Takahiro Ishikawa

List of Publications by Year
in descending order

88 papers	4,976 citations	94433 37 h-index	95266 68 g-index
91 all docs	91 docs citations	91 times ranked	4512 citing authors

#	Article	IF	Citations
1	Two genes in <i>Arabidopsis thaliana</i> encoding GDPâ€‹<scp>l</scp>â€galactose phosphorylase are required for ascorbate biosynthesis and seedling viability. Plant Journal, 2007, 52, 673-689.	5.7	371
2	Expression of Spinach Ascorbate Peroxidase Isoenzymes in Response to Oxidative Stresses. Plant Physiology, 2000, 123, 223-234.	4.8	326
3	Regulation and function of ascorbate peroxidase isoenzymes. Journal of Experimental Botany, 2002, 53, 1305-19.	4.8	257
4	Recent Advances in Ascorbate Biosynthesis and the Physiological Significance of Ascorbate Peroxidase in Photosynthesizing Organisms. Bioscience, Biotechnology and Biochemistry, 2008, 72, 1143-1154.	1.3	242
5	Light regulation of ascorbate biosynthesis is dependent on the photosynthetic electron transport chain but independent of sugars in Arabidopsis. Journal of Experimental Botany, 2007, 58, 2661-2671.	4.8	220
6	Thylakoid membrane-bound ascorbate peroxidase is a limiting factor of antioxidative systems under photo-oxidative stress. Plant Journal, 2002, 32, 915-925.	5.7	207
7	Progress in manipulating ascorbic acid biosynthesis and accumulation in plants. Physiologia Plantarum, 2006, 126, 343-355.	5.2	199
8	H2O2-triggered Retrograde Signaling from Chloroplasts to Nucleus Plays Specific Role in Response to Stress. Journal of Biological Chemistry, 2012, 287, 11717-11729.	3.4	188
9	Translocation and the alternative D-galacturonate pathway contribute to increasing the ascorbate level in ripening tomato fruits together with the D-mannose/L-galactose pathway. Journal of Experimental Botany, 2012, 63, 229-239.	4.8	144
10	Arabidopsis Chloroplastic Ascorbate Peroxidase Isoenzymes Play a Dual Role in Photoprotection and Gene Regulation under Photooxidative Stress. Plant and Cell Physiology, 2010, 51, 190-200.	3.1	140
11	Evolution of alternative biosynthetic pathways for vitamin C following plastid acquisition in photosynthetic eukaryotes. ELife, 2015, 4, .	6.0	140
12	Two Distinct Redox Signaling Pathways for Cytosolic APX Induction under Photooxidative Stress. Plant and Cell Physiology, 2004, 45, 1586-1594.	3.1	95
13	Arabidopsis Phosphomannose Isomerase 1, but Not Phosphomannose Isomerase 2, Is Essential for Ascorbic Acid Biosynthesis. Journal of Biological Chemistry, 2008, 283, 28842-28851.	3.4	92
14	Intracellular energy depletion triggers programmed cell death during petal senescence in tulip. Journal of Experimental Botany, 2008, 59, 2085-2095.	4.8	84
15	Identification of a cis Element for Tissue-specific Alternative Splicing of Chloroplast Ascorbate Peroxidase Pre-mRNA in Higher Plants. Journal of Biological Chemistry, 2002, 277, 40623-40632.	3.4	83
16	Diversity and Evolution of Ascorbate Peroxidase Functions in Chloroplasts: More Than Just a Classical Antioxidant Enzyme?. Plant and Cell Physiology, 2016, 57, pcv203.	3.1	83
17	cDNAs encoding spinach stromal and thylakoid-bound ascorbate peroxidase, differing in the presence or absence of their 3â€²-coding regions. FEBS Letters, 1996, 384, 289-293.	2.8	79
18	De novo assembly and comparative transcriptome analysis of Euglena gracilis in response to anaerobic conditions. BMC Genomics, 2016, 17, 182.	2.8	78

