Markus Wirtz

List of Publications by Year
in descending order

120 papers	9,193 citations	26630 56 h-index	43889 91 g-index
131 all docs	131 docs citations	131 times ranked	8500 citing authors

#	ARTICLE	IF	CITATIONS
1	Evidence for a SAL1-PAP Chloroplast Retrograde Pathway That Functions in Drought and High Light Signaling in <i>Arabidopsis</i> Â Â Â. Plant Cell, 2011, 23, 3992-4012.	6.6	473
2	Methionine salvage and <i>S</i>-adenosylmethionine: essential links between sulfur, ethylene and polyamine biosynthesis. Biochemical Journal, 2013, 451, 145-154.	3.7	298
3	Vacuolar Nicotianamine Has Critical and Distinct Roles under Iron Deficiency and for Zinc Sequestration in <i>Arabidopsis</i>. Plant Cell, 2012, 24, 724-737.	6.6	277
4	The NADPH-dependent thioredoxin system constitutes a functional backup for cytosolic glutathione reductase in <i>Arabidopsis</i>. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9109-9114.	7.1	259
5	The Analysis of Arabidopsis Nicotianamine Synthase Mutants Reveals Functions for Nicotianamine in Seed Iron Loading and Iron Deficiency Responses Â Â Â. Plant Physiology, 2009, 150, 257-271.	4.8	240
6	Analysis of the <i>Arabidopsis O</i>-Acetylserine(thiol)lyase Gene Family Demonstrates Compartment-Specific Differences in the Regulation of Cysteine Synthesis. Plant Cell, 2008, 20, 168-185.	6.6	206
7	Retrograde Plastid Redox Signals in the Expression of Nuclear Genes for Chloroplast Proteins of Arabidopsis thaliana. Journal of Biological Chemistry, 2005, 280, 5318-5328.	3.4	203
8	Regulation of Sulfate Uptake and Expression of Sulfate Transporter Genes in Brassica oleracea as Affected by Atmospheric H2S and Pedospheric Sulfate Nutrition. Plant Physiology, 2004, 136, 3396-3408.	4.8	191
9	Functional analysis of the cysteine synthase protein complex from plants: Structural, biochemical and regulatory properties. Journal of Plant Physiology, 2006, 163, 273-286.	3.5	184
10	Balancing metabolites in drought: the sulfur assimilation conundrum. Trends in Plant Science, 2013, 18, 18-29.	8.8	184
11	Disruption of Adenosine-5â€²-Phosphosulfate Kinase in<i>Arabidopsis</i>Reduces Levels of Sulfated Secondary Metabolites. Plant Cell, 2009, 21, 910-927.	6.6	180
12	O-acetylserine (thiol) lyase: an enigmatic enzyme of plant cysteine biosynthesis revisited in Arabidopsis thaliana. Journal of Experimental Botany, 2004, 55, 1785-1798.	4.8	176
13	Dynamic Plastid Redox Signals Integrate Gene Expression and Metabolism to Induce Distinct Metabolic States in Photosynthetic Acclimation in<i>Arabidopsis</i>Â. Plant Cell, 2009, 21, 2715-2732.	6.6	176
14	Sulfite Reductase Defines a Newly Discovered Bottleneck for Assimilatory Sulfate Reduction and Is Essential for Growth and Development in <i>Arabidopsis thaliana</i> Â Â. Plant Cell, 2010, 22, 1216-1231.	6.6	163
15	Restricting glutathione biosynthesis to the cytosol is sufficient for normal plant development. Plant Journal, 2008, 53, 999-1012.	5.7	158
16	Integration of light and metabolic signals for stem cell activation at the shoot apical meristem. ELife, 2016, 5, .	6.0	158
17	Differential Regulation of the Expression of Two High-Affinity Sulfate Transporters, SULTR1.1 and SULTR1.2, in Arabidopsis Â Â. Plant Physiology, 2008, 147, 897-911.	4.8	153
18	<scp>SULTR</scp>3;1 is a chloroplastâ€localized sulfate transporter in <i>Arabidopsis thaliana</i>. Plant Journal, 2013, 73, 607-616.	5.7	146

