic potato plants with altered expression levels of chloroplast NADP-malate dehydrogenase: interactions between photosynthetic electron transport and malate metabolism in leaves and in isolated intact chloroplasts. Planta, 1998, 207, 105-114.	3.2	78
28	Arabidopsis Glutaredoxin S17 and Its Partner, the Nuclear Factor Y Subunit C11/Negative Cofactor 2Î±, Contribute to Maintenance of the Shoot Apical Meristem under Long-Day Photoperiod. Plant Physiology, 2015, 167, 1643-1658.	4.8	78
29	Hydrogen Sulfide Regulates the Cytosolic/Nuclear Partitioning of Glyceraldehyde-3-Phosphate Dehydrogenase by Enhancing its Nuclear Localization. Plant and Cell Physiology, 2017, 58, 983-992.	3.1	78
30	Co-existence of two regulatory NADP-glyceraldehyde 3-P dehydrogenase complexes in higher plant chloroplasts. FEBS Journal, 2002, 269, 5617-5624.	0.2	77
31	Functional studies of chloroplast glyceraldehyde-3-phosphate dehydrogenase subunits A and B expressed in Escherichia coli: formation of highly active A4 and B4 homotetramers and evidence that aggregation of the B4 complex is mediated by the B subunit carboxy terminus. Plant Molecular Biology, 1996, 32, 505-513.	3.9	75
32	A Novel, Non-redox-regulated NAD-dependent Malate Dehydrogenase from Chloroplasts of Arabidopsis thalianaL.. Journal of Biological Chemistry, 1998, 273, 27927-27933.	3.4	73
33	Decreased Content of Leaf Ferredoxin Changes Electron Distribution and Limits Photosynthesis in Transgenic Potato Plants. Plant Physiology, 2003, 133, 1768-1778.	4.8	71
34	The Plastid-Localized NAD-Dependent Malate Dehydrogenase Is Crucial for Energy Homeostasis in Developing Arabidopsis thaliana Seeds. Molecular Plant, 2014, 7, 170-186.	8.3	71
35	Induction of Hexose-Phosphate Translocator Activity in Spinach Chloroplasts. Plant Physiology, 1995, 109, 113-121.	4.8	70
36	Characterization of Glucose-6-Phosphate Incorporation into Starch by Isolated Intact Cauliflower-Bud Plastids. Plant Physiology, 1993, 101, 573-578.	4.8	69

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37	Flux Control of the Malate Valve in Leaf Cells. Archives of Biochemistry and Biophysics, 1998, 349, 290-298.	3.0	69
38	Purification and properties of the cytoplasmic glucose-6-phosphate dehydrogenase from pea leaves. Archives of Biochemistry and Biophysics, 1986, 247, 393-402.	3.0	68
39	Alternative Oxidase Isoforms Are Differentially Activated by Tricarboxylic Acid Cycle Intermediates. Plant Physiology, 2018, 176, 1423-1432.	4.8	68
40	Thioredoxinm in pea chloroplasts: Concentration and redox state under light and dark conditions. FEBS Letters, 1981, 133, 301-304.	2.8	67
41	Equilibrium freezing of leaf water and extracellular ice formation in Afroalpine ?giant rosette? plants. Planta, 1984, 162, 276-282.	3.2	67
42	Fifty years in the thioredoxin field and a bountiful harvest. Biochimica Et Biophysica Acta - General Subjects, 2012, 1820, 1822-1829.	2.4	67
43	The hydrogen peroxide-sensitive proteome of the chloroplast in vitro and in vivo. Frontiers in Plant Science, 2013, 4, 54.	3.6	67
44	Influence of the photoperiod on redox regulation and stress responses in Arabidopsis thaliana L. (Heynh.) plants under long- and short-day conditions. Planta, 2006, 224, 380-393.	3.2	66
45	Regulation of the Calvin cycle for CO2 fixation as an example for general control mechanisms in metabolic cycles. BioSystems, 1999, 51, 79-93.	2.0	65
46	Cytosolic GAPDH as a redox-dependent regulator of energy metabolism. BMC Plant Biology, 2018, 18, 184.	3.6	65
47	Rates and Roles of Cyclic and Alternative Electron Flow in Potato Leaves. Plant and Cell Physiology, 2007, 48, 1575-1588.	3.1	62
48	Redox Regulation of Chloroplast Enzymes in Galdieria sulphuraria in View of Eukaryotic Evolution. Plant and Cell Physiology, 2007, 48, 1359-1373.	3.1	59