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19	The catalase-peroxidase of <i>Synechococcus</i> PCC 7942: purification, nucleotide sequence analysis and expression in <i>Escherichia coli</i>. Biochemical Journal, 1996, 316, 251-257.	3.7	75
20	Feedback Inhibition of Spinach l-Galactose Dehydrogenase by l-Ascorbate. Plant and Cell Physiology, 2004, 45, 1271-1279.	3.1	73
21	Molecular Cloning and Functional Expression of Rat Liver Glutathione-dependent Dehydroascorbate Reductase. Journal of Biological Chemistry, 1998, 273, 28708-28712.	3.4	72
22	Alternatively spliced mRNA variants of chloroplast ascorbate peroxidase isoenzymes in spinach leaves. Biochemical Journal, 1999, 338, 41-48.	3.7	66
23	Vitamin B12 deficiency results in severe oxidative stress, leading to memory retention impairment in Caenorhabditis elegans. Redox Biology, 2017, 11, 21-29.	9.0	66
24	Alternative mRNA splicing of 3â€²-terminal exons generates ascorbate peroxidase isoenzymes in spinach (Spinacia oleracea) chloroplasts. Biochemical Journal, 1997, 328, 795-800.	3.7	63
25	Cloning and expression of cDNA encoding a new type of ascorbate peroxidase from spinach. FEBS Letters, 1995, 367, 28-32.	2.8	62
26	Characterization of an ascorbate peroxidase in plastids of tobacco BY-2 cells. Physiologia Plantarum, 2003, 117, 550-557.	5.2	62
27	Regulation and function of ascorbate peroxidase isoenzymes. Journal of Experimental Botany, 2002, 53, 1305-1319.	4.8	60
28	The Pathway via D-Galacturonate/L-Galactonate Is Significant for Ascorbate Biosynthesis in Euglena gracilis. Journal of Biological Chemistry, 2008, 283, 31133-31141.	3.4	58
29	The Contribution of<i>Arabidopsis</i>Homologs of<scp>L</scp>-Gulono-1,4-lactone Oxidase to the Biosynthesis of Ascorbic Acid. Bioscience, Biotechnology and Biochemistry, 2010, 74, 1494-1497.	1.3	54
30	Transient expression analysis revealed the importance of <i>VTC2</i> expression level in light/dark regulation of ascorbate biosynthesis in Arabidopsis. Bioscience, Biotechnology and Biochemistry, 2014, 78, 60-66.	1.3	51
31	Hydrogen peroxide generation in organelles of Euglena gracilis. Phytochemistry, 1993, 33, 1297-1299.	2.9	50
32	Metabolism of hydrogen peroxide by the scavenging system in Chlamydomonas reinhardtii. Physiologia Plantarum, 1997, 99, 49-55.	5.2	48
33	Genome-Wide Characterization of Major Intrinsic Proteins in Four Grass Plants and Their Non-Aqua Transport Selectivity Profiles with Comparative Perspective. PLoS ONE, 2016, 11, e0157735.	2.5	46
34	Crystal Structure of Chloroplastic Ascorbate Peroxidase from Tobacco Plants and Structural Insights into its Instability. Journal of Biochemistry, 2003, 134, 239-244.	1.7	45
35	Glucan synthaseâ€like 2 is indispensable for paramylon synthesis in <i>EuglenaÂgracilis</i>. FEBS Letters, 2017, 591, 1360-1370.	2.8	43
36	Wax Ester Fermentation and Its Application for Biofuel Production. Advances in Experimental Medicine and Biology, 2017, 979, 269-283.	1.6	41