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19	Sulfate availability affects <scp>ABA</scp> levels and germination response to <scp>ABA</scp> and salt stress in <i><scp>A</scp>rabidopsis thaliana</i>. Plant Journal, 2014, 77, 604-615.	5.7	143
20	Synthesis of the sulfur amino acids: cysteine and methionine. Photosynthesis Research, 2005, 86, 345-362.	2.9	139
21	Mitochondrial Dihydrolipoyl Dehydrogenase Activity Shapes Photosynthesis and Photorespiration of <i>Arabidopsis thaliana</i>. Plant Cell, 2015, 27, 1968-1984.	6.6	139
22	Genomic and functional characterization of the oas gene family encoding O-acetylserine (thiol) lyases, enzymes catalyzing the final step in cysteine biosynthesis in Arabidopsis thaliana. Gene, 2000, 253, 237-247.	2.2	125
23	The role of methionine recycling for ethylene synthesis in Arabidopsis. Plant Journal, 2007, 49, 238-249.	5.7	124
24	Mitochondrial Serine Acetyltransferase Functions as a Pacemaker of Cysteine Synthesis in Plant Cells Â Â. Plant Physiology, 2008, 148, 1055-1067.	4.8	121
25	Relation between chemotaxis and consumption of amino acids in bacteria. Molecular Microbiology, 2015, 96, 1272-1282.	2.5	121
26	Downregulation of N-terminal acetylation triggers ABA-mediated drought responses in Arabidopsis. Nature Communications, 2015, 6, 7640.	12.8	119
27	Expression profiling of metabolic genes in response to methyl jasmonate reveals regulation of genes of primary and secondary sulfur-related pathways in Arabidopsis thaliana. Photosynthesis Research, 2005, 86, 491-508.	2.9	111
28	The cysteine synthase complex from plants. FEBS Journal, 2001, 268, 686-693.	0.2	106
29	Targeted Systems Biology Profiling of Tomato Fruit Reveals Coordination of the Yang Cycle and a Distinct Regulation of Ethylene Biosynthesis during Postclimacteric Ripening Â Â Â. Plant Physiology, 2012, 160, 1498-1514.	4.8	104
30	System analysis of metabolism and the transcriptome in <i>Arabidopsis thaliana</i> roots reveals differential coâ€regulation upon iron, sulfur and potassium deficiency. Plant, Cell and Environment, 2017, 40, 95-107.	5.7	104
31	Molecular and biochemical analysis of the enzymes of cysteine biosynthesis in the plant Arabidopsis thaliana. Amino Acids, 2002, 22, 245-257.	2.7	103
32	Two N-Terminal Acetyltransferases Antagonistically Regulate the Stability of a Nod-Like Receptor in Arabidopsis. Plant Cell, 2015, 27, 1547-1562.	6.6	102
33	Molecular Biology, Biochemistry and Cellular Physiology of Cysteine Metabolism inArabidopsis thaliana. The Arabidopsis Book, 2011, 9, e0154.	0.5	98
34	Use of Biomolecular Interaction Analysis to Elucidate the Regulatory Mechanism of the Cysteine Synthase Complex fromArabidopsis thaliana. Journal of Biological Chemistry, 2002, 277, 30629-30634.	3.4	97
35	Redox-mediated kick-start of mitochondrial energy metabolism drives resource-efficient seed germination. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 741-751.	7.1	96
36	Drought-Enhanced Xylem Sap Sulfate Closes Stomata by Affecting ALMT12 and Guard Cell ABA Synthesis. Plant Physiology, 2017, 174, 798-814.	4.8	95

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37	Dominant-Negative Modification Reveals the Regulatory Function of the Multimeric Cysteine Synthase Protein Complex in Transgenic Tobacco. Plant Cell, 2007, 19, 625-639.	6.6	94
38	Sulphite oxidase as key enzyme for protecting plants against sulphur dioxide. Plant, Cell and Environment, 2007, 30, 447-455.	5.7	94