49	Regulation of NADP-Dependent Glyceraldehyde 3-Phosphate Dehydrogenase Activity in Spinach Chloroplasts*. Botanica Acta, 1994, 107, 313-320.	1.6	56
50	Knockout of major leaf ferredoxin reveals new redoxâ€regulatory adaptations in <i>Arabidopsis thaliana</i>. Physiologia Plantarum, 2008, 133, 584-598.	5.2	56
51	Regulation of plant cytosolic aldolase functions by redox-modifications. Plant Physiology and Biochemistry, 2011, 49, 946-957.	5.8	56
52	Physiological role of AOX1a in photosynthesis and maintenance of cellular redox homeostasis under high light in Arabidopsis thaliana. Plant Physiology and Biochemistry, 2014, 81, 44-53.	5.8	56
53	Flavodoxin displays dose-dependent effects on photosynthesis and stress tolerance when expressed in transgenic tobacco plants. Planta, 2012, 236, 1447-1458.	3.2	55
54	Redox equilibria between the regulatory thiols of light/dark-modulated chloroplast enzymes and dithiothreitol: fine-tuning by metabolites. BBA - Proteins and Proteomics, 1995, 1247, 135-142.	2.1	54

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55	On the Mechanism of Activation by Light of the NADP-dependent Malate Dehydrogenase in Spinach Chloroplasts. Plant Physiology, 1979, 64, 744-748.	4.8	52
56	Regulation of Photosynthetic GAPDH Dissected by Mutants. Plant Physiology, 2005, 138, 2210-2219.	4.8	52
57	Cyanobacterial flavodoxin complements ferredoxin deficiency in knockedâ€down transgenic tobacco plants. Plant Journal, 2011, 65, 922-935.	5.7	51
58	Frost avoidance and freezing tolerance in Afroalpine 'giant rosette' plants. Plant, Cell and Environment, 1982, 5, 215-222.	5.7	51
59	FdC1, a Novel Ferredoxin Protein Capable of Alternative Electron Partitioning, Increases in Conditions of Acceptor Limitation at Photosystem I. Journal of Biological Chemistry, 2011, 286, 50-59.	3.4	47
60	Light-modulated NADP-malate dehydrogenases from mossfern and green algae: insights into evolution of the enzyme's regulation. Gene, 2000, 258, 147-154.	2.2	44
61	Transfer of a Redox-Signal through the Cytosol by Redox-Dependent Microcompartmentation of Glycolytic Enzymes at Mitochondria and Actin Cytoskeleton. Frontiers in Plant Science, 2012, 3, 284.	3.6	42
62	Analysis of Posttranslational Activation of Alternative Oxidase Isoforms. Plant Physiology, 2017, 174, 2113-2127.	4.8	42
63	Contribution of the Alternative Respiratory Pathway to PSII Photoprotection in C3 and C4 Plants. Molecular Plant, 2017, 10, 131-142.	8.3	42
64	Carbon dioxide assimilation and stomatal response of afroalpine giant rosette plants. Oecologia, 1985, 65, 207-213.	2.0	41
65	Drought, Desiccation, and Oxidative Stress. Ecological Studies, 2011, , 209-231.	1.2	41
66	Cloning and sequence analysis of cDNAs encoding plant cytosolic malate dehydrogenase. Gene, 1997, 199, 145-148.	2.2	40
67	Title is missing!. Photosynthesis Research, 1999, 61, 227-239.	2.9	39
68	Ferredoxin:NADP(H) Oxidoreductase Abundance and Location Influences Redox Poise and Stress Tolerance. Plant Physiology, 2016, 172, 1480-1493.	4.8	39
69	Transport Processes and Corresponding Changes in Metabolite Levels in Relation to Starch Synthesis in Barley (Hordeum vulgare L.) Etioplasts. Plant Physiology, 1992, 100, 184-190.	4.8	35
70	NAD-dependent malate dehydrogenase and glyceraldehyde 3-phosphate dehydrogenase isoenzymes play an important role in dark metabolism of various plastid types. Planta, 1998, 205, 359-366.	3.2	35
71	Redox regulation: an introduction. Physiologia Plantarum, 2004, 120, 1-3.	5.2	35
72	Small Molecules Govern Thiol Redox Switches. Trends in Plant Science, 2018, 23, 769-782.	8.8	35

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73	Limited proteolysis of inactive tetrameric chloroplast NADP-Malate dehydrogenase produces active dimers. Archives of Biochemistry and Biophysics, 1988, 260, 771-779.	3.0	34
