Martin H Spalding

List of Publications by Year
in descending order

80 papers	9,824 citations	71061 41 h-index	64755 79 g-index
83 all docs	83 docs citations	83 times ranked	10013 citing authors

#	Article	IF	Citations
1	The <i>Chlamydomonas</i> Genome Reveals the Evolution of Key Animal and Plant Functions. Science, 2007, 318, 245-250.	6.0	2,354
2	High-efficiency TALEN-based gene editing produces disease-resistant rice. Nature Biotechnology, 2012, 30, 390-392.	9.4	965
3	Redesigning photosynthesis to sustainably meet global food and bioenergy demand. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8529-8536.	3.3	751
4	Large chromosomal deletions and heritable small genetic changes induced by CRISPR/Cas9 in rice. Nucleic Acids Research, 2014, 42, 10903-10914.	6.5	547
5	TAL nucleases (TALNs): hybrid proteins composed of TAL effectors and FokI DNA-cleavage domain. Nucleic Acids Research, 2011, 39, 359-372.	6.5	477
6	Modularly assembled designer TAL effector nucleases for targeted gene knockout and gene replacement in eukaryotes. Nucleic Acids Research, 2011, 39, 6315-6325.	6.5	368
7	An <i>Agrobacterium</i>â€delivered <scp>CRISPR</scp>/Cas9 system for highâ€frequency targeted mutagenesis in maize. Plant Biotechnology Journal, 2017, 15, 257-268.	4.1	300
8	The <scp>CO</scp>₂ concentrating mechanism and photosynthetic carbon assimilation in limiting <scp>CO</scp>₂: how Chlamydomonas works against the gradient. Plant Journal, 2015, 82, 429-448.	2.8	214
9	Use of designer nucleases for targeted gene and genome editing in plants. Plant Biotechnology Journal, 2016, 14, 483-495.	4.1	195
10	Microalgal carbon-dioxide-concentrating mechanisms: Chlamydomonas inorganic carbon transporters. Journal of Experimental Botany, 2007, 59, 1463-1473.	2.4	192
11	Transcriptome-Wide Changes in <i>Chlamydomonas reinhardtii</i> Gene Expression Regulated by Carbon Dioxide and the CO₂-Concentrating Mechanism Regulator <i>CIA5</i>/<i>CCM1</i>. Plant Cell, 2012, 24, 1876-1893.	3.1	180
12	Carbonic Anhydrase-Deficient Mutant of <i>Chlamydomonas reinhardii</i> Requires Elevated Carbon Dioxide Concentration for Photoautotrophic Growth. Plant Physiology, 1983, 73, 268-272.	2.3	169
13	Quantification of Compartmented Metabolic Fluxes in Developing Soybean Embryos by Employing Biosynthetically Directed Fractional 13C Labeling, Two-Dimensional [13C, 1H] Nuclear Magnetic Resonance, and Comprehensive Isotopomer Balancing. Plant Physiology, 2004, 136, 3043-3057.	2.3	152
14	Novel metabolism in Chlamydomonas through the lens of genomics. Current Opinion in Plant Biology, 2007, 10, 190-198.	3.5	149
15	<i>Chlamydomonas reinhardtii</i> thermal tolerance enhancement mediated by a mutualistic interaction with vitamin B12-producing bacteria. ISME Journal, 2013, 7, 1544-1555.	4.4	140
16	Carbon dioxide concentrating mechanism in Chlamydomonas reinhardtii: inorganic carbon transport and CO2 recapture. Photosynthesis Research, 2011, 109, 115-122.	1.6	112
17	Heritable siteâ€specific mutagenesis using <scp>TALEN</scp>s in maize. Plant Biotechnology Journal, 2015, 13, 1002-1010.	4.1	110
18	TALEN-mediated genome editing: prospects and perspectives. Biochemical Journal, 2014, 462, 15-24.	1.7	109