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37	Expression Analysis of the<i>VTC2</i>and<i>VTC5</i>Genes Encoding GDP-<scp>L</scp>-Galactose Phosphorylase, an Enzyme Involved in Ascorbate Biosynthesis, in<i>Arabidopsis thaliana</i>. Bioscience, Biotechnology and Biochemistry, 2011, 75, 1783-1788.	1.3	40
38	Enzymic and molecular characterization of NADP-dependent glyceraldehyde-3-phosphate dehydrogenase from <i>Synechococcus</i> PCC 7942: resistance of the enzyme to hydrogen peroxide. Biochemical Journal, 1996, 316, 685-690.	3.7	38
39	<i>Euglena gracilis</i>ascorbate peroxidase forms an intramolecular dimeric structure: its unique molecular characterization. Biochemical Journal, 2010, 426, 125-134.	3.7	35
40	Cytosolic ascorbate peroxidase 1 protects organelles against oxidative stress by wounding- and jasmonate-induced H2O2 in Arabidopsis plants. Biochimica Et Biophysica Acta - General Subjects, 2012, 1820, 1901-1907.	2.4	35
41	Wax Ester Synthase/Diacylglycerol Acyltransferase Isoenzymes Play a Pivotal Role in Wax Ester Biosynthesis in Euglena gracilis. Scientific Reports, 2017, 7, 13504.	3.3	35
42	Identification and enzymatic characterization of an endo-1,3-Î²-glucanase from Euglena gracilis. Phytochemistry, 2015, 116, 21-27.	2.9	34
43	Ferulic acid 5-hydroxylase 1 is essential for expression of anthocyanin biosynthesis-associated genes and anthocyanin accumulation under photooxidative stress in Arabidopsis. Plant Science, 2014, 219-220, 61-68.	3.6	33
44	Acclimation to Diverse Environmental Stresses Caused by a Suppression of Cytosolic Ascorbate Peroxidase in Tobacco BY-2 cells. Plant and Cell Physiology, 2005, 46, 1264-1271.	3.1	32
45	Dehydroascorbate Reductases and Glutathione Set a Threshold for High-Lightâ€“Induced Ascorbate Accumulation. Plant Physiology, 2020, 183, 112-122.	4.8	32
46	Identification and functional analysis of the geranylgeranyl pyrophosphate synthase gene (crtE) and phytoene synthase gene (crtB) for carotenoid biosynthesis in Euglena gracilis. BMC Plant Biology, 2016, 16, 4.	3.6	30
47	Suppression of the phytoene synthase gene (EgcrtB) alters carotenoid content and intracellular structure of Euglena gracilis. BMC Plant Biology, 2017, 17, 125.	3.6	29
48	Conversion of<scp>L</scp>-Galactono-1,4-lactone to<scp>L</scp>-Ascorbate Is Regulated by the Photosynthetic Electron Transport Chain in<i>Arabidopsis</i>. Bioscience, Biotechnology and Biochemistry, 2008, 72, 2598-2607.	1.3	28
49	Expression of aspartyl protease and C3HC4-type RING zinc finger genes are responsive to ascorbic acid in Arabidopsis thaliana. Journal of Experimental Botany, 2011, 62, 3647-3657.	4.8	27
50	Purification and characterization of cytosolic ascorbate peroxidase from komatsuna (Brassica rapa). Plant Science, 1996, 120, 11-18.	3.6	26
51	Physiological role of Î²-carotene monohydroxylase (CYP97H1) in carotenoid biosynthesis in Euglena gracilis. Plant Science, 2019, 278, 80-87.	3.6	24
52	Functional Characterization ofD-Galacturonic Acid Reductase, a Key Enzyme of the Ascorbate Biosynthesis Pathway, fromEuglena gracilis. Bioscience, Biotechnology and Biochemistry, 2006, 70, 2720-2726.	1.3	22
53	Post-transcriptional regulation of ascorbate peroxidase during light adaptation of Euglena gracilis. Plant Science, 2003, 165, 233-238.	3.6	18
54	Biosynthesis and Regulation of Ascorbic Acid in Plants. , 2018, , 163-179.		18

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55	Effect of iron on the expression of ascorbate peroxidase in Euglena gracilis. Plant Science, 2003, 165, 1363-1367.	3.6	17
56	Physiological functions of pyruvate:NADP+ oxidoreductase and 2-oxoglutarate decarboxylase in Euglena gracilis under aerobic and anaerobic conditions. Bioscience, Biotechnology and Biochemistry, 2017, 81, 1386-1393.	1.3	17
57	Temporal change of photophobic step-up responses of Euglena gracilis investigated through motion analysis. PLoS ONE, 2017, 12, e0172813.	2.5	17
58	Characterization of monoclonal antibodies against ascorbate peroxidase isoenzymes: purification and epitope-mapping using immunoaffinity column chromatography. Biochimica Et Biophysica Acta - General Subjects, 2001, 1526, 168-174.	2.4	16
59	Anaerobic respiration coupled with mitochondrial fatty acid synthesis in wax ester fermentation by Euglena gracilis. FEBS Letters, 2018, 592, 4020-4027.	2.8	16
60	Chloroplast development activates the expression of ascorbate biosynthesis-associated genes in Arabidopsis roots. Plant Science, 2019, 284, 185-191.	3.6	16
61	Extracellular transglutaminase 2 induces myotube hypertrophy through G protein-coupled receptor 56. Biochimica Et Biophysica Acta - Molecular Cell Research, 2020, 1867, 118563.	4.1	15
62	Carotenoid accumulation in the eyespot apparatus required for phototaxis is independent of chloroplast development in Euglena gracilis. Plant Science, 2020, 298, 110564.	3.6	15
63	Cooperation of chloroplast ascorbate peroxidases and proton gradient regulation 5 is critical for protecting Arabidopsis plants from photoâ€oxidative stress. Plant Journal, 2021, 107, 876-892.	5.7	15
64	Analysis of Two l-Galactono-1,4-Lactone-Responsive Genes with Complementary Expression During the Development of Arabidopsis thaliana. Plant and Cell Physiology, 2012, 53, 592-601.	3.1	14
65	Prediction of arsenic and antimony transporter major intrinsic proteins from the genomes of crop plants. International Journal of Biological Macromolecules, 2018, 107, 2630-2642.	7.5	14
66	The <scp>d</scp>â€mannose/<scp>l</scp>â€galactose pathway is the dominant ascorbate biosynthetic route in the moss <i>Physcomitrium patens</i>. Plant Journal, 2021, 107, 1724-1738.	5.7	14
67	Transcriptional control of vitamin C defective 2 and tocopherol cyclase genes by light and plastid-derived signals: The partial involvement of GENOMES UNCOUPLED 1. Plant Science, 2015, 231, 20-29.	3.6	13
68	A major isoform of mitochondrial trans-2-enoyl-CoA reductase is dispensable for wax ester production in Euglena gracilis under anaerobic conditions. PLoS ONE, 2019, 14, e0210755.	2.5	13
69	Distribution and Functions of Monodehydroascorbate Reductases in Plants: Comprehensive Reverse Genetic Analysis of Arabidopsis thaliana Enzymes. Antioxidants, 2021, 10, 1726.	5.1	13
70	Activation of Î³-Aminobutyrate Production by Chloroplastic H₂O₂ Is Associated with the Oxidative Stress Response. Bioscience, Biotechnology and Biochemistry, 2013, 77, 422-425.	1.3	12
71	Biochemical and physiological analyses of NADPH-dependent thioredoxin reductase isozymes in Euglena gracilis. Plant Science, 2015, 236, 29-36.	3.6	12
72	Alterations of Membrane Lipid Content Correlated With Chloroplast and Mitochondria Development in Euglena gracilis. Frontiers in Plant Science, 2018, 9, 370.	3.6	12