39	Molecular identification and functional characterization of the first NÎ±â€acetyltransferase in plastids by global acetylome profiling. Proteomics, 2015, 15, 2426-2435.	2.2	92
40	Drought stress in maize causes differential acclimation responses of glutathione and sulfur metabolism in leaves and roots. BMC Plant Biology, 2016, 16, 247.	3.6	92
41	Interactions between Chromium and Sulfur Metabolism in<i>Brassica juncea</i>. Journal of Environmental Quality, 2008, 37, 1536-1545.	2.0	90
42	Production of cysteine for bacterial and plant biotechnology: Application of cysteine feedback-insensitive isoforms of serine acetyltransferase. Amino Acids, 2003, 24, 195-203.	2.7	88
43	Sulfate is Incorporated into Cysteine to Trigger ABA Production and Stomatal Closure. Plant Cell, 2018, 30, 2973-2987.	6.6	85
44	Nuclear Localised MORE SULPHUR ACCUMULATION1 Epigenetically Regulates Sulphur Homeostasis in Arabidopsis thaliana. PLoS Genetics, 2016, 12, e1006298.	3.5	81
45	Toward new perspectives on the interaction of iron and sulfur metabolism in plants. Frontiers in Plant Science, 2013, 4, 357.	3.6	79
46	Structure and Function of the Hetero-oligomeric Cysteine Synthase Complex in Plants*. Journal of Biological Chemistry, 2010, 285, 32810-32817.	3.4	76
47	A Mechanistic Model of the Cysteine Synthase Complex. Journal of Molecular Biology, 2009, 386, 37-59.	4.2	73
48	N-terminal acetylation: an essential protein modification emerges as an important regulator of stress responses. Journal of Experimental Botany, 2018, 69, 4555-4568.	4.8	73
49	Regulation of sulphate assimilation by glutathione in poplars (Populus tremulaxP. alba) of wild type and overexpressing Â-glutamylcysteine synthetase in the cytosol. Journal of Experimental Botany, 2004, 55, 837-845.	4.8	66
50	Sulfur Partitioning between Glutathione and Protein Synthesis Determines Plant Growth. Plant Physiology, 2018, 177, 927-937.	4.8	66
51	Mitochondrial Cysteine Synthase Complex Regulates O-Acetylserine Biosynthesis in Plants. Journal of Biological Chemistry, 2012, 287, 27941-27947.	3.4	64
52	Selenate and molybdate alter sulfate transport and assimilation in Brassica juncea L. Czern.: Implications for phytoremediation. Environmental and Experimental Botany, 2012, 75, 41-51.	4.2	64
53	Overexpression of serine acetlytransferase produced large increases in O-acetylserine and free cysteine in developing seeds of a grain legume. Journal of Experimental Botany, 2010, 61, 721-733.	4.8	62
54	The Seed Composition of Arabidopsis Mutants for the Group 3 Sulfate Transporters Indicates a Role in Sulfate Translocation within Developing Seeds. Plant Physiology, 2010, 154, 913-926.	4.8	61

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55	MTHFD1 controls DNA methylation in Arabidopsis. Nature Communications, 2016, 7, 11640.	12.8	61
56	Generation of Seâ€fortified broccoli as functional food: impact of Se fertilization on S metabolism. Plant, Cell and Environment, 2011, 34, 192-207.	5.7	59
57	Chloroplast Acetyltransferase NSI Is Required for State Transitions in <i>Arabidopsis thaliana</i>. Plant Cell, 2018, 30, 1695-1709.	6.6	59
58	SAM levels, gene expression of SAM synthetase, methionine synthase and ACC oxidase, and ethylene emission from N. suaveolens flowers. Plant Molecular Biology, 2009, 70, 535-546.	3.9	58
59	Effects of fou8/fry1 Mutation on Sulfur Metabolism: Is Decreased Internal Sulfate the Trigger of Sulfate Starvation Response?. PLoS ONE, 2012, 7, e39425.	2.5	57