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19	Reduced Inorganic Carbon Transport in a CO2-Requiring Mutant of Chlamydomonas reinhardii. Plant Physiology, 1983, 73, 273-276.	2.3	108
20	Knockdown of limiting-CO ₂ â€“induced gene <i>HLA3</i> decreases HCO ₃ ^{âˆ’} transport and photosynthetic Ci affinity in <i>Chlamydomonas reinhardtii</i>. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5990-5995.	3.3	102
21	An inorganic carbon transport system responsible for acclimation specific to air levels of CO2 in Chlamydomonas reinhardtii. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 10110-10115.	3.3	94
22	Growth, photosynthesis, and gene expression in Chlamydomonas over a range of CO2 concentrations and CO2/O2 ratios: CO2 regulates multiple acclimation states. Canadian Journal of Botany, 2005, 83, 796-809.	1.2	90
23	Acclimation to Very Low CO₂: Contribution of Limiting CO₂ Inducible Proteins, LCIB and LCIA, to Inorganic Carbon Uptake in <i>Chlamydomonas reinhardtii</i>. Plant Physiology, 2014, 166, 2040-2050.	2.3	87
24	Periplasmic Carbonic Anhydrase Structural Gene (Cah1) Mutant in Chlamydomonas reinhardtii1. Plant Physiology, 1999, 120, 757-764.	2.3	83
25	Influence of carbon dioxide concentration during growth on fluorescence induction characteristics of the Green Alga Chlamydomonas reinhardii. Photosynthesis Research, 1984, 5, 169-176.	1.6	76
26	Photosynthesis is required for induction of the CO2 -concentrating system in Chlamydomonas reinhardii. FEBS Letters, 1982, 145, 41-44.	1.3	75
27	Membrane-Associated Polypeptides Induced in Chlamydomonas by Limiting CO2 Concentrations. Plant Physiology, 1989, 89, 133-137.	2.3	70
28	Regulation of photosynthesis during Arabidopsis leaf development in continuous light. Photosynthesis Research, 2002, 72, 27-37.	1.6	66
29	Disruption of the glycolate dehydrogenase gene in the high-CO2-requiring mutant HCR89 of Chlamydomonas reinhardtii. Canadian Journal of Botany, 2005, 83, 820-833.	1.2	64
30	A Photorespiratory Mutant of <i>Chlamydomonas reinhardtii</i>. Plant Physiology, 1990, 93, 231-237.	2.3	63
31	Carbohydrate regulation of leaf development: Prolongation of leaf senescence in Rubisco antisense mutants of tobacco. Photosynthesis Research, 2000, 63, 1-8.	1.6	62
32	Thylakoid Lumen Carbonic Anhydrase (<i>CAH3</i>) Mutation Suppresses Air-Dier Phenotype of <i>LCIB</i> Mutant in <i>Chlamydomonas reinhardtii</i>. Plant Physiology, 2009, 149, 929-937.	2.3	61
33	Expression activation and functional analysis of <scp>HLA</scp>3, a putative inorganic carbon transporter in <i><scp>C</scp>hlamydomonas reinhardtii</i>. Plant Journal, 2015, 82, 1-11.	2.8	61
34	Changes in Photorespiratory Enzyme Activity in Response to Limiting CO2 in Chlamydomonas reinhardtii. Plant Physiology, 1991, 97, 420-425.	2.3	57
35	A 36 Kilodalton Limiting-CO₂ Induced Polypeptide of <i>Chlamydomonas</i> Is Distinct from the 37 Kilodalton Periplasmic Carbonic Anhydrase. Plant Physiology, 1990, 93, 116-121.	2.3	56
36	CO2 Acquisition, Concentration and Fixation in Cyanobacteria and Algae. Advances in Photosynthesis and Respiration, 2000, , 369-397.	1.0	55