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73	Requirement for iron and its effect on ascorbate peroxidase in Euglena gracilis. Plant Science, 1993, 93, 25-29.	3.6	11
74	Identification and functional analysis of peroxiredoxin isoforms in <i>Euglena gracilis</i>. Bioscience, Biotechnology and Biochemistry, 2014, 78, 593-601.	1.3	11
75	Suppression of DYRK ortholog expression affects wax ester fermentation in Euglena gracilis. Journal of Applied Phycology, 2018, 30, 367-373.	2.8	11
76	Identification and characterization of cytosolic fructose-1,6-bisphosphatase in <i>Euglena gracilis</i>. Bioscience, Biotechnology and Biochemistry, 2015, 79, 1957-1964.	1.3	10
77	Visualizing wax ester fermentation in single Euglena gracilis cells by Raman microspectroscopy and multivariate curve resolution analysis. Biotechnology for Biofuels, 2019, 12, 128.	6.2	10
78	Taming chlorophylls by early eukaryotes underpinned algal interactions and the diversification of the eukaryotes on the oxygenated Earth. ISME Journal, 2019, 13, 1899-1910.	9.8	10
79	Characterization and physiological role of two types of chloroplastic fructose-1,6-bisphosphatases in Euglena gracilis. Archives of Biochemistry and Biophysics, 2015, 575, 61-68.	3.0	9
80	Ascorbate Peroxidase Functions in Higher Plants: The Control of the Balance Between Oxidative Damage and Signaling. , 2018, , 41-59.		8
81	Biochemistry and Physiology of Reactive Oxygen Species in Euglena. Advances in Experimental Medicine and Biology, 2017, 979, 47-64.	1.6	7
82	Activation of ascorbate metabolism by nitrogen starvation and its physiological impacts in <i>Arabidopsis thaliana</i>. Bioscience, Biotechnology and Biochemistry, 2022, 86, 476-489.	1.3	6
83	Comparative proteomic analysis of mitochondria isolated from Euglena gracilis under aerobic and hypoxic conditions. PLoS ONE, 2019, 14, e0227226.	2.5	5
84	Suppression of the Lycopene Cyclase Gene Causes Downregulation of Ascorbate Peroxidase Activity and Decreased Glutathione Pool Size, Leading to H2O2 Accumulation in Euglena gracilis. Frontiers in Plant Science, 2021, 12, 786208.	3.6	4
85	Chemistry and Metabolism of Ascorbic Acid in Plants. , 2017, , 1-23.		3
86	Ascorbate Peroxidases: Crucial Roles of Antioxidant Enzymes in Plant Stress Responses. , 2017, , 111-127.		3
87	Genome-wide Characterization Deciphers Distinct Properties of Aquaporins in Six Phytophthora Species. Current Bioinformatics, 2021, 16, 880-898.	1.5	2
88	Analysis of Ascorbate Metabolism in Arabidopsis Under High-Light Stress. Methods in Molecular Biology, 2022, , 15-24.	0.9	2