60	The Mitochondrial Sulfur Dioxygenase ETHYLMALONIC ENCEPHALOPATHY PROTEIN1 Is Required for Amino Acid Catabolism during Carbohydrate Starvation and Embryo Development in Arabidopsis Â Â. Plant Physiology, 2014, 165, 92-104.	4.8	57
61	Arabidopsis glutathione reductase 2 is indispensable in plastids, while mitochondrial glutathione is safeguarded by additional reduction and transport systems. New Phytologist, 2019, 224, 1569-1584.	7.3	57
62	The Role of Compartment-Specific Cysteine Synthesis for Sulfur Homeostasis During H2S Exposure in Arabidopsis. Plant and Cell Physiology, 2015, 56, 358-367.	3.1	56
63	ROS-Mediated Inhibition of S-nitrosoglutathione Reductase Contributes to the Activation of Anti-oxidative Mechanisms. Frontiers in Plant Science, 2016, 7, 1669.	3.6	56
64	Dual lysine and Nâ€terminal acetyltransferases reveal the complexity underpinning protein acetylation. Molecular Systems Biology, 2020, 16, e9464.	7.2	53
65	SULTR3s Function in Chloroplast Sulfate Uptake and Affect ABA Biosynthesis and the Stress Response. Plant Physiology, 2019, 180, 593-604.	4.8	50
66	A molecular switch in sulfur metabolism to reduce arsenic and enrich selenium in rice grain. Nature Communications, 2021, 12, 1392.	12.8	48
67	Inhibition of 5â€™-methylthioadenosine metabolism in the Yang cycle alters polyamine levels, and impairs seedling growth and reproduction in Arabidopsis. Plant Journal, 2010, 62, no-no.	5.7	47
68	Monitoring global protein thiol-oxidation and protein S-mycothiolation in Mycobacterium smegmatis under hypochlorite stress. Scientific Reports, 2017, 7, 1195.	3.3	47
69	NatB-Mediated N-Terminal Acetylation Affects Growth and Biotic Stress Responses. Plant Physiology, 2020, 182, 792-806.	4.8	44
70	Cysteine biosynthesis, in concert with a novel mechanism, contributes to sulfide detoxification in mitochondria of Arabidopsis thaliana. Biochemical Journal, 2012, 445, 275-283.	3.7	43
71	OsMTN encodes a 5â€²-methylthioadenosine nucleosidase that is up-regulated during submergence-induced ethylene synthesis in rice (Oryza sativa L.). Journal of Experimental Botany, 2007, 58, 1505-1514.	4.8	40
72	Sultr4;1 mutant seeds of Arabidopsis have an enhanced sulphate content and modified proteome suggesting metabolic adaptations to altered sulphate compartmentalization. BMC Plant Biology, 2010, 10, 78.	3.6	37

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73	Transcriptome profiling of genes differentially modulated by sulfur and chromium identifies potential targets for phytoremediation and reveals a complex Sâ€“Cr interplay on sulfate transport regulation in B. juncea. Journal of Hazardous Materials, 2012, 239-240, 192-205.	12.4	36
74	Recycling of Methylthioadenosine Is Essential for Normal Vascular Development and Reproduction in Arabidopsis Â Â. Plant Physiology, 2012, 158, 1728-1744.	4.8	35
75	Chromate Differentially Affects the Expression of a Highâ€Affinity Sulfate Transporter and Isoforms of Components of the Sulfate Assimilatory Pathway in <i>Zea mays</i> (L.). Plant Biology, 2007, 9, 662-671.	3.8	34
76	The redoxâ€sensitive module of cyclophilin 20â€3, 2â€cysteine peroxiredoxin and cysteine synthase integrates sulfur metabolism and oxylipin signaling in the high light acclimation response. Plant Journal, 2017, 91, 995-1014.	5.7	31
77	The <i>Arabidopsis </i><scp>THADA</scp> homologue modulates <scp>TOR</scp> activity and cold acclimation. Plant Biology, 2019, 21, 77-83.	3.8	31
78	Staphylococcus aureus Uses the Bacilliredoxin (BrxAB)/Bacillithiol Disulfide Reductase (YpdA) Redox Pathway to Defend Against Oxidative Stress Under Infections. Frontiers in Microbiology, 2019, 10, 1355.	3.5	31