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37	TALE activation of endogenous genes in Chlamydomonas reinhardtii. Algal Research, 2014, 5, 52-60.	2.4	51
38	Effects of growth condition on the structure of glycogen produced in cyanobacterium Synechocystis sp. PCC6803. International Journal of Biological Macromolecules, 2007, 40, 498-504.	3.6	47
39	Intracellular localization of phosphoenolpyruvate carboxykinase in leaves of C4 and CAM plants. Plant Science Letters, 1980, 19, 1-8.	1.9	46
40	Acclimation of Chlamydomonas to changing carbon availability. Functional Plant Biology, 2002, 29, 221.	1.1	45
41	Isolation and Oxidative Properties of Intact Mitochondria from the Leaves of <i>Sedum praealtum</i>. Plant Physiology, 1979, 64, 182-186.	2.3	43
42	Highâ€throughput fluorescenceâ€activated cell sorting for lipid hyperaccumulating <i><scp>C</scp>hlamydomonas reinhardtii</i> mutants. Plant Biotechnology Journal, 2014, 12, 872-882.	4.1	42
43	Photosynthesis and photorespiration in freshwater green algae. Aquatic Botany, 1989, 34, 181-209.	0.8	40
44	Characterization of cyanobacterial glycogen isolated from the wild type and from a mutant lacking of branching enzyme. Carbohydrate Research, 2002, 337, 2195-2203.	1.1	38
45	Insertional Mutants of <i>Chlamydomonas reinhardtii</i> That Require Elevated CO2 for Survival. Plant Physiology, 2001, 127, 607-614.	2.3	36
46	Changes in protein and gene expression during induction of the CO2-concentrating mechanism in wild-type and mutant Chlamydomonas. Canadian Journal of Botany, 1991, 69, 1008-1016.	1.2	33
47	Imazaquin and chlorsulfuron resistance and cross resistance in mutants of Chlamydomonas reinhardtii. Molecular Genetics and Genomics, 1988, 213, 394-399.	2.4	31
48	Translational Regulation of the Large and Small Subunits of Ribulose Bisphosphate Carboxylase/Oxygenase during Induction of the CO₂-Concentrating Mechanism in <i>Chlamydomonas reinhardtii</i>. Plant Physiology, 1992, 98, 1409-1414.	2.3	31
49	Genetic and physiological analysis of the CO2-concentrating system of Chlamydomonas reinhardii. Planta, 1983, 159, 261-266.	1.6	30
50	Evidence for a saturable transport component in the inorganic carbon uptake of Chlamydomonas reinhardii. FEBS Letters, 1983, 154, 335-338.	1.3	30
51	Lysis of Chlamydomonas reinhardtii by high-intensity focused ultrasound as a function of exposure time. Ultrasonics Sonochemistry, 2014, 21, 1258-1264.	3.8	29
52	Glycogen Synthase Isoforms in Synechocystis sp. PCC6803: Identification of Different Roles to Produce Glycogen by Targeted Mutagenesis. PLoS ONE, 2014, 9, e91524.	1.1	29
53	The CO2-Concentrating Mechanism and Carbon Assimilation. , 2009, , 257-301.		28
54	Adaptation of Chlamydomonas reinhardtii High-CO2-Requiring Mutants to Limiting CO2. Plant Physiology, 1989, 90, 1195-1200.	2.3	27