74	Function of the chloroplastic malate valve for respiration during photosynthesis. Biochemical Society Transactions, 1996, 24, 761-766.	3.4	34
75	Regulation of gene expression by photosynthetic signals triggered through modified CO2 availability. BMC Plant Biology, 2006, 6, 15.	3.6	34
76	Maintaining homeostasis by controlled alternatives for energy distribution in plant cells under changing conditions of supply and demand. Photosynthesis Research, 2019, 139, 81-91.	2.9	34
77	C-terminal truncation of spinach chloroplast NAD(P)-dependent glyceraldehyde-3-phosphate dehydrogenase prevents inactivation and reaggregation. BBA - Proteins and Proteomics, 1996, 1296, 228-234.	2.1	33
78	Adaptation of tobacco plants to elevated CO2: influence of leaf age on changes in physiology, redox states and NADP-malate dehydrogenase activity. Journal of Experimental Botany, 1999, 50, 665-675.	4.8	33
79	Redox Modification of the Iron-Sulfur Glutaredoxin GRXS17 Activates Holdase Activity and Protects Plants from Heat Stress. Plant Physiology, 2020, 184, 676-692.	4.8	33
80	Transgenic Tobacco Plants Expressing Pea Chloroplast Nmdh cDNA in Sense and Antisense Orientation (Effects on NADP-Malate Dehydrogenase Level, Stability of Transformants, and Plant Growth). Plant Physiology, 1997, 115, 705-715.	4.8	32
81	Purification of chloroplasts from fruits of green pepper (Capsicum annum L.) and characterization of starch synthesis. Planta, 1995, 196, 50.	3.2	30
82	Redox Regulation in Oxigenic Photosynthesis. Progress in Botany Fortschritte Der Botanik, 2002, , 207-245.	0.3	30
83	Cloning, site-specific mutagenesis, expression and characterization of full-length chloroplast NADP-malate dehydrogenase from Pisum sativum. FEBS Journal, 1993, 217, 189-197.	0.2	28
84	A unique ferredoxin acts as a player in the low-iron response of photosynthetic organisms. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E12111-E12120.	7.1	28
85	Competitive inhibition of spinach leaf phosphoglucose isomerase isoenzymes by erythrose 4-phosphate. Plant Science, 1997, 130, 121-131.	3.6	27
86	Expression of the Minor Isoform Pea Ferredoxin in Tobacco Alters Photosynthetic Electron Partitioning and Enhances Cyclic Electron Flow Â. Plant Physiology, 2013, 161, 866-879.	4.8	27
87	Amino acid sequence similarity between malate dehydrogenases (NAD) and pea chloroplast malate dehydrogenase (NADP). FEBS Journal, 1987, 168, 653-658.	0.2	26
88	Transcriptional Regulation of NADP-Dependent Malate Dehydrogenase: Comparative Genetics and Identification of DNA-Binding Proteins. Journal of Molecular Evolution, 2007, 65, 437-455.	1.8	26
89	Effects of N-terminal truncations upon chloroplast NADP-malate dehydrogenases from pea and spinach. BBA - Proteins and Proteomics, 1993, 1163, 10-16.	2.1	25
90	Quantitative Evaluation of the Rate of 3-Phosphoglycerate Reduction in Chloroplasts. Plant and Cell Physiology, 1997, 38, 1177-1186.	3.1	24

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91	Cytoskeleton-associated, carbohydrate-metabolizing enzymes in maize identified by yeast two-hybrid screening. Physiologia Plantarum, 2005, 125, 141-156.	5.2	24
92	Simulating canopy photosynthesis for two competing species of an anthropogenic grassland community in the Andes of southern Ecuador. Ecological Modelling, 2012, 239, 14-26.	2.5	24
93	Salt tolerance of potato (Solanum tuberosum L. var. DesirÃ©e) plants depends on light intensity and air humidity. Plant Science, 2005, 169, 229-237.	3.6	23
94	Regulation of Steady-State Photosynthesis in Isolated Intact Chloroplasts under Constant Light: Responses of Carbon Fluxes, Metabolite Pools and Enzyme-Activation States to Changes of Electron Pressure. Plant and Cell Physiology, 1997, 38, 1207-1216.	3.1	22