79	Successful Fertilization Requires the Presence of at Least One Major O-Acetylserine(thiol)lyase for Cysteine Synthesis in Pollen of Arabidopsis. Plant Physiology, 2013, 163, 959-972.	4.8	30
80	Ectopically expressed glutaredoxin ROXY19 negatively regulates the detoxification pathway in Arabidopsis thaliana. BMC Plant Biology, 2016, 16, 200.	3.6	30
81	Allosterically Gated Enzyme Dynamics in the Cysteine Synthase Complex Regulate Cysteine Biosynthesis in Arabidopsis thaliana. Structure, 2012, 20, 292-302.	3.3	29
82	Cotranslational N-degron masking by acetylation promotes proteome stability in plants. Nature Communications, 2022, 13, 810.	12.8	29
83	Evidence for Several Cysteine Transport Mechanisms in the Mitochondrial Membranes of Arabidopsis thaliana. Plant and Cell Physiology, 2014, 55, 64-73.	3.1	28
84	The Arabidopsis N^{Î±}â€acetyltransferase NAA60 locates to the plasma membrane and is vital for the high salt stress response. New Phytologist, 2020, 228, 554-569.	7.3	25
85	The glyceraldehyde-3-phosphate dehydrogenase GapDH of Corynebacterium diphtheriae is redox-controlled by protein S-mycothiolation under oxidative stress. Scientific Reports, 2017, 7, 5020.	3.3	24
86	NAA50 Is an Enzymatically Active <i>N</i>^{Î±}-Acetyltransferase That Is Crucial for Development and Regulation of Stress Responses. Plant Physiology, 2020, 183, 1502-1516.	4.8	23
87	The versatile interactome of chloroplast ribosomes revealed by affinity purification mass spectrometry. Nucleic Acids Research, 2021, 49, 400-415.	14.5	23
88	Enzymes of cysteine synthesis show extensive and conserved modifications patterns that include NÎ±-terminal acetylation. Amino Acids, 2010, 39, 1077-1086.	2.7	22
89	The relevance of compartmentation for cysteine synthesis in phototrophic organisms. Protoplasma, 2012, 249, 147-155.	2.1	22
90	Tandem Fluorescent Protein Timers for Noninvasive Relative Protein Lifetime Measurement in Plants. Plant Physiology, 2019, 180, 718-731.	4.8	22

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91	The significance of cysteine synthesis for acclimation to high light conditions. Frontiers in Plant Science, 2014, 5, 776.	3.6	20
92	Characterization of the serine acetyltransferase gene family of Vitis vinifera uncovers differences in regulation of OAS synthesis in woody plants. Frontiers in Plant Science, 2015, 6, 74.	3.6	19
93	Sulfate-Induced Stomata Closure Requires the Canonical ABA Signal Transduction Machinery. Plants, 2019, 8, 21.	3.5	19
94	Metabolism of Cysteine in Plants and Phototrophic Bacteria. Advances in Photosynthesis and Respiration, 2008, , 59-91.	1.0	17
95	Improved sulfur nutrition provides the basis for enhanced production of sulfur-containing defense compounds in Arabidopsis thaliana upon inoculation with Alternaria brassicicola. Journal of Plant Physiology, 2012, 169, 740-743.	3.5	17
96	Apoplastic gamma-glutamyl transferase activity encoded by GGT1 and GGT2 is important for vegetative and generative development. Plant Physiology and Biochemistry, 2017, 115, 44-56.	5.8	17
97	Sulfur metabolic engineering enhances cadmium stress tolerance and root to shoot iron translocation in Brassica napus L. Plant Physiology and Biochemistry, 2020, 152, 32-43.	5.8	17
98	Metabolite Profiling in Arabidopsisthaliana with Moderately Impaired Photorespiration Reveals Novel Metabolic Links and Compensatory Mechanisms of Photorespiration. Metabolites, 2021, 11, 391.	2.9	17