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55	LCI1, a Chlamydomonas reinhardtii plasma membrane protein, functions in active CO 2 uptake under low CO 2. Plant Journal, 2020, 102, 1127-1141.	2.8	27
56	Photosynthesis in enzymatically isolated leaf cells from the CAM plant Sedum telephium L.. Planta, 1978, 141, 59-63.	1.6	26
57	LCIB in the Chlamydomonas CO2-concentrating mechanism. Photosynthesis Research, 2014, 121, 185-192.	1.6	25
58	Photosynthesis in Isolated Chloroplasts of the Crassulacean Acid Metabolism Plant Sedum praealtum. Plant Physiology, 1980, 65, 1044-1048.	2.3	23
59	Malate decarboxylation in isolated mitochondria from the crassulacean acid metabolism plant Sedum praealtum. Archives of Biochemistry and Biophysics, 1980, 199, 448-456.	1.4	22
60	Alterations in photosynthesis in Arabidopsis lacking IMMUTANS, a chloroplast terminal oxidase. Photosynthesis Research, 2007, 91, 11-23.	1.6	22
61	In vivo evidence for a regulatory role of phosphorylation of <i>Arabidopsis</i> Rubisco activase at the Thr78 site. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18723-18731.	3.3	22
62	Co-targeting strategy for precise, scarless gene editing with CRISPR/Cas9 and donor ssODNs in <i>Chlamydomonas</i>. Plant Physiology, 2021, 187, 2637-2655.	2.3	18
63	Quantum Requirement for Photosynthesis in <i>Sedum praealtum</i> during Two Phases of Crassulacean Acid Metabolism. Plant Physiology, 1980, 66, 463-465.	2.3	17
64	Structure and function of LCI1: a plasma membrane CO 2 channel in the Chlamydomonas CO 2 concentrating mechanism. Plant Journal, 2020, 102, 1107-1126.	2.8	17
65	The Plastid Casein Kinase 2 Phosphorylates Rubisco Activase at the Thr-78 Site but Is Not Essential for Regulation of Rubisco Activation State. Frontiers in Plant Science, 2016, 7, 404.	1.7	15
66	CRISPR/Cas9 Based Site-Specific Modification of FAD2 cis-Regulatory Motifs in Peanut (Arachis) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 30	1.1	15
67	Post-translational processing of the highly processed, secreted periplasmic carbonic anhydrase of Chlamydomonas is largely conserved in transgenic tobacco. Plant Molecular Biology, 1995, 29, 303-315.	2.0	14
68	Temperature response of CO2 fixation in isolated Opuntia cells. Plant Science Letters, 1978, 13, 389-396.	1.9	11
69	Microfluidic chip for automated screening of carbon dioxide conditions for microalgal cell growth. Biomicrofluidics, 2017, 11, 064104.	1.2	10
70	CO2 exchange characteristics during dark-light transitions in wild-type and mutant Chlamydomonas reinhardii cells. Photosynthesis Research, 1985, 6, 363-369.	1.6	9
71	Effect of photon flux density on inorganic carbon accumulation and net CO2 exchange in a high-CO2-requiring mutant of Chlamydomonas reinhardtii. Photosynthesis Research, 1990, 24, 245-252.	1.6	9
72	Insertional suppressors of Chlamydomonas reinhardtii that restore growth of air-dier lcib mutants in low CO2. Photosynthesis Research, 2011, 109, 123-132.	1.6	9

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73	Acclimation to low or limiting CO2 in non-synchronous Chlamydomonas causes a transient synchronization of the cell division cycle. Photosynthesis Research, 2011, 109, 161-168.	1.6	7
74	Flow rate and duty cycle effects in lysis of <i>Chlamydomonas reinhardtii</i> using high-energy pulsed focused ultrasound. Journal of the Acoustical Society of America, 2014, 135, 3632-3638.	0.5	7
75	Arabidopsis plants expressing only the redoxâ€•regulated Rcaâ€•Î± isoform have constrained photosynthesis and plant growth. Plant Journal, 2020, 103, 2250-2262.	2.8	7
76	Application of CRISPR/Cas9 System for Efficient Gene Editing in Peanut. Plants, 2022, 11, 1361.	1.6	7
77	Biocatalytic role of potato starch synthase III for Î±-glucan biosynthesis in Synechocystis sp. PCC6803 mutants. International Journal of Biological Macromolecules, 2015, 81, 710-717.	3.6	5
78	A novel activation domain is essential for CIA5-mediated gene regulation in response to CO2 changes in Chlamydomonas reinhardtii. Algal Research, 2017, 24, 207-217.	2.4	5
79	Insertional Mutants of Chlamydomonas reinhardtii That Require Elevated CO2 for Survival. Plant Physiology, 2001, 127, 607-614.	2.3	3
80	Opportunistic proteolytic processing of carbonic anhydrase 1 from Chlamydomonas in Arabidopsis reveals a novel route for protein maturation. Journal of Experimental Botany, 2016, 67, 2339-2351.	2.4	2