95	Preparation of Arabidopsis mesophyll protoplasts with high rates of photosynthesis. Physiologia Plantarum, 2007, 129, 879-886.	5.2	22
96	Plant cell microcompartments: a redox-signaling perspective. Biological Chemistry, 2013, 394, 203-216.	2.5	21
97	Rhizoremediation of Diesel-Contaminated Soil with Two Rapeseed Varieties and Petroleum degraders Reveals Different Responses of the Plant Defense Mechanisms. International Journal of Phytoremediation, 2014, 16, 770-789.	3.1	20
98	Response of photosynthetic electron transport and carbon metabolism to a sudden decrease of irradiance in the saturating or the limiting range. Biochimica Et Biophysica Acta - Bioenergetics, 1989, 973, 241-249.	1.0	19
99	Controlled distribution of electrons between acceptors in chloroplasts: a theoretical consideration. Biochimica Et Biophysica Acta - Bioenergetics, 1999, 1413, 31-42.	1.0	19
100	Lack of malate valve capacities lead to improved N-assimilation and growth in transgenic<i>A. thaliana</i>plants. Plant Signaling and Behavior, 2014, 9, e29057.	2.4	19
101	Investigation of Heterologously Expressed Glucose-6-Phosphate Dehydrogenase Genes in a Yeast zwf1 Deletion. Microorganisms, 2020, 8, 546.	3.6	19
102	Regulation in Metabolic Systems under Homeostatic Flux Control. Archives of Biochemistry and Biophysics, 2000, 374, 198-206.	3.0	18
103	Chapter 8 Use of Transgenic Plants to Uncover Strategies for Maintenance of Redox Homeostasis During Photosynthesis. Advances in Botanical Research, 2009, , 207-251.	1.1	16
104	Three cytosolic NAD-malate dehydrogenase isoforms of <i>Arabidopsis thaliana</i>: on the crossroad between energy fluxes and redox signaling. Biochemical Journal, 2020, 477, 3673-3693.	3.7	14
105	Who will win where and why? An ecophysiological dissection of the competition between a tropical pasture grass and the invasive weed Bracken over an elevation range of 1000 m in the tropical Andes. PLoS ONE, 2018, 13, e0202255.	2.5	13
106	A soybean plastidâ€targeted NADHâ€malate dehydrogenase: cloning and expression analyses. American Journal of Botany, 2001, 88, 2136-2142.	1.7	11
107	Refined method to study the posttranslational regulation of alternative oxidases from <i>Arabidopsis thaliana in vitro</i>. Physiologia Plantarum, 2016, 157, 264-279.	5.2	10
108	Adaptation of tobacco plants to elevated CO2: influence of leaf age on changes in physiology, redox states and NADP-malate dehydrogenase activity. Journal of Experimental Botany, 1999, 50, 665-675.	4.8	8

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109	The role of ecotypic variation in driving worldwide colonization by a cosmopolitan plant. AoB PLANTS, 2018, 10, ply005.	2.3	6
110	Central Metabolism in Mammals and Plants as a Hub for Controlling Cell Fate. Antioxidants and Redox Signaling, 2021, 34, 1025-1047.	5.4	6
111	The In Vitro Interaction of 12-Oxophytodienoic Acid and Related Conjugated Carbonyl Compounds with Thiol Antioxidants. Biomolecules, 2021, 11, 457.	4.0	6
112	A soybean plastid-targeted NADH-malate dehydrogenase: cloning and expression analyses. American Journal of Botany, 2001, 88, 2136-42.	1.7	4
113	Redoxâ€Regulation. Ein Netzwerk zur flexiblen Adaptation von Stoffwechsel und Entwicklung bei Pflanzen. Biologie in Unserer Zeit, 2010, 40, 92-100.	0.2	1
114	Redox-Regulation of Chloroplast Enzymes: Mechanism and Physiological Significance. , 1990, , 2921-2928.		1
115	Physiological and anatomical differentiation of two sympatric weed populations. PeerJ, 2020, 8, e9226.	2.0	1
116	Regulatory Principles of Energy Fluxes and Their Impact on Customâ€"Designed Plant Productivity. , 2020, , 109-141.		1
117	The Contribution of Electron Transfer after Photosystem I to Balancing Photosynthesis. , 2017, , 277-303.		0