99	Distribution of control in the sulfur assimilation in <i>Arabidopsis thaliana</i> depends on environmental conditions. New Phytologist, 2019, 222, 1392-1404.	7.3	16
100	Differential N-end Rule Degradation of RIN4/NOI Fragments Generated by the AvrRpt2 Effector Protease. Plant Physiology, 2019, 180, 2272-2289.	4.8	16
101	Affinity Purification of O-Acetylserine(thiol)lyase from Chlorella sorokiniana by Recombinant Proteins from Arabidopsis thaliana. Metabolites, 2014, 4, 629-639.	2.9	15
102	Plant glutathione biosynthesis revisited: redox-mediated activation of glutamylcysteine ligase does not require homo-dimerization. Biochemical Journal, 2019, 476, 1191-1203.	3.7	14
103	The plant TOR kinase tunes autophagy and meristem activity for nutrient stress-induced developmental plasticity. Plant Cell, 2022, 34, 3814-3829.	6.6	14
104	The function of glutaredoxin GRXS15 is required for lipoyl-dependent dehydrogenases in mitochondria. Plant Physiology, 2021, 186, 1507-1525.	4.8	12
105	Cellular Biology of Sulfur and Its Functions in Plants. Plant Cell Monographs, 2010, , 243-279.	0.4	11
106	HYPK promotes the activity of the <i>N</i> ^{Î±} -acetyltransferase A complex to determine proteostasis of nonAc-X ² /N-degronâ€“containing proteins. Science Advances, 2022, 8, .	10.3	11
107	Sulfide Detoxification in Plant Mitochondria. Methods in Enzymology, 2015, 555, 271-286.	1.0	10
108	GSNOR Contributes to Demethylation and Expression of Transposable Elements and Stress-Responsive Genes. Antioxidants, 2021, 10, 1128.	5.1	10

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109	OsHYPK-mediated protein N-terminal acetylation coordinates plant development and abiotic stress responses in rice. Molecular Plant, 2022, 15, 740-754.	8.3	9
110	Structural and functional characterization of the N-terminal acetyltransferase Naa50. Structure, 2021, 29, 413-425.e5.	3.3	6
111	Disruption of the NÎ±-Acetyltransferase NatB Causes Sensitivity to Reductive Stress in Arabidopsis thaliana. Frontiers in Plant Science, 2021, 12, 799954.	3.6	6
112	Translational fidelity and growth of Arabidopsis require stress-sensitive diphthamide biosynthesis. Nature Communications, 2022, 13, .	12.8	6
113	The Recovery from Sulfur Starvation is Independent from the mRNA Degradation Initiation Enzyme PARN in Arabidopsis. Plants, 2019, 8, 380.	3.5	4
114	The cytosolic Arabidopsis thaliana cysteine desulfurase ABA3 delivers sulfur to the sulfurtransferase STR18. Journal of Biological Chemistry, 2022, 298, 101749.	3.4	3
115	Micrografting Provides Evidence for Systemic Regulation of Sulfur Metabolism between Shoot and Root. Plants, 2021, 10, 1729.	3.5	1
116	Discriminative Long-Distance Transport of Selenate and Selenite Triggers Glutathione Oxidation in Specific Subcellular Compartments of Root and Shoot Cells in Arabidopsis. Frontiers in Plant Science, 0, 13, .	3.6	1
117	Regulatory function of the cysteine synthase protein complex in transgenic tobacco. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2007, 146, S249.	1.8	0
118	Subcellular Compartmentation of Cysteine Synthesis in Plants â€" One Step More. , 2012, , 71-75.		0
119	Cysteine Synthesis in the Chloroplast Is Not Required for Resistance of Arabidopsis thaliana to H2S Fumigation. , 2012, , 217-221.		0
120	The Role of Cyclophilin CYP20-3 in Activation of Chloroplast Serine Acetyltransferase Under High Light Stress. , 2012, , 265-269.		0